Cisco Systems

Cisco WAN Manager Database Interface Guide

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CONTENTS

Preface

This guide provides information about the Cisco WAN Manager (CWM) Informix database. The guide written for experienced UNIX users who are involved with operating and configuring the CWM.

See the CWM 15.3.00 release notes for the features and all of the MGX hardware that is certified and supported in this release.

This guide is organized into the following sections:

- Chapter 1, "Database Format"—Describes the tables contained in the stratacom database. The chapter includes a summary of the new and changed information.
- Chapter 2, "Database Tables"—Provides a detailed description of the tables listed in the stratacom database. This chapter includes a description of each table and the parameters associated with each column.
- Chapter 3, "Statistics Overview"—Provides a summary of the Statistics Collection Manager (SCM).
- Chapter 4, "Statistics Summary"—Lists the statistics that can be collected by the SCM.
- Appendix A, "Database Management"—Provides instructions on overall maintenance of the database, such as backing up, restoring, and adding databases.
- Appendix B, "BPX Trunk Statistics Mapping"—Provides the statistics ID mapping table for the BPX Trunk statistics.
- Appendix C, "Legacy Mappings"
- Appendix D, "Mapping FTP Configuration Files"
- Appendix E, "Card Types"—Lists the front and back cards that are supported in this release.
- Appendix F, "Bulk Statistics File Format"—Provides the formats of the statistics files collected from the nodes. These formats are necessary for users who parse the statistics files using an Operational Support System (OSS).
- Appendix G, "Previous user_connection Table Mapping"—Lists the fields that were removed from the user_connection table in CWM 9.2 and the tables in which they are currently stored.

Related CWM and Switch Documentation

A *Guide to Cisco Multiservice Switch Documentation* ships with your product. This guide contains general information about how to locate Cisco MGX, BPX, SES, and CWM documentation online.

These documents comprise the CWM documentation set. The first five documents are on the CWM Documentation CD and on Cisco.com:

- *Cisco WAN Manager Installation Guide, Release 15.3.00*
- *Cisco WAN Manager User's Guide, Release 15.3.00*
- *Cisco WAN Manager SNMP Service Agent Guide, 15.3.00*
- *Cisco WAN Manager Database Interface Guide, Release 15.3.00*
- *Cisco WANDEST Installation and Reference*, *Release 2.7*

These documents are available on Cisco.com:

- *Release Notes for Cisco WAN Manager, Release 15.3.00*
- *Release Notes for the Cisco WAN Modeling Tools, Release 15.3.00*
- *Cisco WAN Modeling Tools User Guide, 15.3.00*
- *Release Notes for CWM Automated Bulk Provisioning, Release 15.3.00*
- *Cisco WAN Manager Automated Bulk Provisioning Guide, Release 15.3.00*

The CWM Modeling Tools and Automated Bulk Provisioning user guides are also available on their software CDs and ordered separately.

Refer to the current CWM release notes for information on all the switch products that CWM supports and that are certified in this release.

You can access all CWM documentation at this website:

http://www.cisco.com/en/US/products/sw/netmgtsw/ps2340/tsd_products_support_series_home.html

These documents support this release of the Cisco Multiservice Switch products and are shipped with the product:

- *Regulatory Compliance and Safety Information for Cisco Multiservice Switch Products (MGX, BPX, and SES)*—Familiarizes you with safety precautions for your product.
- *A Guide to Cisco Multiservice Switch Documentation*—Describes how to find the manuals and release notes that support multiservice switches and network management products. These documents are available only online. This guide ships with the product.
- *Installation Warning Card*—Contains precautions that you should take before you insert a card into a slot. This Warning Card ships with the product.

You can access the MGX switch documentation at this website. See MGX Switches:

http://www.cisco.com/en/US/products/hw/switches/tsd_products_support_category_home.html

Refer to these MGX technical manuals as appropriate:

- For planning information if your network contains MGX and SES products—*Cisco PNNI Network Planning Guide for MGX and SES Products*
- For information about installing cards and cables in the MGX chassis:
  - *Cisco MGX 8850 (PXM1E/PXM45), Cisco MGX 8950, and Cisco MGX 8830 Hardware Installation Guide, Releases 2 Through 5* for installing cards and cables in these chassis.

   - *Cisco MGX 8xxx Edge Concentrator Installation and Configuration Guide* for installing cards and cables in the Cisco MGX 8230, Cisco MGX 8250, or Cisco MGX 8850 (PXM1) chassis.
- For configuring your MGX switch and processor cards:
   - *Cisco MGX 8850 (PXM1E/PXM45), Cisco MGX 8950, and Cisco MGX 8830 Configuration Guide, Release 5* for these chassis.
   - *Cisco MGX 8xxx Edge Concentrator Installation and Configuration Guide* for the Cisco MGX 8230, Cisco MGX 8250, or Cisco MGX 8850 (PXM1) chassis.

You can also use Cisco.com to search for any product and topic by entering a word or phrase in the Search window. For example, you can search for "configuring MGX 8850" or "PXMIE." By using the Advanced Search option, you can search the entire Cisco.com or Technical Support & Documentation.

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation at this URL:

http://www.cisco.com/univercd/home/home.htm

You can access the Cisco website at this URL:

http://www.cisco.com

You can access international Cisco websites at this URL:

http://www.cisco.com/public/countries_languages.shtml

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Cisco documentation and additional literature are available in a Documentation DVD package, which may have shipped with your product. The Documentation DVD is updated regularly and may be more current than printed documentation. The Documentation DVD package is available as a single unit.

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Cisco Ordering tool:

http://www.cisco.com/en/US/partner/ordering/

Cisco Marketplace:

http://www.cisco.com/go/marketplace/

Ordering Documentation

You can find instructions for ordering documentation at this URL:

http://www.cisco.com/univercd/cc/td/doc/es_inpck/pdi.htm

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Ordering tool:

  http://www.cisco.com/en/US/partner/ordering/

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 1 800 553-NETS (6387).

Documentation Feedback

You can send comments about technical documentation to bug-doc@cisco.com.

You can submit comments by using the response card (if present) behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Cisco Product Security Overview

Cisco provides a free online Security Vulnerability Policy portal at this URL:

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From this site, you can perform these tasks:

- Report security vulnerabilities in Cisco products.
- Obtain assistance with security incidents that involve Cisco products.
- Register to receive security information from Cisco.

A current list of security advisories and notices for Cisco products is available at this URL:

http://www.cisco.com/go/psirt

If you prefer to see advisories and notices as they are updated in real time, you can access a Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed from this URL:

http://www.cisco.com/en/US/products/products_psirt_rss_feed.html

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- Emergencies—security-alert@cisco.com
- Nonemergencies—psirt@cisco.com

Tip We encourage you to use Pretty Good Privacy (PGP) or a compatible product to encrypt any sensitive information that you send to Cisco. PSIRT can work from encrypted information that is compatible with PGP versions 2.*x* through 8.*x*.

Never use a revoked or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one that has the most recent creation date in this public key server list:

http://pgp.mit.edu:11371/pks/lookup?search=psirt%40cisco.com&op=index&exact=on

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In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302
- 1 408 525-6532

Obtaining Technical Assistance

For all customers, partners, resellers, and distributors who hold valid Cisco service contracts, Cisco Technical Support provides 24-hour-a-day, award-winning technical assistance. The Cisco Technical Support Website on Cisco.com features extensive online support resources. In addition, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not hold a valid Cisco service contract, contact your reseller.

Cisco Technical Support Website

The Cisco Technical Support Website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day, 365 days a year, at this URL:

http://www.cisco.com/techsupport

Access to all tools on the Cisco Technical Support Website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

http://tools.cisco.com/RPF/register/register.do

Note Use the Cisco Product Identification (CPI) tool to locate your product serial number before submitting a web or phone request for service. You can access the CPI tool from the Cisco Technical Support Website by clicking the **Tools & Resources** link under Documentation & Tools. Choose **Cisco Product Identification Tool** from the Alphabetical Index drop-down list, or click the **Cisco Product Identification Tool** link under Alerts & RMAs. The CPI tool offers three search options: by product ID or model name; by tree view; or for certain products, by copying and pasting **show** command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.

Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco TAC engineer. The TAC Service Request Tool is located at this URL:

http://www.cisco.com/techsupport/servicerequest

For S1 or S2 service requests or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco TAC engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)
EMEA: +32 2 704 55 55
USA: 1 800 553-2447

For a complete list of Cisco TAC contacts, go to this URL:

http://www.cisco.com/techsupport/contacts

Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—Your network is “down,” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- Cisco Marketplace provides a variety of Cisco books, reference guides, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:

  http://www.cisco.com/go/marketplace/

- *Cisco Press* publishes a wide range of general networking, training and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL:

  http://www.ciscopress.com

- *Packet* magazine is the Cisco Systems technical user magazine for maximizing Internet and networking investments. Each quarter, Packet delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can access Packet magazine at this URL:

  http://www.cisco.com/packet

- *iQ Magazine* is the quarterly publication from Cisco Systems designed to help growing companies learn how they can use technology to increase revenue, streamline their business, and expand services. The publication identifies the challenges facing these companies and the technologies to help solve them, using real-world case studies and business strategies to help readers make sound technology investment decisions. You can access iQ Magazine at this URL:

  http://www.cisco.com/go/iqmagazine

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

  http://www.cisco.com/ipj

- World-class networking training is available from Cisco. You can view current offerings at this URL:

  http://www.cisco.com/en/US/learning/index.html

Database Format

The section provides an overview of the tables that comprise the CWM database. The list of tables includes a status column to indicate whether a table is new, modified, or obsolete in Release 12 or higher.

The CWM includes the following default databases:

- scm—Contains tables used by the Statistics Collection Manager (SCM) server and the client.
- statsdb—Contains data tables used for SCM standalone (SA) feature.
- stratacom—Contains the CWM tables and statistics covered in Chapters 2 and 4.
- sysutils—Contains Informix utilities.

Database Changes from CWM 15.1.50 to 15.3.00

Table 1-1 lists database table changes from Release 15.1.50 to Release 15.3.00.

Table 1-1 Database Changes from CWM 15.1.50 to 15.3.00

Table Name	Status	Description/Changes
Table 2-159user_authentication	New	Contains the authentication rules and stored passwords which are used to compare with the password entered by a user upon login.
Table 2-90password_rules	New	Contains general password rules. The data in the table is applied across all users during password validation.
Table 2-62line	Modified	New columns added.
Table 2-17ausm_port	Modified	New columns added.
Table 2-3sec_profile	Modified	New columns added.
megaco_term	Modified	Columns datatype changed.
vxsm_vif	Modified	Columns datatype changed.

Structure of the CWM Database

The stratacom database is an Informix SQL database. Table 1-2 lists the tables used in the stratacom database. For more information about the database tables, see Chapter 2, "Database Tables."

Table 1-2 Database Structure

Table Name	Status
Table 2-205aal2_cross_conn	Modified
Table 2-206aal2_5_data_profile	Modified
Table 2-2access_node	—
Table 2-5active_alarm	Introduced in Release 15
Table 2-27addr_cug	Introduced in Release 12
Table 2-5active_alarm	Introduced in Release 15
Table 2-6alarm_user_notes	Introduced in Release 15
Table 2-8aps	Modified
Table 2-9asi_line	—
Table 2-10asi_ln_data	—
Table 2-11asi_port	Modified
Table 2-12asi_port_data	—
Table 2-13atm_addr	Introduced in Release 12
Table 2-14atm_connection	Modified
Table 2-15atm_phy	—
Table 2-16AU4TUG3	Introduced in Release 15
Table 2-17ausm_port	—
Table 2-18ausm_port_data	—
Table 2-19axsm_conn_data	—
Table 2-20axsme_conn_data	—
Table 2-19axsm_conn_data	Introduced in Release 12
axsmx_ds3_In_data	Introduced in Release 12
axsmxg_In_data	Introduced in Release 12
axsmxg_path_data	Introduced in Release 12
axsmxg_pl_data	Introduced in Release 12
axsmxg_port_data	Introduced in Release 12
Table 2-21bis_object	—
Table 2-22card	Modified
Table 2-23card_desc	—
ces_fru	Obsolete in Release 12
ces_port	Obsolete in Release 12
Table 2-24cesm_connection	Modified

Table 1-2 Database Structure (continued)

Table Name	Status
channel_route	Obsolete in Release 12
Table 2-25circuit_line	—
Table 2-26circuit_ln_data	—
Table 2-29conn_route	Introduced in Release 15.1.50
Table 2-30conn_route_statistics	Introduced in Release 15.1.50
Table 2-32conn_templ_param	—
Table 2-31conn_template	—
Table 2-50connection	Modified
Table 2-28connection _data	—
Table 2-164controller	—
Table 2-33cug	Introduced in Release 12
Table 2-34current_route_elem	Introduced in Release 15.1.50
cwm_info	—
cwm_role_info	—
Table 2-38data_channel	—
dbkr_temp	—
Table 2-41dc_lookup_table	—
dns_node	Obsolete in Release 12
ds0_connect	Introduced in Release 15
dsp_status	Introduced in Release 15
Table 2-42element_template	Introduced in Release 15
Table 2-43element_templ_param	Introduced in Release 15
Table 2-49fax_relay	—
Table 2-45fpd_conn_data	—
Table 2-44fpd_connection	—
Table 2-46fpd_node	—
Table 2-52frp	—
Table 2-53frp_data	—
Table 2-51frsm12_conn_data	—
Table 2-47ftc_port	—
Table 2-48ftc_port_data	—
Table 2-7historical_alarm	Introduced in Release 15
dc_lookup_field	Introduced in Release 15
Table 2-54if_shutdown	Introduced in Release 15
ima_group_data	Introduced in Release 12
Table 2-55ima_group	—

Table 1-2 Database Structure (continued)

Table Name	Status
Table 2-57ima_link	Modified
Table 2-58ima_link_data	Introduced in Release 12
itf_rsc	Obsolete in Release 12
Table 2-177lapd_trunk	—
license_in_use	Introduced in Release 15
license_pool	Introduced in Release 15
lif	Introduced in Release 15
Table 2-62line	Modified
Table 2-64linedistribution	—
link_station	Obsolete in Release 12
Table 2-66load	—
Table 2-67logical_conn	—
Table 2-69lookup_table	Introduced in Release 15
maintlog	Obsolete in Release 12
megaco_config	Introduced in Release 15
megaco_profile	Introduced in Release 15
megaco_term	Introduced in Release 15
Table 2-174mg_dname	—
Table 2-181mg_sup_prtcl	Modified
Table 2-180mgc_grp	Modified
mgc_ip	Introduced in Release 15
Table 2-186mgc_res	—
Table 2-184mgcg_param	—
Table 2-185mgcg_protocol	Modified
Table 2-73mgx3_cd_data	—
Table 2-74mgx3_ln_data	—
Table 2-75mgx3_pl_data	—
Table 2-76mgx3_port_data	—
Table 2-70mfr_bundle	Introduced in Release 15
Table 2-72mfr_link	Introduced in Release 15
Table 2-77mpbundle	Introduced in Release 15.1.50
Table 2-78mpbundle_desc	Introduced in Release 15.1.50
Table 2-79network	—
Table 2-97nodal_ig	Introduced in Release 12
Table 2-82node	Modified
node_groom	Introduced in Release 15

Table 1-2 Database Structure (continued)

Table Name	Status
Table 2-84node_info	Modified
node_parent	Obsolete in Release 12
node_thresh	Introduced in Release 15
Table 2-87packet_line	Modified
Table 2-88packet_ln_data	—
Table 2-89party	Introduced in Release 12
Table 2-90password_rules	Introduced in Release 15.3.00
Table 2-92peripheral	—
Table 2-93phy_line	—
Table 2-94phy_ln_data	—
Table 2-95plcp	—
Table 2-96pnni_if	—
Table 2-98pnni_link_ig	Introduced in Release 12
Table 2-99pnni_nodal_data	Introduced in Release 12
Table 2-101port_ques	—
Table 2-102ppp_link	Introduced in Release 15.1.50
Table 2-103ppp_link_desc	Introduced in Release 15.1.50
pref_route	—
Table 2-105pref_route_config	Introduced in Release 12
pref_route_elem	—
Table 2-106pref_route_nw_elem	Introduced in Release 12
Table 2-218program_tone	Introduced in Release 15
protocol_group	Obsolete in Release 12
Table 2-107pxm1E_conn_data	—
Table 2-108redundantcard	—
routes	Obsolete in Release 12
Table 2-109rpm_connection	Modified
Table 2-110rpm_port	Modified
Table 2-111rsc_part	Modified
rsc_policy	Introduced in Release 15
Table 2-112rtp_conn	—
Table 2-113rudp_session	—
Table 2-114scmcard	—
Table 2-120scmcardcoll	—
Table 2-121scmcardcollhost	—
Table 2-122scmcardcollstatus	Introduced in Release 12

Table 1-2 Database Structure (continued)

Table Name	Status
Table 2-116scmcardenable	Modified
Table 2-117scmcardfamily	—
Table 2-118scmcardfamilydef	—
Table 2-119scmcardfamilystat	—
Table 2-123scmcardtemplate	—
Table 2-124scmcollsvr	—
Table 2-125scmcolpar	—
Table 2-126scmcolparstat	—
Table 2-127scmcolparsubobj	—
Table 2-128scmenabletype	—
Table 2-130scmidmap	—
Table 2-131scmidmapdef	—
Table 2-132scmmethod	—
Table 2-133scmmethoddef	—
Table 2-134scmnodecoll	—
Table 2-135scmnodecollhost	—
scmnodecollstatus	Introduced in Release 12
Table 2-129scmnodeenable	Modified
Table 2-136scmnodestat	—
Table 2-137scmnodetemplate	—
Table 2-138scmobj	—
Table 2-139scmstat	—
Table 2-140scmsubobj	—
scmtemplate	Obsolete in Release 12
Table 2-142sct	—
Table 2-143sct_cosb	—
Table 2-145sct_cosb_desc_mpsm155	Introduced in Release 12
Table 2-146sct_deployment	—
Table 2-147sct_usage	—
Table 2-148sct_vc	—
Table 2-149sct_vcdesc	—
Table 2-190sctp_addr	—
Table 2-191sctp_assoc	—
Table 2-3sec_profile	Modified

Table 1-2 Database Structure (continued)

Table Name	Status
Table 2-4sec_profile_subnetwork_info	Introduced in Release 15
Table 2-151sensor	Introduced in Release 15
Table 2-152sensor_thrhd	—
Table 2-153serial_ln_data	—
Table 2-192session_group	—
Table 2-193session_set	—
Table 2-154shelf	—
Table 2-195srcp_param	—
Table 2-194srcp_peer	—
stat_enable	Obsolete in Release 12
station_data	Obsolete in Release 12
Table 2-141statsdbhost	—
Table 2-155sub_network	Introduced in Release 15
Table 2-36sv_system	—
Table 2-37sv_version	—
Table 2-156svc_cac	—
Table 2-157svc_operation	—
Table 2-158svc_port	Modified
Table 2-202tone_detect	Introduced in Release 15
tone_id	Introduced in Release 15
Table 2-196tone_plan	Modified
Table 2-198trap_filter	Introduced in Release 15.1.50
Table 2-159user_authentication	Introduced in Release 15.3.00
Table 2-160user_conn_desc	—
Table 2-161user_connection	Modified
Table 2-162user_info	—
Table 2-165virtual_port	—
Table 2-166vism_announce	Introduced in Release 12
Table 2-167vism_card	Modified
Table 2-168vism_cas_bit	Introduced in Release 15
Table 2-169vism_cid	Modified
Table 2-170vism_codec	—
Table 2-172vism_ds0	Modified
Table 2-173vism_endpt	Modified
Table 2-175vism_hdlc	—

Table 1-2 Database Structure (continued)

Table Name	Status
Table 2-176vism_lapd	Modified
Table 2-178vism_line	Modified
Table 2-182mgc_ip	Modified
Table 2-187vism_mgc	Introduced in Release 15
Table 2-188vism_mgcp	Modified
Table 2-189vism_profile	—
Table 2-197vism_template	—
Table 2-201voice_channel	—
Table 2-171voice_conn	Modified
Table 2-200vprange	—
Table 2-201voice_channel	—
Table 2-202tone_detect	—
Table 2-203tone_id	—
Table 2-204program_tone	—
Table 2-205aal2_cross_conn	—
Table 2-206aal2_5_data_profile	
Table 2-207vxsm_as	Introduced in Release 15
Table 2-208vxsm_asp	Introduced in Release 15
Table 2-209VXSM_ASP_IP	Introduced in Release 15
Table 2-210vxsm_card	Introduced in Release 15
Table 2-219vxsm_pvc_ip	Introduced in Release 15
Table 2-222vxsm_vif	Introduced in Release 15
Table 2-199xgcp_peer	—
Table 2-223xlmi	—
Table 2-224xpvc	Modified
xpvc_dangler	Obsolete in Release 12
Table 2-225xpvc_preferred	—
Table 2-226xpvc_segment	—

CHAPTER 2

Database Tables

This chapter describes the stratacom database tables included in the CWM and how to access them. See these sections:

This section describes the tables that make up the stratacom database. In addition to the stratacom database, you can use the statsdb database for parsing statistics. For a list of the data tables in the statsdb database that support the statistics, see the “Mapping Statistics to the Data Tables” section on page F-1.

Accessing the Database

The CWM maintains an Informix OnLine database containing information about the Cisco WAN elements within the network. Informix OnLine is a product of Informix Software Inc. and is shipped as a part of the standard CWM package.

To access the database, open a terminal window and type **dbaccess** at the prompt. The following screen appears:

```
DBACCESS:   Query-language Connection Database Table Session Exit
Use SQL query language.

------------------------------------------------ Press CTRL-W for Help --------
```

To show the list of the default databases included in the CWM package, complete the following steps:

1. Use the right arrow to move the cursor to Database and press **Return**.
2. Choose Select and press **Return**.
3. Use the up and down arrows to select the database and press **Return**.

Use Structured Query Language (SQL) to query the database. For information about using SQL and Informix, refer to the Informix documentation located at the following URL:

http://www-3.ibm.com/software/data/informix/pubs/library/

Data Types

Table 2-1 lists the data types, which describe the format of the fields in the database.

Table 2-1 Data Types

Data Type (C Format)	Data Type (Informix Format)	Description
int	integer	Signed 32-bit binary integer.
long	integer	Signed 32-bit binary integer.
smallint	smallint	Signed 16-bit binary integer.
char (n+1)	char (n)	Fixed length character string *n* bytes in length. In the C format, the length is specified as 1 byte longer to accommodate the terminating null character that is required in C character strings. When the actual character string is smaller than the specified number of characters, the field is filled out on the right with blanks.
float	float	Signed 32-bit binary real number. Float, sometimes called double precision, can store data with a precision of 8 to 15.
date	date	Signed 32-bit binary integer containing the date expressed as the number of days from (or before) December 31, 1899. January 1, 1900 is day 1.
—	byte	—

List of Tables

This section provides the list of tables, including the column and row structure, for each of the stratacom database tables in the CWM database. A description of how to interpret the contents of each field is included. The bold entries within the tables are the indices. The columns marked as indices are used for sorting.

Access Devices

Table 2-2 contains information about access devices (for example, the Cisco MC3810).

Table 2-2 access_node

Column	Data Type	Description
node_id	integer	CWM node ID
obj_id	integer	Object ID
type	smallint	Access node type
subtype	smallint	Access node subtype
ipaddress	integer	Access node IP address
p_ipaddress	integer	Access node parent IP address
p_slot	smallint	Parent slot number

Table 2-2 access_node (continued)

Column	Data Type	Description
p_port	smallint	Parent port numbe
r_slot	smallint	Access node slot number
r_port	smallint	Access node port number
device_id	smallint	Device ID

Access Privileges

Table 2-3 contains information about the access privileges for each module.

Table 2-3 sec_profile

Column	Data Type	Description
profile_name	char (33)	CWM user profile name.
insync_primary	integer	Value to indicate whether or not this profile is in sync with the primary profile. • 0 = In sync with primary (default) • 1 = Differs from primary This parameter applies only to secondary CWM servers.
configcenter	integer	Configuration Center. Bit-mapped values include the following: • Bit 0—1 allows deleting connections; 0 disallows it. • Bit 1—1 allows viewing connections; 0 disallows it. • Bit 2—1 allows modifying connections; 0 disallows it. • Bit 3—1 allows adding connections; 0 disallows it. • Bit 4—1 enables all; 0 disables all. • Bit 5—1 enables Read-audit; 0 disables it. • Bit 6—1 enables Write-audit; 0 disables it. • Bit 8—1 enables Override-audit; 0 disables it.
networkmonitor	integer	Network Monitor. Bit mapped values include the following: • Bit 0—1 enables deleting the topology; 0 disables it. • Bit 1—1 enables viewing the topology; 0 disables it. • Bit 2—1 enables modifying the topology; 0 disables it. • Bit 3—1 enables adding the topology; 0 disables it. • Bit 4—1 enables all; 0 disables all. • Bit 5—1 enables Read-Audit; 0 disables it. • Bit 6—1 enables Write-Audit; 0 disables it. • Bit 8—1 enables Override-Audit; 0 disables it.

Table 2-3 sec_profile (continued)

Column	Data Type	Description
scm	integer	Statistics Collection Manager (SCM). Bit mapped values include the following: • Bit 0—1 allows deleting connections; 0 disallows it. • Bit 1—1 allows viewing connections; 0 disallows it. • Bit 2—1 allows modifying connections; 0 disallows it. • Bit 3—1 allows adding connections; 0 disallows it. • Bit 4—1 enables all; 0 disables all. • Bit 5—1 enables Read-Audit; 0 disables it. • Bit 6—1 enables Write-Audit; 0 disables it. • Bit 8—1 enables Override-Audit; 0 disables it.
sct	integer	Service Connection Template (SCT). Bit mapped values include the following: • Bit 0—1 enables deleting the template; 0 disables it. • Bit 1—1 enables viewing the template; 0 disables it. • Bit 2—1 enables modifying the template; 0 disables it. • Bit 3—1 enables adding the template; 0 disables it. • Bit 4—1 enable all; 0 disables all. • Bit 5—1 enables Read-Audit; 0 disables it. • Bit 6—1 enables Write-Audit; 0 disables it. • Bit 8—1 enables Override-audit; 0 disables it.
imagedownload	integer	Image download. Bit mapped values include the following: • Bit 0 is not used. • Bit 1—1 enables viewing; 0 disables it. • Bit 2 is not used. • Bit 3—1 enables downloading; 0 disables it. • Bit 4—1 enables all; 0 disables it. • Bit 5—1 enables Read-Audit; 0 disables it. • Bit 6—1 enables Write-Audit; 0 disables it. • Bit 8—1 enables Override-audit; 0 disables it.
noderesync	integer	Node resynchronization. Bit-mapped values include the following: • Bit 0 is not used. • Bit 1—1 enables node resynchronization; 0 disables it. • Bits 2 through 7 are not used.

Table 2-3 sec_profile (continued)

Column	Data Type	Description
configsaverestore	integer	Save and restore configuration. Bit mapped values include the following: • Bit 0 —Enables resetting the card; 0 disables it. • Bit 1—Enables reading; 0 disables it. • Bit 2—Enables config saving; 0 disables it. • Bit 3—Enables saving; 0 disables it. • Bit 4—Enables all; 0 disables all. • Bits 5 and 6 are not used.
cwmadmin	integer	CWM administration. Bit mapped values include the following: • Bit 0 is not used. • Bit 1—Enables administration; 0 disables it. • Bits 2 through 7 are not used.
nwbrowser	integer	Network Browser. Bit mapped values include the following: • Bit 0 is not used. • Bit 1 – 0 = Disallow browser – 1 = Allow browser • Bits 2 through 7 are not used.
securitymanager	integer	Security manager. Bit mapped values include the following: • Bit 0 – 0 = Disallow to delete users – 1 = Allow to delete users • Bit 1 – 0 = Disallow to view users – 1 = Allow to view users • Bit 2 – 0 = Disallow to modify users – 1 = Allow to modify users • Bit 3 – 0 = Disallow to create users – 1 = Allow to create users • Bit 4 – 0 = Disallow to all – 1 = Allow to all • Bits 5 and 6 are not used.

Table 2-3 sec_profile (continued)

Column	Data Type	Description
xpvcpreferredconf+	integer	Extended permanent virtual circuit (XPVC) preferred configuration. Bit mapped values include the following: • Bit 0 – 0 = Disallow to delete table – 1 = Allow to delete table • Bit 1 – 0 = Disallow to view table – 1 = Allow to view table • Bit 2 – 0 = Disallow to modify table – 1 = Allow to modify table • Bit 3 – 0 = Disallow to create table – 1 = Allow to create table • Bit 4 – 0 = Disallow all privileges – 1 = Allow all privileges
chassisview	integer	Chassis View. Bit mapped values include: • Bit 0, 2, 3, 7: not used • Bit 4 – 0 = Disallow all privileges – 1 = Allow all privileges

Table 2-3 sec_profile (continued)

Column	Data Type	Description
configurator	integer	Configurator. Bit mapped values include: • Bit 0 – 0 = Disallow delete node – 1 = Allow delete node • Bit 1 – 0 = Disallow view configurator – 1 = Allow view configurator • Bit 2 – 0 = Disallow modify node – 1 = Allow modify node • Bit 3 – 0 = Disallow file save and add node – 1 = Allow file save and add node • Bit 4 – 0 = Disallow all privileges – 1 = Allow all privileges
bert	integer	Bit error rate testing (BERT). Bit mapped values include: • Bit 0 is not used. • Bit 1—1 enables launching BERT; 0 disables it. • Bit 2—1 enables starting BERT; 0 disables it. • Bit 3 is not used. • Bit 4—1 enables all privileges; 0 disables them.
cug	integer	Closed user group (CUG). Bit mapped values include: • Bit 0—1 enables deleting the CUG; 0 disables it. • Bit 1—1 enables viewing the CUG; 0 disables it. • Bit 2—1 enables modifying the CUG; 0 disables it. • Bit 3—1 enables creating the CUG; 0 disables it. • Bit 4—1 enables all privileges; 0 disables them.

Table 2-3 sec_profile (continued)

Column	Data Type	Description
diagnosticcenter	integer	Diagnostic Center. Bit mapped values include: • Bit 0 – 0 disallow to up/down connections – 1 allow to up/down connections • Bit 1 – 0 disallow to launch – 1 allow to launch • Bit 2 – 0 disallow to modify BERT test – 1 allow modify BERT test • Bit 3 – 0 disallow to save trouble ticket – 1 allow to save trouble ticket • Bit 4 – 0 disallow to ALL – 1 allow to ALL • Bit 5 – 0 Read-Audit not enabled – 1 Read-Audit enabled • Bit 6 – 0 Write-Audit not enabled – 1 Write-Audit enabled • Bit 8 – 0 Override-Audit not enabled – 1 Override-Audit enabled
srt	integer	System Reporting Tool. Bit mapped values include: • Bit 0, 2, 3, 7: not used • Bit 4 – 0 = Disallow all privileges – 1 = Allow all privileges
finder	integer	Finder. Bit mapped values include: • Bit 0, 2, 3, 7: not used • Bit 4 – 0 = Disallow all privileges – 1 = Allow all privileges

Table 2-3 sec_profile (continued)

Column	Data Type	Description
abp	integer	Supports ABP security. Value is 0.

Access Privileges for Subnetworks

Table 2-4 contains information about the access privileges for each subnetwork.

Table 2-4 sec_profile_subnetwork_info

Column	Data Type	Description
profile_name	char (33)	CWM user profile name.
subnetwork_id	integer	CWM sub-network ID (the ID of the logical sub-network).

Active Alarms

Table 2-5 contains information about the alarms that are currently active on each node.

Table 2-5 active_alarm

Column	Data Type	Description
fdn	char(160)	fully qualified name of a managed entity
condition_code	integer	current alarm condition defined by CWM of the managed entity
ack_flag	smallint	1 if the alarm has been acknowledged by a user; 0 otherwise
service_affecting	smallint	1 if the alarm is service affecting; 0 otherwise
transient	smallint	1 if the alarm is transient; 0 otherwise
severity	smallint	1: unknown 2: informational 3: clear (used for state transition) 4: minor 5: major 6: critical 7: unreachable
alarm_time	datetime	Time when the NMS receives the alarm
node_id	integer	CWM node ID of the node associated with the alarm
source_name	var-char (255)	Node name of source of alarm

Table 2-5 active_alarm (continued)

Column	Data Type	Description
source_type	smallint	0: manual 1: trap delete 2: config file delete 3: trap 4: config file
source_obj_class	smallint	288: unknown 510: NMS 520: network 530: node 540: trunk 550: peripheral 560: controller 570: card 580: line 590: path 610: line group 620: link 630: port 640: card license 650: sensor
description	var-char(255)	textual description of the alarm
entity_sub_type	smallint	reserved

Alarm User Notes

Table 2-6 contains information about the notes that users can add to each alarm type.

Table 2-6 alarm_user_notes

Column	Data Type	Description
note_id	integer	Reserved
fdn	char(160)	Fully qualified name of a managed entity
note_time	integer	Time when the note is added
user_name	char(255)	Name of user who added the note
client_hostname	char(255)	Host name of the CWM client that added the note
server_hostname	char(255)	Host name of the CWM work station where the note was originally added

Table 2-6 alarm_user_notes (continued)

Column	Data Type	Description
note	char(255)	Textual note

Alarm Historical Data

Table 2-7 contains information about the historical data collected for each alarm type. Historical data is defined as information about the alarms that are no longer active (cleared alarms) on each node.

Table 2-7 historical_alarm

Column	Data Type	Description
fdn	char(160)	fully qualified name of a managed entity
condition_code	integer	current alarm condition defined by CWM of the managed entity
ack_flag	smallint	1 if the alarm has been acknowledged by a user; 0 otherwise
service_affecting	smallint	1 if the alarm is service affecting; 0 otherwise
transient	smallint	1 if the alarm is transient; 0 otherwise
severity	smallint	1: unknown 2: informational 3: clear (used for state transition) 4: minor 5: major 6: critical 7: unreachable
alarm_time	datetime	time when the NMS receives the alarm
clear_time	datetime	time when the NMS receives a clear for the alarm
source_type	smallint	0: trap 1: config file
clear_source_type	smallint	0: manual 1: trap delete 2: config file delete 3: trap 4: config file
node_id	integer	CWN node ID of the node associated with the alarm
source_name	var char(255)	node name of source of alarm

Table 2-7 historical_alarm (continued)

Column	Data Type	Description
source_obj_class	smallint	288: unknown 510: NMS 520: network 530: node 540: trunk 550: peripheral 560: controller 570: card 580: line 590: path 610: line group 620: link 630: port 640: card license 650: sensor
description	char(255)	textual description of the alarm
entity_sub_type	smallint	reserved

APS

Table 2-8 contains configuration information about SONET automatic protection switching (APS) feature. This information is used to configure automatic protection switching in a SONET Line.

Note This table does not apply to MGX 8220 platforms.

Table 2-8 aps

Column	Data Type	Description
node_id	integer	CWM node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number. This object is the working slot.
bay	smallint	Back card bay number. The default value is 1.
work_index	integer	Working line in the APS pair. For MGX 8230, MGX 8250, and MGX 8850 (PXM1) platforms, this value is the line number. For MGX 8830 (PXM1E), MGX 8850 (PXM1E), and MGX 8850 (PXM45) platforms, this value is the ifIndex.

Table 2-8 aps (continued)

Column	Data Type	Description
prot_slot	smallint	Protection slot. This field is supported only for APS-B Model (Switch FW Release 3.0 or higher). This filed is not supported for APS-A model. (Switch FW Release 2.1)
prot_index	integer	Protection line in the APS pair. For MGX 8230, MGX 8250, and MGX 8850 (PXM1) platforms, this value is the line number. For MGX 8830 (PXM1E), MGX 8850 (PXM1E), and MGX 8850 (PXM45) platforms, this value is the ifIndex.
enable	smallint	APS feature on the working and protection line pairs. • 1 = csApsDisabled • 2 = csApsEnabled
arch_mode	smallint	APS architecture mode. • 1 = Single card—one plus one • 2 = Dual card—one-to-one • 3 = Single card—one-to-one • 4 = Anex B—one plus one • 5 = Anex A—one plus one • 6 = One plus one • 7 = One-to-one • 8 = Y cable—one plus one, no k1 k2 • 9 = Straight—one plus one, no k1 k2 Values 1 through 5 are applicable to MGX 8230, MGX 8250, and MGX 8850 (PXM1) platforms. These values have the protocol embedded in them. Values 1 through 3 imply Bellcore GR-253 protocol, and value s 4 through 5 imply ITU-T protocol. Values 4 and 6 through 9 are applicable to MGX 8830 (PXM1E), MGX 8850 (PXM1E), and MGX 8850 (PXM45) platforms. These values do not have protocol embedded in them, thus they have to be used with the protocol column.
active_line	smallint	Active line. • 1 = csApsWorkingLine • 2 = csApsProtectionLine
sig_fault_ber	smallint	Bit error rate threshold for signal fault detection, in the range 3 through 5.

Table 2-8 aps (continued)

Column	Data Type	Description
sig_degrade_ber	smallint	Bit error rate threshold for signal degrade detection, in the range 5 through 9.
wait_to_restore	smallint	Minutes to wait before attempting to switch back to working line, in the range 1 through 12.
direction	smallint	Switching direction. • 1 = uniDirectional • 2 = biDirectional
revertive	smallint	APS revertive option. • 1 = Nonrevertive • 2 = Revertive
failure_code	smallint	This column is not used.

Table 2-8 aps (continued)

Column	Data Type	Description
failure_status	integer	APS failure status (bitmap). • Bit 0 = No failure • Bit 1 = Channel mismatch • Bit 2 = Protection byte fail • Bit 3 = FE protection failure • Bit 4 = Mode mismatch • Bit 5 = Signal degrade • Bit 6 = Signal failure • Bit 7 = Line alarm • Bit 8 = Line loopback • Bit 9 = Standby signal degrade • Bit 10 = Standby signal failure • Bit 11 = Standby line alarm • Bit 12 = Standby line loopback • Bit 13 = Direction mismatch • Bit 14 = Wrong request • Bit 15 = Protect BC missing • Bit 16 = Protect DC missing • Bit 17 = Working BC missing • Bit 18 = Working DC missing • Bit 19 = Working card mismatch • Bit 20 = Protect card mismatch • Bit 21 = APS revertive switch fail • Bit 22 = APS SD manual switch fail • Bit 23 = APS SD low switch fail • Bit 24 = APS SD high switch fail • Bit 25 = APS SF low switch fail • Bit 26 = APS SF high switch fail • Bit 27 = APS force switch fail • Bit 28 = APS lock out switch fail • Bit 29 = APS line status OK Bits 0 through 4 are applicable only to MGX 8830 (PXM1E), MGX 8850 (PXM1E), and MGX 8850 (PXM45) platforms. Bits 0 through 29 are applicable to MGX 8230, MGX 8250, and MGX 8850 (PXM1) platforms.

Table 2-8 aps (continued)

Column	Data Type	Description
switch_reason	smallint	APS line switch reason. • 1 = Other • 2 = Revertive • 3 = Manual • 4 = Signal defect low • 5 = Signal defect high • 6 = Signal failure low • 7 = Signal failure high • 8 = Force switch • 9 = Lock out • 10 = No switch
primary_section	smallint	Value that indicates the working APS primary section. • 1 = workingSection1 • 2 = workingSection2 • 3 = none This value is only applicable for Annex-B on MGX 8830 (PXM1E), MGX 8850 (PXM1E), and MGX 8850 (PXM45) platforms. For Annex-B on MGX 8230, MGX 8250, and MGX 8850 (PXM1) platforms, primary_section is equal to the active_line object.
oper_arch_mode	smallint	Architecture mode that is currently in operation. This value might be different from the configured arch_mode value. • 4 = AnexB—one plus one • 6 = One plus one • 7 = One-to-one • 8 = Y cable—one plus one, no k1 k2 • 9 = Straight—one plus one, no k1 k2 This column applies only to MGX 8830 (PXM1E), MGX 8850 (PXM1E), and MGX 8850 (PXM45) platforms.
oper_direction	smallint	Switching direction that is currently in force. This value might be different from the configured direction value. • 1 = uniDirectional • 2 = biDirectional This column applies only to MGX 8830 (PXM1E), MGX 8850 (PXM1E), and MGX 8850 (PXM45) platforms.

Table 2-8 aps (continued)

Column	Data Type	Description
protocol	smallint	APS channel protocol. • 1 = Bellcore or Telcordia • 2 = ITU This field applies to MGX 8830 (PXM1E), MGX 8850 (PXM1E), and MGX 8850 (PXM45) platforms and must be used with the arch_mode field.
k1k2disable	smallint	Value to enable or disable the K1/K2 inband interface on the protection line. • 1 = kbandEnable • 2 = kbandDisable This column applies only to MGX 8230, MGX 8250, and MGX 8850 (PXM1) platforms.
reserved	integer	Reserved for future use.

ASI, BXM, BME, and UXM Lines

Table 2-9 contains information about service and physical lines on the ASI, BXM, BME, and UXM cards.

Table 2-9 asi_line

Column	Data Type	Description
asiLine_obj_id	integer	Physical line object ID.
l_network_id	smallint	CWM network ID.
l_node_id	integer	CWM node ID.
card_type	smallint	Card type. • 41 = UXM • 106 = ASI_T3 • 107 = ASI_E3 • 110 = ASI_0C3_SMF • 111 = ASI_OC3_MMF

Table 2-9 asi_line (continued)

Column	Data Type	Description
interface	smallint	Interface type. • 0 = Unknown • 1 = T1 • 2 = Not used • 3 = Subrate • 4 = OC-3 • 5 = E1 • 7 = Broadband • 8 = E3 • 9 = T3 • 10 = OC-12 • 11 = E2 • 12 = HIIS
1_slot	smallint	Slot number.
l_port	smallint	Port number. For physical lines, this value is equal to -1. For example, in IMA trunk 11.3-5 the physical lines are 3, 4, and 5. The port number for all three lines is equal to 2 (3-1 = 2). For single port cards this is equal to -1. For IMA lines this value will be the primary port number. Only one entry in this table per IMA group.
l_trk	smallint	Logical trunk number for trunks having physical lines. For nonphysical lines, the value is equal to -1.
l_vtrk	smallint	Virtual trunk number for trunks having physical lines and a virtual trunk; otherwise the value is equal to -1.
l_line	smallint	Physical line number that is unique per card. If physical lines are 2, 3 for one trunk and 6, 7 for another trunk on the same card, then this field contains these corresponding values. For nonphysical lines, the value is equal to -1. The range for physical lines is 1 through 255.
aps_flag	smallint	Reserved for future use. The default value is equal to -1
lineinfo	smallint	Information about the line.
num_phy_line	smallint	Total number of physical lines in an IMA group.

Table 2-9 asi_line (continued)

Column	Data Type	Description
primary_phy_line	smallint	Primary physical line number for an IMA group. This will be equal to the l_port value if the num_phy_lines is greater than 1.
phy_line_bitmap	smallint	Physical line bitmap for an IMA group. Bitmap showing which lines participate in the IMA Group.
line_speed	integer	Line speed for an IMA group.
commentc	char (20)	Comment field.
active	smallint	Active state. • 0 = Inactive • 1 = Active Internal use. Not to be considered for verification of network entities.
status	smallint	Status field. • 1 = Clear • 2 = Failed
reserved	integer	Reserved for future use.

ASI and BXM Line Statistics Data

Table 2-10 contains information about ASI and BXM line statistics.

Table 2-10 asi_ln_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical data record.
asiline_obj_id	integer	ASI line object ID on the BPX.
l_node_id	integer	Local CWM node ID.
stat_type	smallint	Statistic type.
bucket_type	smalint	Bucket type displayed in minutes for the duration of each bucket.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak raw data in sample interval.

ASI, BXM, BME, and UXM Ports

Table 2-11 contains information about ASI, BXM, BME, and UXM ports.

Table 2-11 asi_port

Column	Data Type	Description
asiport_obj_id	integer	Port object ID.
l_network_id	smallint	CWM network ID.
l_node_id	integer	Local CWM node ID.
l_slot	smallint	Slot number.
l_port	smallint	Physical port number.
port_speed	integer	Port speed (baud rate) in 100 bps.
port_type	smallint	Port type. • 1 = UNI • 2 = NNI • 3 = MC_UNI • 4 = MC_NNI • 5 = ENNI
svc_in_use	smallint	Switched virtual circuit (SVC) used. • 0 = Unused • 1 = Used
svc_lcn_lo	integer	SVC logical channel number (LCN) low value.
svc_lcn_hi	integer	SVC LCN high value.
svc_vpi_lo	integer	SVC virtual path identifier (VPI) low value.
svc_vpi_hi	integer	SVC VPI high value.
svc_vci_lo	integer	SVC virtual channel identifier (VCI) low value.
svc_vci_hi	integer	SVC VCI high value.
commentc	char (20)	Comment field used to further qualify the ASI port.
active	smallint	Port active state. • 0 = Inactive • 1 = Active For BPX and IGX, this value is equal to 1. Internal use. Not to be considered for verification of network entities.
status	smallint	Port status field. • 1 = Clear • 2 = Failed • 3 = Inactive

Table 2-11 asi_port (continued)

Column	Data Type	Description
vir_portId	smallint	Virtual port ID. For a regular port the vir_portId is 255. For a virtual port the vir_portId is in the range 1 through 32.
vpi_range_hi	smallint	VPI high value.
vpi_range_lo	smallint	VPI low value.
reserv_cac	integer	Connection admission control (CAC) reverse value.
ilmi_info_bitmap	smallint	Integrated Local Management Interface (ILMI) bitmap information. • c = ILMI – 0 = Disable – 1 = Enable • b = IP Discovery – 0 = Disable – 1 = Enable • aaa = Spare • ddd = Protocol type • 000 = None • 001 = LMI • 010 = ILMI • 011 = Reserved for feeder LMI • 100 = XLMI • 101 = Spare • 102 = Spare • 103 = Spare
ip_address	integer	IP address of the device attached to the router.
if_name_length	smallint	Interface name length.
ifName	char (256)	Interface name.
st_ar_vpi_ran_1	smallint	Start of the first access rate (AR) VPI range.
end_ar_vpi_ran_1	smallint	End of the first AR VPI range.
st_ar_vpi_ran_2	smallint	Start of the second AR VPI range.
end_ar_vpi_ran_2	smallint	End of the second AR VPI range.
st_ar_vpi_ran_3	smallint	Start of the third AR VPI range.
end_ar_vpi_ran_3	smallint	End of the third AR VPI range.
st_ar_vpi_ran_4	smallint	Start of the fourth AR VPI range.
end_ar_vpi_ran_4	smallint	End of the fourth AR VPI range.
reserved	integer	Reserved for future use.

ASI, BXM, BME, and UXM Port Statistics Data

Table 2-12 contains information about ASI, BXM, BXM-E, BME, and UXM port statistics.

Table 2-12 asi_port_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical data record.
asiport_obj_id	integer	ASI port object ID on the BPX.
l_node_id	integer	Local CWM node ID.
subobject_type	smallint	Subobject type (object dependent field).
stat_type	smallint	Statistic type (object dependent field).
bucket_type	smallint	Bucket type displayed in minutes for the duration of each bucket.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak raw data collected in the sample interval.

ATM Addresses

Table 2-12 contains information about ATM addresses.

Table 2-13 atm_addr

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
if_index	integer	Unique value for each interface in a node. The ifIndex is obtained from the cwspAddressTable.
atm_addr	char (40)	ATM endpoint address.
addr_length	integer	Length of ATM address (in bits).
addr_type	smallint	Type of address. • 1 = Internal • 2 = Exterior
addr_proto	smallint	Prototype of the address. • 1 = Local • 2 = Static
addr_plan	smallint	Addressing plan. • 1 = e164 • 2 = nsap
addr_scope	integer	Level of PNNI hierarchy. Value is an integer in the range 0 through 104.

Table 2-13 atm_addr (continued) (continued)

Column	Data Type	Description
addr_redistribute	smallint	Value that determines if the reachable address specified by this entry is to be advertised by the local node into its PNNI routing domain. • 1 = True • 2 = False
reserved	integer	Reserved for future use.

ATM Connections

Table 2-14 contains information about ATM connection segments on these cards: AUSM, AXSM, BNI, ASI, BTM, BXM, BME, UXM, and PXM1.

Table 2-14 atm_connection

Column	Data Type	Description
con_obj_id	integer	ATM Connection segment object ID, in the format *slot, LCN*.
rcon_obj_id	integer	Remote connection object ID. For an SPVC in a Private Network-to-Network Interface (PNNI) network, this value is equal to -1.
lcon_obj_id	integer	Logical connection object ID. For a soft permanent virtual connection (SPVC) in a PNNI network, this value is equal to -1.
master_flag	smallint	Flag that indicates that the end is the master. • 1 = True • 2 = False
l_network_id	smallint	Local SV Plus network ID.
l_node_id	integer	Local SV Plus node ID.
termination	smallint	Type of local and remote endpoints. • Bit 0—Local end has feeder. • Bit 1—Remote end has feeder. • Bits 2 to 4—Local endpoint type. – 0 = Voice or data – 1 = Frame Relay – 2 = ATM • Bits 5 to 7—Remote endpoint type. – 0 = Voice or data – 1 = Frame Relay – 2 = ATM

Table 2-14 atm_connection (continued)

Column	Data Type	Description
l_slot	smallint	Local slot number.
l_port	smallint	Local logical port number.
l_vpi	smallint	Local channel virtual path identifier (VPI) number, in the range 0 through 4095.
l_vci	integer	Local channel virtual channel identifier (VCI) number, in the range 0 through 65535.
r_network_id	smallint	Remote CWM network ID.
r_node_id	integer	Remote CWM node ID. For an SPVC slave endpoint in a PNNI network, this value is set to the local node ID (l_node_id) value. For the master endpoint, this value is set to the node ID of the remote end (slave endpoint).
r_slot	smallint	Remote slot number. For an SPVC slave endpoint in a PNNI network, this value is set to the most significant 2 bytes of logical interface of the *local* NSAP. For the master endpoint, this value is set to the most significant 2 bytes of logical interface of the *remote* NSAP.
r_port	smallint	Remote logical port number. For an SPVC slave endpoint in a PNNI network, this value is set to the most significant 2 bytes of logical interface of the *local* NSAP. For the master endpoint, this value is set to the most significant 2 bytes of logical interface of the *remote* NSAP.
r_vpi	smallint	Remote VPI number, in the range 0 through 4095. For an SPVC slave endpoint in a PNNI network, this value is set to the local VPI (l_vpi) value. For the master endpoint, this value is set to the VPI of the remote end (slave endpoint).
r_vci	integer	Remote VCI number, in the range 0 through 65535. For an SPVC slave endpoint in a PNNI network, this value is set to the local VCI (l_vci). For the master endpoint, this value is the VCI of the remote end (slave endpoint).

Table 2-14 atm_connection (continued)

Column	Data Type	Description
con_type	smallint	Connection type. • 4 = DATA • 5 = FR or ATM-FR • 6 = ATM • 7 = CE • 9 = VOICE • 10 = ATM-CE For ATM connections, this value must be 6.
sub_type	smallint	Service type for permanent virtual circuits (PVCs) on the BPX and IGX switches. • 1 = ATF • 2 = VBR • 3 = CBR • 4 = Unknown • 5 = ABR • 7 = CE • 8 = FR_VBR • 9 = FR_ABR_FS • 10 = UBR • 13 = RTVBR • 23 = FR_CBR1 • 24 = FR_VBR2 • 25 = FR_RTVBR2 • 26 = FR_RTVBR3 • 27 = FR_UBR1 • 28 = FR_UBR2 • 41 = ATFST • 42 = ATFTFST • 43 = ATFXFST • 44 = FR_ATFST • 45 = FR_ATFTFST • 46 = FR_ATFXFST

Table 2-14 atm_connection (continued)

Column	Data Type	Description
mir	integer	Minimum information rate (MIR) in 100 bits per second. This field indicates the minimum cell rate (MCR). The range is 7 through 23000000. The cell rate is converted to 100 bits per second in the CWM database. For example, if the value is 1000 bps, then the database contains 10. This parameter is not used when ForeSight is disabled.
qir	integer	Quiescent information rate (QIR) in 100 bits per second. This parameter is not used when ForeSight is disabled.
pir	integer	Peak information rate (PIR) in 100 bits per second. This parameter is not used when ForeSight is disabled.
cir	integer	Committed information rate (CIR) in 100 bits per second. This field indicates the sustained cell rate (SCR). The range is 7 through 23000000. The cell rate is converted to 100 bits per second in the CWM database. For example, if the value is 1000 bps, then the database contains 10.
lper_util	smallint	Local percent utilization, in the range 0 through 100.
rper_util	smallint	Remote percent utilization, in the range 0 through 100.
commentc	char (20)	Comment field used to describe the ATM connection.
active	smallint	Connection active state is always 1. This field is not used.
tftp_stats	smallint	TFTP statistics information for channels. • 1 = Enable • 2 = Disable • –1 = Not applicable
snmp_stats	smallint	SNMP statistics information for channels. • 1 = Enable • 2 = Disable • –1 = Not applicable
ingr_discard_option	smallint	AUSM Cell Discard option. Applies only for AUSM and MPSM-8T1E1 in ATM mode: • 1 = clpHysterisis • 2 = frameDiscard

Table 2-14 atm_connection (continued)

Column	Data Type	Description
status	smallint	Connection status field. MGX 8230, MGX 8250, and MGX 8850 (PXM1) PVC: • 1 = OK/A-bit alarm • 2 = Failed/A-bit alarm • 3 = Down/A-bit alarm • 14 = Upper level alarm (16384) • 129 = OK • 130 = Failed • 131 = Down MGX 8850 (PXM1) SPVC: • 0 = Clear • 1 = ingAisRdi • 2 = egrAisRdi • 4 = conditioned • 8 = interfaceFail • 16 = ccFail • 32 = mismatch • 64 = ingAbitFail • 128 = Unknown Secondary status for AUSM on PXM1E: • 0 = Clear • 1 = ingAisRdi (Port side AIS received) • 2 = egrAisRdi (N/W side AIS received) • 4 = conditioned (A-bit failure from N/W) • 32768 = Unknown

Table 2-14 atm_connection (continued)

Column	Data Type	Description
status (continued)		BPX in the format *aabbccdd*: • aa = A-bit status – 00 = A-bit failed – 10 = A-bit OK • bb = AIS status bits – 01 = Clear – 10 = AIS alarm • cc = OAM loopback – 01 = Clear – 10 = Failed • dd = Primary status – 01 = OK – 10 = Failed – 11 = Down For terminating points, the default value is 149 indicating that the status is OK. For nonterminating points, this field displays a default value of 129. The AIS status and OAM loopback bits are masked. A value of 129 is also returned for the following card types: • ASI_T3_2 • ASI_E3_2 • ASI0_T3 • ASI0_E3 • ASI_OC3
con_info_flag	smallint	Connection information flag. • Bits 0 to 5—Unused • Bit 6—Systems Network Architecture (SNA) priority – 0 = Low – 1 = High • Bit 7—ForeSight – 0 = Disabled – 1 = Enabled
ibs	integer	Initial burst size, in the range 1 through 5000000.
vc_q_depth	integer	Virtual circuit (VC) queue depth in bytes.
efci_q_thresh	integer	Explicit forward connection indication (EFCI) queue threshold.

Table 2-14 atm_connection (continued)

Column	Data Type	Description
cbs	integer	Committed burst size (CBS), in the range 1 through 5000000. This field indicates the maximum burst size (MBS). The cell rate is converted to 100 bits per second in the CWM database. For example, if the value is 1000 bps, then the database contains 10.
mfs	integer	Maximum frame size (MFS), in the range 0 through 200.
ccdv	integer	Maximum tolerable cell delay variation from the local to the remote. The range is 0 through 16777215. The cell rate is converted to 100 bits per second in the CWM database. For example, if the value is 1000 bps, then the database contains 10.
clp_hi	smallint	CLP high threshold.
clp_lo	smallint	CLP low threshold.
fst_rate_up	integer	ForeSight rate up (ausmStdABRIF object). For the MGX platform, the values of this rate increase factor are powers of 2 through 32768. The default value is 64. Map to cwaChanAbrRIF.
fst_rate_dn	integer	ForeSight rate down (ausmStdABRRDF object). For the MGX platform, the values for this rate decrease factor are powers of 2 through 32768. The default value is 16. Map to cwaChanAbrRDF.
fst_fast_dn	smallint	ForeSight fast down.
fst_qir_to	integer	ForeSight QIR timeout.
fst_max_adj	integer	ForeSight maximum adjustment.
clp_tagging	integer	CLP tagging. • 1 = Disable • 2 = Enable
upc_enable	integer	Usage parameter control (UPC). • 1 = Disable • 2 = Enable
rm_enable	integer	Resource management. • 1 = Disable • 2 = Enable

Table 2-14 atm_connection (continued)

Column	Data Type	Description
u_fgcra	integer	Generic cell rate algorithm. • 1 = Disable • 2 = Enable
u_scr_policing	smallint	Sustainable cell rate (SCR) policing. For MGX 8220, 8230, 8250, 8850 (PXM1), and 8850 (PXM45), these are the SCR policing types: • 1 = CLP0 • 2 = CLP(0+1) • 3 = Off For the BPX switch, these are the SCR policing types: • 1 = VBR1 • 2 = VBR2 • 3 = VBR3 • 4 = PLCP • 5 = None
u_pcr01	integer	Peak cell rate (PCR) in the direction local to remote direction. The range is 7 through 23000000. The cell rate is converted to 100 bits per second in the CWM database. For example, if the value is 1000 bps, then the database contains 10.
u_ccdv01	integer	Cell delay variation (0+1), in the range 1 through 5000000.
u_ccdv0	integer	Cell delay variation equal to 0.
lcn	integer	Logical connection number, in the range 0 through 524287. For AUSM-8T1/E1 on PXM1E the range is 16 through 1015.
nrm	smallint	Maximum number of cells each forward RM cell. • 1 = nrm2 • 2 = nrm4 • 3 = nrm8 • 4 = nrm16 • 5 = nrm32 • 6 = nrm64 • 7 = nrm128 • 8 = nrm256
tbe	integer	Transient buffer exposure, in the range 1 through 16777215.
frtt	integer	Fixed round trip time, in the range 0 through 16700000.
vsvd	smallint	Virtual source/virtual destination.

Table 2-14 atm_connection (continued)

Column	Data Type	Description
cell_routing	smallint	Value to enable cell routing. Default value is = 1. • 1 = Enable • 2 = Disable
mc_type	smallint	Multicast type. • 0 = Normal • 1 = Root • 2 = Leaf
par_subtype	smallint	ATM connection service type (bbConnServiceType). • 1 = Constant bit rate (CBR) • 2 = Variable bit rate (VBR) • 4 = Unspecified bit rate (UBR) • 5 = ATM Frame Relay • 6 = Available bit rate standard (ABR) • 7 = ForeSight ABR • 8 = Real-time VBR This field is only used on the PXM. To be compatible with the existing AUSM MIB definition, value 3 is not used. The following values support PNNI and are based on UNI 4.0: • 21 = CBR.1 • 22 = Real-time VBR.1 • 23 = Real-time VBR.2 • 24 = Real-time VBR.3 • 25 = Non-real-time VBR.1 • 26 = Non-real-time VBR.2 • 27 = Non-real-time VBR.3 • 28 = UBR.1 • 29 = UBR.2 • 30 = TM 4.0 compliant standard ABR • 31 = CBR.2 • 32 = CBR.3

Table 2-14 atm_connection (continued)

Column	Data Type	Description
par_subtype (continued)		AXSM and AUSM on PXM1E (from CiscoAtmServiceCategory object) have the following values: • 1 = cbr1 • 2 = vbr1RT • 3 = vbr2RT • 4 = vbr3RT • 5 = vbr1nRT • 6 = vbr2nRT • 7 = vbr3nRT • 8 = ubr1 • 9 = ubr2 • 10 = abr • 11 = cbr2 • 12 = cbr3
rout_pri	smallint	Routing priority. Portable AutoRoute (PAR) determines the importance of this connection when selecting connections to route. The range is 0 through 15.
max_cost	integer	Maximum allowed cost, related to cost based routing. Based on this value, the PXM chooses a path with a cost less than or equal to this configured level. The range is 1 through 65535, and the default value is equal to 255. For a PNNI controller, for example PXM1E, range is 1 through 2G.
res_trk_typ	smallint	Restricted trunk type for routing, used by PAR. • 1 = No restriction • 2 = Terrestrial trunk • 3 = Satellite trunk
r_pcr	integer	Remote peak cell rate, in the range 7 through 23000000.
r_mcr	integer	Remote minimum cell rate, in the range 7 through 23000000.
vp_flag	smallint	Virtual path (VP) or virtual circuit (VC) endpoint. • 1 = VP • 2 = VC
if_index	integer	Interface index.
shelf	smallint	Shelf number.
bay	smallint	Bay number.
line	smallint	Line number.

Table 2-14 atm_connection (continued)

Column	Data Type	Description
upd_counter	integer	Upload requirement counter. This value determines if a channel in the table had been modified and requires an upload, in the range 0 through 4294967295.
stats	smallint	Statistical data is either enabled or restricted. • 1 = Enable • 2 = Disable
cc	smallint	Continuity check (CC) on a connection endpoint. • 1 = Enable • 2 = Disable
routing_l_vpi	smallint	Routing local VPI, in the range 1 through 4095.
routing_l_vci	integer	Routing local VCI, in the range 0 through 65535.
l_nsap_addr	byte	Internal network service access point (NSAP) assigned to a local endpoint.
r_nsap_addr	byte	NSAP of the peer endpoint.
ctlr_id	smallint	Controller ID of an endpoint, in the range 1 through 255. The default value equals 1.
frame_dis	smallint	Frame discard feature. • 1 = Enable • 2 = Disable
oper_status	smallint	Operational status of an endpoint indicates the primary status of the SPVC. • 1 = operOk • 2 = operFail • 3 = adminDown An upper level alarm is indicated by the value 16384 (bit 14).
cctd	integer	Maximum tolerable network transfer delay in the direction local to remote. This field indicates the cell transfer delay (CTD). The range is 0 through 65535. The cell rate is converted to 100 bits per second in the CWM database. For example, if the value is 1000 bps, then the database contains 10.
icr	integer	Initial cell rate (ICR), in the range 7 through 23000000. The value is -1 for non-ABR connections. This value must not be larger than the u_pcr01 (PCR).
adtf	smallint	Allowed cell rate (ACR) decrease time factor, in the range 1 through 1023.

Table 2-14 atm_connection (continued)

Column	Data Type	Description
trm	smallint	Time between forward RM cells for an active source, in the range 1 through 8. • 1 = trm0point78125 • 2 = trm1point5625 • 3 = trm3point125 • 4 = trm6point25 • 5 = trm12point5 • 6 = trm25 • 7 = trm50 • 8 = trm100
cdf	smallint	Cutoff decrease factor, in the range 1 through 8. • 1 = cdf0 • 2 = cdfOneOver64 • 3 = cdfOneOver32 • 4 = cdfOneOver16 • 5 = cdfOneOver8 • 6 = cdfOneOver4 • 7 = cdfOneOver2 • 8 = cdfOne The value is -1 for non-ABR connections.
ers	smallint	Configuration of an endpoint for explicit rate stamping. • 1 = none • 2 = enableIngress • 3 = enableEgress • 4 = enableBoth The value is -1 for non-ABR connections.
int_vsvd	smallint	Internal VSVD.
ext_vsvd	smallint	External VSVD.
behaviour_type	smallint	Behavior type. • -1 = Not applicable. • 1 = switchBehaviour—A switch connection (transparent connection) in which RM cells are received from a traffic management (TM 4.0) compliant CPE. • 2 = srcDestBehaviour—A source destination connection (terminating connection) that generates RM cells.

Table 2-14 atm_connection (continued)

Column	Data Type	Description
seg_endpoint	smallint	Segment status of a connection endpoint. • 0 = Non segmented—OAM cells pass through. • 1 = Segmented—Termination point for OAM cells.
egr_srv_rate	integer	Egress service rate. This object is used for egress bandwidth calculation and connection admission control (CAC). The range is 1 through 38328. A value of -1 indicates not applicable. This object applies to AUSM-8T1/E1 on PXM1E.
chan_sub_ovr_ride	smallint	Value to add a new connection on a port even if port is over subscribed • -1 = Not applicable • 1 = Disable • 2 = Enable (default) This object applies to AUSM-8T1/E1 on PXM1E.
slaver_type	smallint	Flag that indicates if a master endpoint has a persistent slave or not. This field is applicable when the master_flag object is set to 1. • 1 = Persistent slave • 2 = Nonpersistent slave
clr	smallint	Encoded value that represents the maximum tolerable cell loss ratio (CLR) in the direction local -> remote. The range is 1 through 15. The default value is 6. The actual CLR value is derived as the negative logarithm of this value.
remote_clr	smallint	Encoded value that represents the maximum tolerable cell loss ratio in the direction remote -> local. The range is 1 through 15. The default value is 6. The actual CLR value is derived as the negative logarithm of this value.
ais_iw_cap	smallint	SPVC endpoint alarm indication signal (AIS) capability. This object is used for achieving OAM interoperability between switches that cannot generate or detect segment AIS cells. This attribute enables the newer generation of switches to understand the OAM capability of the peer endpoint and accordingly generate or detect segment/end-to-end AIS as required. The value of this attribute is decided during provisioning time by network management. • 1 = e2eAisCapable— Endpoint is capable of detecting or generating end-to-end AIS. • 2 = segAisCapable—Endpoint is capable of detecting or generating segment AIS.
r_src	integer	Sustainable cell rate (SCR) for the direction remote to local. The range is 0 through 4294967295 cps.

Table 2-14 atm_connection (continued)

Column	Data Type	Description
r_mbs	integer	Maximum burst size (MBS) used in the direction remote to local. The range is 0 through 5000000 cells.
r_cdv	integer	Maximum tolerable cell delay variation (CDV) for the direction remote to local. The range is 0 through 16777215 microseconds. The default value is 16777215.
r_ctd	integer	Maximum tolerable network transfer delay in the direction direction remote to local. The range is 0 through 65535 milliseconds. The default value is 65535.
cast_type	smallint	Communications line type applicable only to the master endpoint. • 1 = P2MP • 2 = P2P
pref_route_id	integer	Route ID of the associated preferred route. The range is 0 through 65535. The default is 0.
direct_route_flag	smallint	Directed route flag. • 1 = True • 2 = False The default is 2 (false).
reserved	integer	Reserved for future use.

ATM Physical Lines

Table 2-15 contains information about ATM physical lines.

Table 2-15 atm_phy

Column	Data Type	Description
node_id	integer	CWM node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
bay	smallint	Bay number.
line	smallint	Line number.
if_index	integer	Interface index of the ATM physical interface, different than the interface index of the line and port.

Table 2-15 atm_phy (continued)

Column	Data Type	Description
enable	smallint	Value to enable the physical line. • 1 = True (default) • 2 = False
alarm_status	smallint	Operation status of the ATM physical interface.
null_cell_header	char (4)	First four bytes of the ATM header used for null cells.
null_cell_payload	smallint	Null cell payload definition, in the range 0 through 255.
hec_coset	smallint	Value to enable the algorithm of coset polynomial addition. • 1 = True (default) • 2 = False
payload_scramble	smallint	Value to enable payload scrambling. • 1 = True (default) • 2 = False
group_num	smallint	Group number.
reserved	integer	Reserved for future use.

AU4 to TUG3 Mapping

Table 2-16 contains information about mapping AU4 to TUG3 tributary groups.

Table 2-16 AU4TUG3

Column	Data Type	Description
node_id	integer	CWM node ID
network_id	smallint	Network ID
shelf	integer	Shelf number
slot	smallint	Slot number
bay	smallint	Bay number.
line	smallint	Line number of AU4 line
channel_bitmap	integer	channel bitmap of AU4 line
if_index	integer	ifindex of AU4 line
tug3	integer	TUG3 number under the AU4
payload	smallint	Payload on TUG3 • 1 = other • 2 = vc11 • 3 = vc12 • 4 = tu3ds3 • 5 = tu3e3

Table 2-16 AU4TUG3

Column	Data Type	Description
reserved	integer	Reserved for future use.

AUSM, AXSM, and PXM1 Ports

Table 2-17 contains information about AUSM, AXSM, and PXM1 ports.

Table 2-17 ausm_port

Column	Data Type	Description
ausmp_obj_id	integer	AUSM, AXSM, or PXM1 port object ID generated by CWM, in the format *slot, port*.
l_network_id	smallint	Local network ID.
l_node_id	integer	CWM local node ID.
shelf	integer	Shelf number.
l_slot	smallint	Local slot number.
line	smallint	Line number associated with this port. For IMA ports this value is -1.
l_port	smallint	Logical port number for an AUSM, AXSM, or PXM1 port.
port_speed	integer	Configured port speed, in cells per second, on the AUSM card. For the AXSM and PXM1 cards, this field describes the virtual interface rate in cells per second.
commentc	char (20)	Comment field used to describe the line.
active	smallint	Port active state.

Table 2-17 ausm_port (continued)

Column	Data Type	Description
status	smallint	Operational status field. For AUSM-8T1/E1 on the MGX 8230, MGX 8250, MGX 8850 (PXM1), and MGX 8830: • 1 = Active • 4 = Remote loop back • 5 = Line failure • 6 = Signaling failure • 7 = Not configured • 8 = Out of cell delineation • 15 = Lower layer down—Valid only for AUSM-8T1/E1 on PXM1E • 16 = Local loopback—Valid only for AUSM-8T1/E1 on PXM1E For the MGX 8850 (PXM45), the following values are supported: • 0 = Not configured • 1 = Up • 2 = Down/failed • 4 = Remote loop back (LPBK) • 6 = Signaling failure • 8 = Out of cell delineation • 15 = Lower layer down AUSM IMA port: • 1 = Active • 6 = Failed due to IMA signaling failure • 7 = Unconfigured • 9 = Failed due to ACP timeout • 10 = Failed due to major alarm on IMA group • 11 = Failed due to bad differential delay • 12 = Failed due to arb conflict • 13 = Receiving local OAM AIS • 14 = Receiving local OAM RDI • 17 = Failed due to ILMI signaling failure
signal_state	integer	Port signaling state.

Table 2-17 ausm_port (continued)

Column	Data Type	Description
port_type	smallint	Type of port. This field is associated with the caviIfType object. • 0 = Other • 1 = UNI • 2 = NNI • 4 = VUNI • 5 = VNNI • 6 = EVUNI • 7 = EVNNI AUSM-8T1/E1 on PXM1E: • 0 = Other • 1 = UNI • 2 = NNI • 3 = STI • 4 = VP Trunk UNI For EVUNI and EVNNI port types, the assigned VPI range is available in the **bbif_vpi_low** and **bbif_vpi_high** fields.

Table 2-17 ausm_port (continued)

Column	Data Type	Description
interface_type	smallint	Type of interface. Value range is 1 through 197. This field is populated by the **ifType** MIB object of the IF-MIB.my MIB file located in the **/user/users/svplus/mibs/mibdir** directory. The values and corresponding definitions are listed in the **IANAifType** object of the IANAifType-MIB.my MIB file located in the **/usr/users/svplus/mibs/mibdir** directory. Interfaces on the AUSM card: • 1 = Unknown • 2 = T1 • 3 = E1 Interfaces on the AXSM and PXM1E cards: • 1 = Unknown • 2 = T1 • 3 = E1 • 4 = T3 • 5 = E3 • 6 = OC3 • 7 = STM1 • 8 = OC12 • 9 = STM4 • 10 = OC48 • 11 = STM16 • 12 = OC192 • 13 = STM64 Refer to the line table for detailed information on the subtypes supported for each interface type.
protocol_type	smallint	Signaling protocol type. Integrated Local Management Interface (ILMI) does not have signaling.
poll_timer	smallint	T491 polling interval.
err_thresh	smallint	N491 error threshold.
signalling_vpi	integer	Signaling virtual path indicator (VPI).
signalling_vci	integer	Signaling virtual channel indicator (VCI).
ilmi_trap_enable	smallint	ILMI trap enabled.
trap_interval	smallint	Minimum interval between traps.
keep_alive	smallint	Keep alive polling state.
event_thresh	smallint	N492 event threshold.

Table 2-17 ausm_port (continued)

Column	Data Type	Description
min_enquiry	smallint	T493 minimum enquiry interval.
svc_in_use	smallint	Switched virtual circuit (SVC) used.
svc_lcn_lo	smallint	SVC logical channel number (LCN) low.
svc_lcn_hi	smallint	SVC LCN high.
svc_vpid_lo	smallint	SVC VP ID low.
svc_vpid_hi	smallint	SVC VP ID high.
svc_vci_lo	integer	SVC VCI low.
svc_vci_hi	integer	SVC VCI high.
svc_vpi_lo	smallint	SVC VPI low.
svc_vpi_hi	smallint	SVC VPI high.
addr_prefix	char (20)	Network prefix for the ATM address.
ima_port	integer	IMA port number.
line_map	integer	Line mapping.
num_red_links	smallint	Number of redundancy links.
max_delay	smallint	Maximum delay.
ima_master	smallint	IMA master number.
lcl_ima_id	smallint	Local IMA ID.
rmt_ima_id	smallint	Remote IMA ID.
line_order	char (16)	Line order list.
obs_delay	smallint	Observed differential (OBS) delay (in milliseconds) between the physical links in the IMA group.
oversubscribed	smallint	Over subscribed indicator.
ilmi_enable	smallint	Value to enable the ILMI interface. For AXSM cards, this value is not used, indicated by -1. The ILMI enable information for AXSM cards is located in the ilmi_enabled field in the Rsc_part table.
ima_symmetry	smallint	Symmetry of the IMA group. • 1 = Symmetric operation • 2 = Asymmetric operation • 3 = Asymmetric configuration
bbif_vpi_low	smallint	Lower limit of VPI range reserved for this logical interface.
bbif_vpi_high	smallint	Upper limit of VPI range reserved for this logical interface.
min_rx_links	smallint	Minimum number of receive links required to be active for the IMA. The range is 1 through 8.
min_tx_links	smallint	Minimum number of transmit links required to be active for the IMA group to be in the Up state. The range is 1 through 8.

Table 2-17 ausm_port (continued)

Column	Data Type	Description
netxclmMode	smallint	Transmit clocking mode used by the near-end IMA group. • 1 = CTC (default) • 2 = ITC
test_link_ifindex	integer	Value to designate an interface as the test link. The default value of -1 specifies that the implementation can choose the test link and the test_pattern field.
test_pattern	integer	Specific test pattern in an IMA group loopback operation. The range is 0 through 255, and the default value is -1.
test_proc_status	smallint	Test procedure status. • 1 = Disabled • 2 = Operating • 3 = Link failure
int_up_time	integer	Integration up time for alarm integration. The range is 100—100000 milliseconds. The default value is 2500.
int_down_time	integer	Integration down time for alarm integration. The range is 100 through 400000 milliseconds. The default value is 10000.
intf_ip_addr	integer	Interface IP address of the neighbor system that is connected to the far end of this interface.
bay	smallint	Bay number. The default value is equal to 1.
if_index	integer	A unique value for each interface.
high_speed	integer	High speed of the interface. The scale is megabits per second.
admin_status	smallint	Desired state of the interface. • 1 = Up • 2 = Down • 3 = Testing
min_rate	integer	Minimum cell rate of the logical interface, in the range 50 through 5651328.
max_rate	integer	Maximum cell rate of the logical interface, in the range 50 through 5651328.
sct_id	smallint	Template file ID that holds card specific configuration, in the range 1 through 255. To unique identify an SCT file, use *sct_id*, *sct_type*, *fc_type* as the key to reference the SCT table.
sct_version	integer	Version number of the template file.
vpi_num	smallint	Value to configure this logical interface to be a virtual trunk, in the range 0 through 4095.

Table 2-17 ausm_port (continued)

Column	Data Type	Description
xlmi_flag	smallint	XLMI flag. • 0 = LMI not configured • 1 = XLMI • 2 = feeder
group_num	smallint	Group number.
tx_ima_id	integer	The IMA ID currently in use by the near-end IMA function. The range is 0 through 255
ima_version	integer	The version of the IMA protocol that the group is running. • 1 = IMA 1.0 • 2 = IMA 1.1
ds0_cfg_bitmap	integer	Added for Fractional ATM port. Value is -1.
reserved	integer	Reserved for future use.

AUSM, AXSM, and PXM1 Port Statistics Data

Table 2-18 contains port statistics information on the following cards and switches:

- AUSM—MGX 8220, MGX 8230, MGX 8250, and MGX 8850(PXM1)
- AXSM—MGX 8850 (PXM45)
- PXM1—MGX 8230, MGX 8250, and MGX 8850 (PXM1)

Table 2-18 ausm_port_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical data record.
ausmp_obj_id	integer	AUSM, AXSM, or PXM1 port object ID.
l_node_id	integer	Local CWM node ID.
subobject_type	smallint	Subobject type (object dependent field).
stat_type	smallint	Statistic type (object dependent field).
bucket_type	smallint	Bucket type displayed in minutes for the duration of each bucket.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak raw data in the sample interval.

AXSM Connection Statistics Data

Table 2-19 contains information about AXSM connection statistics.

Table 2-19 axsm_conn_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical data record.
con_obj_id	integer	Connection object ID.
l_node_id	integer	Local CWM node ID.
subobject_type	smallint	Subobject type for the statistic.
stat_type	smallint	Statistic type (object dependent field).
bucket_type	smallint	Bucket type displayed in minutes for the duration of each bucket.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak rate of the raw data in the sample interval.

AXSM-E Connection Statistics Data

Table 2-20 contains information about AXSM-E connection statistics.

Table 2-20 axsme_conn_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical data record.
con_obj_id	integer	Connection object ID.
l_node_id	integer	Local CWM node ID.
subobject_type	smallint	Subobject type for the statistic.
stat_type	smallint	Statistic type.
bucket_type	smallint	Bucket type displayed in minutes for the duration of each bucket.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak rate of the raw data in the sample interval.

BIS Objects

Table 2-21 contains information about the BPX interface shelf (BIS) objects. This information is contained in the bis_object table of the stratacom database.

Table 2-21 bis_object

Column	Data Type	Description
obj_id	integer	Feeder (BIS) object ID.
name	char (32)	Name of BIS.

Table 2-21 bis_object (continued)

Column	Data Type	Description
type	smallint	Feeder type.
subtype	smallint	Flag that indicates if this BIS is a feeder. • 0 = False (routing only) • 1 = True (feeder only)
node_id	integer	Feeder node ID.
ipaddress	integer	IP address of the feeder shelf.
p_node_id	integer	ID of the parent feeder node.
p_ipaddress	integer	IP address of the feeder parent node.
p_bay	smallint	Parent node bay number.
p_line	smallint	Parent node line number.
p_slot	smallint	Parent node slot number.
p_port	smallint	Parent node port number.
p_logicalport	smallint	Parent node logical port (for Ascend only).
f_slot	smallint	Feeder slot number.
f_port	smallint	Feeder port number.
status	smallint	Alarm status of a BIS object. • 0 = Clear • 1 = Minor • 2 = Major • 3 = Unreachable
active	smallint	BIS object active state.
model	integer	Model type. • 8410—IGXIGX 8 • 8420—IGX 16 • 8430— IGX 32 • 8220—MGX Edge Concentrator • 8620—BPX • 8650—BPX tag switch • 3—MGX SES 8850 • 8250—MGX 8250 PXM1-based switch • 8230—MGX 8230 PXM1-based switch • 8850—MGX 8850 PXM1-based switch The default value is equal to 0.

BPX, IGX, and MGX Cards

Table 2-22 contains information about the status of the BPX, IGX, and MGX cards. This information is contained in the card table of the stratacom database.

Table 2-22 card

Column	Data Type	Description
obj_id	integer	Object ID generated by CWM.
node_id	integer	Node ID generated by CWM.
network_id	smallint	CWM network ID.
node_type	smallint	Platform value in the node table.
shelf	integer	Shelf number.
slot	smallint	Slot number.
fc_type	smallint	Front card type. For a list of the front card types on each node, see Appendix E, “Card Types”. When the card is in fail state, the fc_type is equal to 1.
fc_dscrp	char (21)	Front card description (MGX 8220 only).
fc_serial_num	char (12)	Front card serial number.
fc_hw_rev	char (6)	Front card hardware revision.
fc_fw_rev	char (21)	Front card firmware revision (MGX 8220, MGX8830 and MGX 8850).

Table 2-22 card (continued)

Column	Data Type	Description
fc_reset_reason	integer	Front card reset reason on the MGX 8230, MGX 8250, MGX 8850 (PXM1), and the MGX 8220. • 1 = Power up • 2 = Parity error • 3 = Watch dog • 4 = Resource overflow • 5 = Clear all config • 6 = Missing task • 7 = PXM Low Voltage • 8 = Reset By Event Log task • 9 = Reset from Shell • 10 = Unknown • 11 = Reset from PXM • 12 = System reset • 13 = Reset from switchCC • 14 = Reset from sCacheError • 15 = Reset from swError • 16 = Reset from upgrade • 17 = Reset from restore all config • 18 = Reset from driver Error Since the MIB attributes of the switch are generic strings, the character strings mapped to the fc_reset_reason values might be different than what is stored in the CWM database. However, the characteristic of the attributes are the same between the switch and CWM.

Table 2-22 card (continued)

Column	Data Type	Description
fc_reset_reason (continued)	integer	Front card reset reason on the MGX 8850 (PXM45): • 1 = Unknown • 2 = Power up • 3 = Parity error • 4 = Clear config reset • 5 = Manual reset • 6 = Reset from watchDog timeout • 7 = Reset from resource overflow • 8 = missing task reset • 9 = PXM low voltage • 10 = Reset from PXM • 11 = System reset • 12 = Reset from switchover • 13 = Reset from upgrade • 14 = Reset from downgrade • 15 = Reset from cache error • 16 = Reset from device driver error • 17 = Reset from software exception • 18 = Reset due to restore configuration command • 19 = Reset due to abortRev command • 20 = Reset due to burnBoot command • 21 = Reset due to standbyCdHealthier message • 22 = Reset due to nonNativeConfigClear message • 23 = Reset due to memory protection error Since the MIB attributes of the switch are generic strings, the character strings mapped to the fc_reset_reason values might be different than what is stored in the CWM database. However, the characteristic of the attributes are the same between the switch and CWM.
fc_fab_num	char (21)	Front card FAB number.

Table 2-22 card (continued)

Column	Data Type	Description
fc_state	integer	Front card state. BPX and IGX states: • 1 = No card • 2 = Standby • 3 = Active • 4 = Failed • 8 = Mismatch • 13 = Down • 14 = Update • 15 = Cleared • 16 = Unavailable • 17 = Downloading • 18 = Downloader • 19 = Downloaded • 20 = Locked • 21 = Program • 22 = Upgrading • 23 = Upgraded • 24 = Frozen MGX states: • 1 = No card • 2 = Standby • 3 = Active • 4 = Failed • 5 = Self Test • 6 = Held in reset • 7 = Boot • 8 = Mismatch • 9 = Unknown • 10 = Core card mismatch • 12 = Reserved • 50 = Hold • 51 = Not Responding • 52 = Card initializing • 101 = Blocked

Table 2-22 card (continued)

Column	Data Type	Description
mib_version	integer	MIB version number (MGX 8220 only).
bc_type	smallint	Back card type. For a list of back card types on each node, see Appendix E, "Card Types". If the fc_type is PXM, and the bc_type is PXM_UNI, then switch the value of the bc_type and the sec_bc_type. This switch is a request by the CardProxy.
bc_dscrp	char (21)	Back card description (MGX 8220 only). Octet string size is in the range 0 through 255.
bc_serial_num	char (12)	Back card serial number.
bc_hw_rev	char (6)	Back card hardware revision.
bc_fw_rev	char (21)	Back card firmware revision (MGX 8220 only).
bc_state	smallint	Back card state. • -1 = Default • 1 = Not present • 2 = Present • 3 = Mismatch
sec_bc_type	smallint	Secondary back card type. The default is equal to -1.
sec_bc_dscrp	char (21)	Secondary back card description. The default is equal to -1.
sec_bc_serial_num	char (12)	Secondary back card serial number. The default is equal to -1.
sec_bc_hw_rev	char (6)	Secondary back card revision. The default is equal to -1.
sec_bc_fw_rev	char (21)	Secondary back card firmware revision (MGX 8220 only). The default is equal to -1.
sec_bc_state	smallint	Secondary back card state. The default is equal to -1.
rate_up	integer	Rate up (FRSM/AUSM only).
rate_dn	integer	Rate down (FRSM/AUSM only).
fast_dn	integer	Rate fast down (FRSM/AUSM only).
measure_time	integer	Round trip delay (RTD) measurement (in seconds) on the FRSM and AUSM cards.
qir_timeout	integer	Quiescent information rate (QIR) timeout (FRSM only).
chan_allowed	smallint	Channelized data allowed (FRSM only). • 1 = Not channelized • 2 = Channelized
rate_ctrl_allowed	smallint	Rate control allowed (FRSM only).
clk_conn_type	smallint	Clock connector type.
curr_clk_src	smallint	Current clock source.
pri_clk_src	smallint	Primary clock source.

Table 2-22 card (continued)

Column	Data Type	Description
sec_clk_src	smallint	Secondary clock source.
clk_impedence	smallint	Clock impedance.
out_of_sync	smallint	Configuration upload failed during last resynchronization.
bnm_ln_format	smallint	BNM cell format. • 1 = STI • 2 = UNI • 3 = NNI
aps_info	smallint	Automatic protection switching (APS) information. The default value is -1.
ml_chan_stat	smallint	Multilevel channel statistics. For MGX Platform: • 1 = Enables level one counters. • 2 = Enables level two and level one counters. • 3 = Enables level one, level two and level three counters. The default value is 2.
logical_slot	smallint	Logical slot number of the slot in chassis.
egr_qos_feature	smallint	Value to enable the egress quality of the service feature. • 1 = egrQosFeatureEnabled • 2 = egrQosFeatureDisabled • 3 = notApplicable
sct_id	smallint	ID of the template file for a card module. To identify an SCT file, use the format *sct_id, sct_type, fc_type* as the key to reference the SCT table.
sct_version	integer	Version number of the template file.
clk_err_reason	smallint	Reason for clock errors.
fc_admin_status	smallint	Front card administrative status.
ent_phy_idx	integer	Physical entity index. This value is from the **entPhysicalIndex**.
bc_ent_phy_idx	integer	Backcard physical entity index. This value is from the **entPhysicalIndex**.
sec_bc_ent_phy_idx	integer	Secondary backcard entity physical index. This value is from the **entPhysicalIndex**.
transaction_id	integer	Transaction ID to indicate the point that CWM synced up with the switch.

Table 2-22 card (continued)

Column	Data Type	Description
cac_mode	smallint	Configured connection admission control (CAC) selection mode for a particular card. This object is applicable only for AUSM-8, AUSM-8B, and AUSM-8C cards (Rev 10.2.x) on PXM1 (Rev 1.2.x). • 1 = PCR based CAC mode. • 2 = SCR based CAC mode
max_ima_grp	integer	Maximum number of IMA groups supported. The range is 0 through 65535
configured_ima_grp	integer	Current number of IMA groups configured. The range is 0 through 65535
min_grp_tx_ima_id	integer	Minimum value of IMA ID range supported. The range is 0 through 255
max_grp_tx_ima_id	integer	Maximum value of IMA ID range supported. The range is 0 through 255
ima_ver_fallback_enable	smallint	For controlling IMA version fallback support. • 1 = TRUE: enable fallback support. • 2 = FALSE: disable fallback support. The default is 2 (false).
ima_restart_enable	smallint	Specifies IMA init restart behavior. • 1 = TRUE: IMA unit in auto restart mode running with enhanced IMA GSM. • 2 = FALSE: IMA unit not in auto restart mode The default is 2 (false).
ima_ent_phy_idx	integer	IMA Entity Physical Index
reserved	integer	Reserved for future use.

BPX, IGX, and MGX Card Descriptor

Table 2-23 contains information about the BPX, IGX, and MGX card descriptors. This information is contained in the card_desc table of the stratacom database.

Table 2-23 card_desc

Column	Data Type	Description
node_id	integer	CWM node ID
slot	smallint	Slot number.
descriptor	char(64)	Descriptor
timestamp	integer	Time in integer format when the last operation was done on this table.

Table 2-23 card_desc (continued)

Column	Data Type	Description
deleted	smallint	Is this table deleted • 1 = Yes descriptor is deleted • 0 = No descriptor is not deleted

CESM Connections

Table 2-24 contains information about CESM connections for the MGX 8220, MGX 8230, MGX 8250, and MGX 8850 (PXM1) nodes.

Table 2-24 cesm_connection

Column	Data Type	Description
con_obj_id	integer	Connection object ID (VC endpoint index).
master_flag	smallint	Value to indicate the master end. • 0 = False • 1 = True
l_network_id	smallint	Local CWM network ID.
l_node_id	integer	Local CWM node ID for MGX 8220, MGX 8230, MGX 8250, and MGX 8850.
termination	smallint	Local and remote termination types.
l_slot	smallint	Local slot number.
l_line	smallint	Local line number.
l_port	smallint	Local port number, which is the first DS0 time slot number of the port.
l_vpi	smallint	Local virtual path indicator (VPI) number.
l_vci	integer	Local virtual channel indicator (VCI) number.
l_nsap_addr	byte	Network service access point (NSAP) assigned to a local endpoint on the PXM1E card.
r_network_id	smallint	Remote CWM network ID.
r_node_id	integer	Remote CWM node ID.
r_slot	smallint	Remote slot number.
r_line	smallint	Remote line number.
r_port	smallint	Remote port number.
r_vpi	smallint	Remote data link connection identifier (DLCI) number or VPI number.
r_vci	integer	Remote VCI number.
r_nsap_addr	byte	NSAP of the peer endpoint.

Table 2-24 cesm_connection (continued)

Column	Data Type	Description
con_type	smallint	Connection type. • 1 = PVC • 2 = SVC • 3 = SPVC This object is only applicable to CESM-8T1/E1 and CESM-T3/E3.
max_buf_size	integer	Maximum size (in octets) of reassembly buffer.
cell_loss_period	integer	Cell loss integration period (in milliseconds).
cdv_rx_t	integer	Maximum cell arrival jitter tolerated by reassembly process in 10-microsecond increments.
commentc	char (20)	Comment field to describe the connection.
active	smallint	Connection active state.
status	smallint	Connection status field. • 1 = Clear • 2 = Failed • 3 = Down • 14 = Upper level alarm (16384)
alarm_status	smallint	Secondary status for CESM on PXM1E. • 0 = Clear • 2 = egrAisRdi (N/W side AIS received) • 4 = Conditioned (A-bit failure from N/W) • 128 = Cell loss alarm • 32768 = Unknown
cbr_clock_mode	smallint	Clocking mode of the CBR service. • 1 = Synchronous • 2 = SRTS • 3 = Adaptive

Table 2-24 cesm_connection (continued)

Column	Data Type	Description
cas	smallint	Value to specify if channel associated signaling (CAS) bits are carried by the service. • 1 = Basic • 2 = E1Cas • 3 = DS1SfCas • 4 = DS1EsfCas • 5 = CCS • 6 = Conditioned E1CAS • 7 = Basic no pointer • 8 = DS1 SF CAS MF • 9 = DS1 ESF CAS MF
partial_fill	smallint	Number of user octets per cell, using partial cell fill. The range is 0 through 47.
idle_detection	smallint	Idle detection (CESM-8). • 1 = Disable • 2 = Onhook
onhook_code	smallint	Onhook code (CESM-8). The range is 0 through 15.
condition_data	smallint	On a PXM1E, this byte indicates idle data to be sent towards the line whenever a channel goes into an underrun. The range is 0 through 255.
idle_suppression	smallint	Idle suppression (CESM-8). • 1 = Disable • 2 = Enable
idle_signalcode	smallint	On PXM1E platform, this field carries the pattern in DS0 time slots (0 through 255) whenever cesChanIdleDetEnable = enableIdlePatternDet. This object is supported by CESM-8 T1/E1.
idle_codeintgper	smallint	On PXM1E platform, this field carries the integration period in seconds (0 through 100) whenever cesChanIdleDetEnable = enableIdlePatternDet. This object is supported by CESM-8 T1/E.

Table 2-24 cesm_connection (continued)

Column	Data Type	Description
par_subtype	smallint	ATM connection service type (PXM only). • 1 = Constant bit rate (CBR) • 2 = Variable bit rate (VBR) • 4 = Unspecified bit rate (UBR) • 6 = Available bit rate standard (ABR) For CESM cards with the PXM1E the only valid connection type is CBR (1). This object is used only by PXM cards. To make this connection compatible with the existing AUSM MIB definition, value 3 is not used.
par_rout_pri	smallint	Portable AutoRoute (PAR) determines the importance of this connection when selecting connections to route.
par_max_cost	smallint	Maximum allowed cost, related to cost based routing. PXM chooses a path with a cost less than or equal to this configured level. The default value is 255.
par_res_trk_typ	smallint	Restricted trunk type for routing, used by PAR. • 1 = No restriction • 2 = Terrestrial trunk • 3 = Satellite trunk
par_chan_pcr	integer	Channel peak cell rate, used by PAR.
par_chan_mcr	integer	Channel minimum cell rate, used by PAR.
par_chan_per_util	smallint	Expected long-term utilization of the channel by this endpoint. For CESM-8T1/E1/T3/E3 the value is 100%.
lcn	integer	CESM channel number (cesCnfChanNum) that refers to the virtual connection number.
bc_bufsize_fctr	integer	Back card buffer size as a factor of cell delay variation tolerance (CDVT).
bc_local_addr	char (8)	Back card E.164 address of a CESM connection.
bc_admin_status	smallint	Back card administrative status. • 1 = Active • 2 = Inactive • 4 = Testing
bc_cga_mode	smallint	Back card carrier group alarm (CGA) mode. • 0 = Voice—non-transparent • 1 = Voice—transparent • 2 = Data port—transparent

Table 2-24 cesm_connection (continued)

Column	Data Type	Description
bc_onhk_trkcond	integer	Back card onhook trunk condition. • 0 = on_d_off_c_off_b_off_a_off • 1 = on_d_off_c_off_b_off_a_on • 2 = on_d_off_c_off_b_on_a_off • 3 = on_d_off_c_off_b_on_a_on • 4 = on_d_off_c_on_b_off_a_off • 5 = on_d_off_c_on_b_off_a_on • 6 = on_d_off_c_on_b_on_a_off • 7 = on_d_off_c_on_b_on_a_on • 8 = on_d_on_c_off_b_off_a_off • 9 = on_d_on_c_off_b_off_a_on • 10 = on_d_on_c_off_b_on_a_off • 11 = on_d_on_c_off_b_on_a_on • 12 = on_d_on_c_on_b_off_a_off • 13 = on_d_on_c_on_b_off_a_on • 14 = on_d_on_c_on_b_on_a_off • 15 = on_d_on_c_on_b_on_a_on
bc_offhk_trkcond	smallint	Back card off hook trunk condition. • 0 = off_d_off_c_off_b_off_a_off • 1 = off_d_off_c_off_b_off_a_on • 2 = off_d_off_c_off_b_on_a_off • 3 = off_d_off_c_off_b_on_a_on • 4 = off_d_off_c_on_b_off_a_off • 5 = off_d_off_c_on_b_off_a_on • 6 = off_d_off_c_on_b_on_a_off • 7 = off_d_off_c_on_b_on_a_on • 8 = off_d_on_c_off_b_off_a_off • 9 = off_d_on_c_off_b_off_a_on • 10 = off_d_on_c_off_b_on_a_off • 11 = off_d_on_c_off_b_on_a_on • 12 = off_d_on_c_on_b_off_a_off • 13 = off_d_on_c_on_b_off_a_on • 14 = off_d_on_c_on_b_on_a_off • 15 = off_d_on_c_on_b_on_a_on

Table 2-24 cesm_connection (continued)

Column	Data Type	Description
atm_onhk_trkcond	smallint	ATM onhook trunk condition. • 0 = on_d_off_c_off_b_off_a_off • 1 = on_d_off_c_off_b_off_a_on • 2 = on_d_off_c_off_b_on_a_off • 3 = on_d_off_c_off_b_on_a_on • 4 = on_d_off_c_on_b_off_a_off • 5 = on_d_off_c_on_b_off_a_on • 6 = on_d_off_c_on_b_on_a_off • 7 = on_d_off_c_on_b_on_a_on • 8 = on_d_on_c_off_b_off_a_off • 9 = on_d_on_c_off_b_off_a_on • 10 = on_d_on_c_off_b_on_a_off • 11 = on_d_on_c_off_b_on_a_on • 12 = on_d_on_c_on_b_off_a_off • 13 = on_d_on_c_on_b_off_a_on • 14 = on_d_on_c_on_b_on_a_off • 15 = on_d_on_c_on_b_on_a_on
atm_offhk_trkcond	smallint	ATM off hook trunk condition. • 0 = off_d_off_c_off_b_off_a_off • 1 = off_d_off_c_off_b_off_a_on • 2 = off_d_off_c_off_b_on_a_off • 3 = off_d_off_c_off_b_on_a_on • 4 = off_d_off_c_on_b_off_a_off • 5 = off_d_off_c_on_b_off_a_on • 6 = off_d_off_c_on_b_on_a_off • 7 = off_d_off_c_on_b_on_a_on • 8 = off_d_on_c_off_b_off_a_off • 9 = off_d_on_c_off_b_off_a_on • 10 = off_d_on_c_off_b_on_a_off • 11 = off_d_on_c_off_b_on_a_on • 12 = off_d_on_c_on_b_off_a_off • 13 = off_d_on_c_on_b_off_a_on • 14 = off_d_on_c_on_b_on_a_off • 15 = off_d_on_c_on_b_on_a_on
ckt_bc_id	char (64)	Circuit ID assigned by the user.

Table 2-24 cesm_connection (continued)

Column	Data Type	Description
ckt_lpbk_ctrl	smallint	Circuit loopback control. • 0 = No loopback • 1 = CESM loopback • 2 = ATM loopback
ckt_dest_if_index	integer	Interface index of the ATM interface to CESM connection.
ckt_farnd_if_index	integer	Interface index of the channel on the far end switch.
ckt_farnd_nodeid	integer	Node ID of the far end. If CWM does not discover the node, the value is -1.
ckt_farnd_slot	smallint	Slot number of the far end switch.
ckt_ifstor_name	char (64)	Circuit name assigned by the user.
ckt_ifstor_num	integer	Circuit number provided by the user.
atm_loc_alarm	smallint	Value to enable the ATM local alarm. • 1 = Local alarm enable • 2 = Local alarm disable
upload_counter	integer	Counter that tracks the number of configuration changes on a channel. The counter is associated only with the end point and not with the connection itself. This counter determines if a connection configuration has been modified and requires an upload. This functionality is conventionally achieved by time stamping, using a time-of-day clock. However, in switches where time-of-day clock is not available, use this counter. The upload counter increments when the following conditions exist: • Assignment of a connection to an endpoint channel when a connection is added and assigned this channel number. • De-assignment of connection from a channel number when a connection is deleted and the endpoint resource is released. • Configuration change to the connection that is associated with this endpoint channel number. In a new system, an unused resource (channel number) has a counter value of zero. When a connection is added to the channel endpoint, the counter increments. When a connection is deleted, the value of this counter increments and is preserved until a new connection gets associated with this channel end point. Cell bus service module (CBSM) services always set this to 0 to indicate PNNI connection.
pref_route_id	integer	Route ID of the associated preferred route. The range is 0 through 65535. The default is 0.

Table 2-24 cesm_connection (continued)

Column	Data Type	Description
direct_route_flag	smallint	Directed route flag. • 1 = True • 2 = False (default)
logical_port	integer	The logical port value (MGX 8220 and PXM1-based MGX nodes)
reserved	integer	Reserved for future use.

Circuit Line Information

Table 2-25 contains information about all circuit lines in all the networks.

Table 2-25 circuit_line

Column	Data Type	Description
cln_obj_id	integer	Object ID.
l_network_id	smallint	CWM network ID.
l_node_id	integer	CWM node ID.
l_slot	smallint	Slot number.
l_line	smallint	Logical line number unique per node.
l_port	smallint	Physical line number, unique per slot.
card_type	smallint	Values for card types: • 3 = TXR • 21 = CIP • 25 = FRP • 29 = CDP • 41 = UXM • 106 = ASI_T3 • 107 = ASI_E3 • 111 = ASI_OC3
interface	smallint	Interface type. • 0 = Unknown • 1 = T1 • 3 = T3/E3 • 5 = E1
commentc	char (20)	Comment field used to describe the circuit line.
active	smallint	Active state. • 0 = Inactive • 1 = Active

Table 2-25 circuit_line (continued)

Column	Data Type	Description
status	smallint	Status field. • 1 = Clear • 2 = Failed
line_info	smallint	Flag for line information. • Bit 0—Common channel signaling (CCS) – 0 = False – 1 = True • Bit 1— Channel associated signaling (CAS) – 0 = False – 1 = True • Bit 2—Coding – 0 = Mu-law – 1 = A-law • Bits 3 to 7—Spare
reserved	integer	Reserved for future use.

Circuit Line Statistics Data

Table 2-26 contains information about circuit line statistic data and service line data.

Table 2-26 circuit_ln_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical record.
cln_obj_id	integer	Circuit line object ID.
l_node_id	integer	CWM node ID.
stat_type	smallint	Statistic type.
bucket_type	smallint	Duration, in minutes, of each bucket.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak rate of raw data in the sample interval.
subobject_type	smallint	Subobject type (object dependent field)

Closed User Group Addresses

Table 2-27 contains the closed user group (CUG) address information. CUGs enable you to form groups for which access is restricted. Users might be associated with one or multiple CUGs. Members of a specific CUG can communicate among themselves but not with users outside the group.

Table 2-27 addr_cug

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
atm_addr	char (40)	ATM endpoint address.
addr_length	integer	Length of ATM address (in bits).
in_access	smallint	Incoming access for non-CUG users and for CUG users who allow outgoing access. • 1 = Not allowed • 2 = Allowed
out_access	smallint	Outgoing access for non-CUG users and for CUG users who allow incoming access. • 1 = Not allowed • 2 = Allowed per call • 3 = Allowed permanently
pref	integer	Specify the CUG index as the preferential index.
reserved	integer	Reserved for future use.

Connection Statistics Data

Table 2-28 contains information about connection statistics on the following cards:

- AUSM—MGX 8220, MGX 8230/8830, and MGX 8250/8850 (PXM1 and PXM1E/45)
- PXM1—MGX 8230, MGX 8250, and MGX 8850 (PXM1)
- AXSM—MGX 8850 (PXM45)

Table 2-28 connection _data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical record.
con_obj_id	integer	Connection object ID.
l_node_id	integer	CWM node ID.
subobject_type	smallint	Subobject type (object dependent field).
stat_type	smallint	Statistic type.
bucket_type	smallint	Bucket duration measured in minutes.
totald	float	Total raw data collected in the sample interval.

Table 2-28 connection _data (continued)

peak	float	Peak rate of raw data in the sample interval.

Connection Routes

Table 2-29 contains information about each of the connection routes that have been created.

Table 2-29 conn_route

Column	Data Type	Description
con_obj_id	integer	It is calculated with the same algorithm that is used by the other applicable connection segment tables for the master end point. It is a function of slot and lcn.
network_id	smallint	CWM Network ID
src_node_id	integer	The CWM node ID of the originating node of the current route that this master end point is associated with.
slot	smallint	Logical slot number of the master end point
lcn	integer	LCN of the master end point
card_service_type	smallint	1: ATM (corresponding table is atm_connection) 2: Frame Relay (corresponding table is connection) 3: Circuit Emulation (corresponding table is cesm_connection) 4: IP (corresponding table is rpm_connection) 5: Voice (corresponding table is voice_conn) 6-15: Not used
route_id	integer	1..10000: Valid ID of the current route that this connection associates with. 0: This connection is not associated with current route. Refer to EDCS-352370 for Switch Error Codes of route ID
status	smallint	0: connection is not on prefer route 1: connection is on prefer route 2: status undetermined
reserved	integer	reserved for future use

Table 2-30 contains information about each of the connection routes statistics that have been created.

Table 2-30 conn_route_statistics

Column	Data Type	Description
network_id	smallint	CWM Network ID
src_node_id	integer	CWM Node ID of source node
routed_conns	integer	Total number of connections with current route or connections routed on a preferred route
non_routed_conns	integer	Total number of master connections without current route or preferred route associated to it.
failed_conns	integer	Total number of failed master connections
reserved	integer	reserved for future use

Connection Templates

Table 2-31 contains information about each of the connection templates that have been created.

Table 2-31 conn_template

Column	Data Type	Description
template_id	integer	Template ID.
template_name	char (33)	Template name.
template_descr	char (50)	Description of the template.
user_name	char (33)	The name of the user who created the template
connection_type	smallint	The following values are connection types: • 0 = Unknown • 1 = FR-FR • 2 = ATM-ATM • 3 = ATM-FR • 4 = ATM-CE • 5 = CE-CE • 6 = Voice • 7 = Data • 8 = RPM-RPM • 9 = ATM-RPM • 10 = FR-RPM • 11 = VISM-ATM

Table 2-31 conn_template (continued)

Column	Data Type	Description
service_type	smallint	The following values are service types: • 0 = Unknown service type • 1 = Not applicable service type • 2 = CBR1 • 3 = VBR1-nrt • 4 = VBR2-nrt • 5 = VBR3-nrt • 6 = VBR1-rt • 7 = VBR2-rt • 8 = VBR3-rt • 9 = ABR-FS • 10 = ATFST • 11 = ATFTFST • 12 = ATFXFST • 13 = ABR1 • 14 = UBR1 • 15 = UBR2 • 16 = FR • 17 = FS • 18 = Voice1 • 19 = Data1
pvc_type	smallint	Permanent virtual circuit (PVC) type. • 0 = PVC • 1 = Soft permanent virtual circuit (SPVC) • 2 = Hybrid
l_multicast_type	smallint	Local multicast type. • 0 = Normal • 1 = Root • 2 = Leaf
r_multicast_type	smallint	Remote multicast type. • 0 = Normal • 1 = Root • 2 = Leaf

Table 2-31 conn_template (continued)

Column	Data Type	Description
l_endpoint_type	smallint	Local endpoint type. • 0 = Unknown endpoint type • 1 = FR–FR endpoint • 2 = FR–FUNI endpoint • 3 = FR–FF endpoint • 4 = FR–Bstun endpoint • 5 = FR–Stun endpoint • 6 = FR–Fras endpoint • 7 = ATM–ATM endpoint • 8 = ATM–RPM endpoint • 9 = CE endpoint • 10 = Voice endpoint • 11 = Data endpoint
r_endpoint_type	smallint	Remote endpoint type. • 0 = Unknown endpoint type • 1 = FR–FR endpoint • 2 = FR–FUNI endpoint • 3 = FR–FF endpoint • 4 = FR–Bstun endpoint • 5 = FR–Stun endpoint • 6 = FR–Fras endpoint • 7 = ATM–ATM endpoint • 8 = ATM–RPM endpoint • 9 = CE endpoint • 10 = Voice endpoint • 11 = Data endpoint
l_fc_type	smallint	Local front card type. For a list of the front card types, see Appendix E, "Card Types".
r_fc_type	smallint	Remote front card type. For a list of the front card types, see Appendix E, "Card Types".
l_bc_type	smallint	Local back card type. For a list of the back card types, see Appendix E, "Card Types".
r_bc_type	smallint	Remote back card type. For a list of the back card types, see Appendix E, "Card Types".
l_card_version	char (20)	Local card version.
r_card_version	char (20)	Remote card version.

Table 2-31 conn_template (continued)

Column	Data Type	Description
l_platform	smallint	Flag for local platform.
r_platform	smallint	Flag for remote platform.

Connection Template Parameters

Table 2-32 contains information about the connection template parameters.

Table 2-32 conn_templ_param

Column	Data Type	Description
template_id	integer	Template ID.
template_name	char (33)	Template name.
param_name	char (30)	Name of the template parameter.
param_type	smallint	Parameter type. • 1 = Integer • 2 = String
param_value	integer	Value of the parameter if the parameter type is an integer.
param_freq	smallint	Identifies if this parameter is used frequently: • 0 = False, which is the default meaning that this parameter is not used frequently. • 1 = True

Closed User Groups

Table 2-36 contains information about closed user groups (CUGs). CUGs enable network users to form groups to restrict access. Members of a specific closed user group can communicate among those in the group. CUG membership is defined by the interlock code. Two network users having membership with the same CUG interlock code are allowed to establish connections with each other.

Table 2-33 cug

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
atm_addr	char (40)	ATM endpoint address.
addr_length	integer	Length of ATM address (in bits).
cug_index	integer	Unique value for this ATM address. The range is 1 through 6335. This index is localized.

Table 2-33 cug (continued)

cug_ic_code	char(60)	Lock code that is unique within the network. Length is 24 bytes. This entry is encrypted. For any code length the encrypted entry has a 60 character length.
calls_barred	smallint	Value to ban incoming and outgoing calls for members in the same CUG. • 1 = None • 2 = Incoming • 3 = Outgoing
reserved	integer	Reserved for future use.

Current Route Element

Table 2-34 contains information about network element data for the current route feature.

Table 2-34 current_route_elem

Column	Data Type	Description
src_node_id	char(44)	The CWM node ID of the originating node of the current route.
network_id	integer	The CWM network ID of the source node of the current route.
route_id	integer	Route ID (1...10000).
elem_position	smallint	Relative position of the intermediate network element within the current route (1 through 20)
elem_pnni_node_id	char(44)	PNNI Node ID of the intermediate network element.
elem_port_id	integer	Logical port number of the intermediate network element.
elem_last	smallint	Specifies whether the last node of the current route. • 1 = False • 2 = True
reserved	integer	Reserved for future use.

Table 2-35 contains information about network element view data for the current route feature.

Table 2-35 current_route_ne

Column	Data Type	Description
network_id	integer	CWM Network ID of the source network element.
src_node_id	integer	CWM Node ID of the source network element.
route_id	integer	Route ID of the intermediate network element. Range (1...10000)
ne_position	smallint	Relative position of the intermediate network element. within the current route. Range: 1 through 20
ne_node_name	char[32]	Node name of the intermediate network element.

Table 2-35 current_route_ne

ne_bay	smallint	Bay number of the intermediate network element.
ne_slot	smallint	Slot number of the intermediate network element.
ne_line	smallint	Line number of the intermediate network element.
ne_port	smallint	Port number of the intermediate network element.
ne_last	smallint	Specifies whether the last node of the current route. • 1 = False • 2 = True

CWM System Parameters

Table 2-36 contains information about CWM host name and system parameters.

Table 2-36 sv_system

Column	Data Type	Description
name	char (8)	Name of the CWM parameter.
val	char (20)	Character string, including the revision number of the database.

CWM Version

Table 2-37 contains information about the CWM release number and date.

Table 2-37 sv_version

Column	Data Type	Description
release	char (20)	CWM release number.
release_date	char (32)	CWM release date.

Data Channels

Table 2-38 contains information about the data channels.

Table 2-38 data_channel

Column	Data Type	Description
chnl_obj_id	integer	Data channel object ID.
l_node_id	integer	CWM node ID.
l_slot	smallint	Slot number.
l_line	smallint	Line number.
l_channel	smallint	Channel number.
per_util	smallint	Percent utilization, in the range 0 through 100.

Table 2-38 data_channel (continued)

Column	Data Type	Description
cos	smallint	Class of Service (CoS).
eia	smallint	EIA rate, in the range 0 through 20.
dfm_len	smallint	DFM length is the value 0, 1, 7, 8, or 16.
chnl_info	smallint	Data channel information. • Bit 0—DFM flag – 0 = Off – 1 = On • Bits 1 and 2—Clocking – 0 = Normal – 1 = Split – 2 = Looped • Bit 3—DTE – 0 = DCE – 1 = DTE • Bit 4—DS0A, UCS – 0 = Reset – 1 = Set • Bit 5—OCU – 0 = Reset – 1 = Set • Bits 6 and 7—Spares

Data Channels

Table 2-38 contains information about the data channels.

Table 2-39 data_channel

Column	Data Type	Description
chnl_obj_id	integer	Data channel object ID.
l_node_id	integer	CWM node ID.
l_slot	smallint	Slot number.
l_line	smallint	Line number.
l_channel	smallint	Channel number.
per_util	smallint	Percent utilization, in the range 0 through 100.
cos	smallint	Class of Service (CoS).
eia	smallint	EIA rate, in the range 0 through 20.

Table 2-39 data_channel (continued)

Column	Data Type	Description
dfm_len	smallint	DFM length is the value 0, 1, 7, 8, or 16.
chnl_info	smallint	Data channel information. • Bit 0—DFM flag – 0 = Off – 1 = On • Bits 1 and 2—Clocking – 0 = Normal – 1 = Split – 2 = Looped • Bit 3—DTE – 0 = DCE – 1 = DTE • Bit 4—DS0A, UCS – 0 = Reset – 1 = Set • Bit 5—OCU – 0 = Reset – 1 = Set • Bits 6 and 7—Spares

DC Lookup

Table 2-40 contains details mapping database fields to MIB objects in Diagnostic Center.

Table 2-40 dc_lookup_field

Column	Data Type	Description
attribute_name	varchar(0..40)	Attribute Name
db_table_name	varchar(0..20)	Database Table Name
db_field_name	varchar(0..20)	Database Field Name
db_type	smallint	DataType
convert_function	varchar(0..20)	Convert Function to be used, if any

Table 2-41 contains details mapping database tables to MIB Object Tables in Diagnostic Center.

Table 2-41 dc_lookup_table

Column	Data Type	Description
attribute_collection_name	varchar(0..40)	Attribute Collection Name
db_table_name	varchar(0..20)	Database Table Name

Element Templates

Table 2-42 contains information about each of the element templates that have been created.

Table 2-42 element_template

Column	Data Type	Description
template_id	integer	Template ID.
template_name	char (33)	Template name.
template_descr	char (50)	User-defined description of the template.
user_name	char (33)	The name of the user who created the template
group_name	char (50)	The associated group or tab in the GUI for which the template is saved
category_names	char (255)	The categories under the group_name that were chosen by the user in this template
entity_type_key	char (80)	A unique string representation for the type of card, line, port, etc. associated with this template. Load templates will show this template only on entities which have similar entity_type_key.

Element Template Parameters

Table 2-32 contains information about the element template parameters.

Table 2-43 element_templ_param

Column	Data Type	Description
template_name	char (33)	Template name.
category_name	char (50)	Name of the category for the group_name in element_template table for this template
param_name	char (50)	Name of the template parameter in this category.
param_value	char (50)	Value of the parameter in this category.

FastPAD Connections

Table 2-44 contains information about FastPAD connections.

Table 2-44 fpd_connection

Column	Data Type	Description
fpdcon_obj_id	integer	FastPAD connection object ID.
lcon_obj_id	integer	Logical connection object ID.
l_network_id	smallint	Local CWM network ID.
l_node_id	integer	Local CWM node ID.
l_slot	smallint	Local slot number.
l_port	smallint	Local port number.
l_subtype	smallint	Local FastPAD connection subtype (for example, voice, data, session, and so forth).
l_fpdslot	smallint	Local FastPAD slot number.
l_fpdport	smallint	Local FastPAD port number.
l_fpddlci	integer	Local FastPAD data link connection identifier (DLCI).
r_network_id	smallint	Remote CWM network ID.
r_node_id	integer	Remote CWM node ID.
r_slot	smallint	Remote slot number.
r_port	smallint	Remote port number.
r_subtype	smallint	Remote FastPAD connection subtype (for example, voice, data, session, and so forth).
r_fpdslot	smallint	Remote FastPAD slot number.
r_fpdport	smallint	Remote FastPAD port number.
r_fpddlci	integer	Remote FastPAD DLCI number.
con_type	smallint	Connection type. • 0 = Adaptive differential pulse code modulation (ADPCM)–voice • 1 = ADPCM no voice activation detection (VAD) • 2 = Pulse code modulation (PCM)–voice • 3 = Transparent voice • 4 = Data (SDP) • 5 = Frame Relay • 6 = ATM

Table 2-44 fpd_connection (continued)

Column	Data Type	Description
rate_info	smallint	Combination field of rate information. • Bits 0 to 2—Load type – 0 = Undefined – 1 = Voice – 2 = Non-time-stamped – 3 = TS – 4 = Bursty data A – 5 = Bursty data B • Bits 3 to 5—Encoding – 0 = Undefined – 1 = 7/8 – 2 = 8/8 – 3 = 8/8l – 4 = 7/8E • Bit 6—DFM – 0 = Disabled – 1 = Enabled • Bit 7—Fast EIA – 0 = Disabled – 1 = Enabled
l_load_unit	smallint	Local maximum number of packets that are allocated per second.
r_load_unit	smallint	Remote maximum number of packets allocated per second.
mir	integer	Minimum information rate measured in one hundred bits per second.
commentc	char (20)	Comment field used to describe the FastPAD connection.
active	smallint	Connection active state.
status	smallint	Connection status field. • 1 = Clear • 2 = Failed • 3 = Down

Table 2-44 fpd_connection (continued)

Column	Data Type	Description
con_info_flag	smallint	Connection information flag. • Bits 0 to 5—Unused • Bit 6—High Priority (1) • Bit 7—ForeSight – 0 = Disabled – 1 = Enabled
reserved	integer	Reserved for future use.

FastPAD Connection Statistics Data

Table 2-45 contains information about FastPAD connection statistics.

Table 2-45 fpd_conn_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical data record.
fpdcon_obj_id	integer	FastPAD connection IPX object ID.
l_node_id	integer	Local CWM node ID.
subobject_type	smallint	Subobject type (object-dependent field).
stat_type	smallint	Statistic type (object-dependent field).
bucket_type	smallint	Bucket type measured in minutes of each collection bucket.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak rate of the raw data in the sample interval.

FastPAD Nodes

Table 2-46 contains information about FastPAD nodes.

Table 2-46 fpd_node

Column	Data Type	Description
fpdnode_obj_id	integer	FastPAD node object ID.
network_id	smallint	CWM network ID.
node_id	integer	CWM node ID.
ipx_netw_id	smallint	IPX network ID.
ipx_node_id	integer	IPX node ID.
l_slot	smallint	FastPAD slot number.
l_port	smallint	FastPAD port number.
fpd_name	char (9)	FastPAD name.

Table 2-46 fpd_node (continued)

Column	Data Type	Description
active	smallint	FastPAD active state.
status	smallint	FastPAD status field.
reserved	integer	Reserved for future use.

FastPAD IPX Ports

Table 2-47 contains information about FastPAD IPX ports.

Table 2-47 ftc_port

Column	Data Type	Description
ftcport_obj_id	integer	Port IPX object ID.
l_network_id	smallint	Local CWM network ID.
l_node_id	integer	Local CWM node ID.
l_slot	smallint	Slot number.
l_port	smallint	Port number.
port_speed	integer	Port speed. Baud rate is measured in 100 bps.
commentc	char (20)	Comment field that describes the port.
active	smallint	Port active state.
status	smallint	Port status field. • 1 = Clear • 2 = Failed
reserved	integer	Reserved for future use.

FastPAD Port Statistics Data

Table 2-48 contains information about FastPAD IPX port statistics.

Table 2-48 ftc_port_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical data record.
ftcport_obj_id	integer	Port IPX object ID.
l_node_id	integer	Local CWM node ID.
subobject_type	smallint	Subobject type (object dependent field).
stat_type	smallint	Statistic type (object dependent field).
bucket_type	smallint	Bucket type measured in minutes of each collection bucket.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak rate of the raw data in the sample interval.

Fax Relay

Table 2-45 contains fax relay configuration information used in VoIP cells.

Table 2-49 fax_relay

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
line	smallint	T1/E1 line number. This object corresponds to the t38vismDs1Number object.
max_fax_rate	smallint	Maximum fax transmission rate. This object corresponds to the t38MaxFaxTxRate object.
fax_info_size	smallint	Object to configure the fax information field size. The range is 20 through 48 bytes. This object corresponds to the t38FaxInfoFieldSize object.
hs_data_pkt_size	smallint	Size of primary high speed (HS) data packet in milliseconds. This object corresponds to the t38HsDataPacketSize object.
ls_data_red	smallint	Extent of the Internet Fax Protocol (IFP) packet transmission redundancy for the low-speed control information exchanged during the first phase of a T.38 fax relay connection. This object corresponds to the t38LsDataRedundancy object.
hs_data_red	smallint	Extent of the IFP packet transmission redundancy for the high-speed control and image information exchanged following the initial low-speed phase of a T.38 fax relay connection. This object corresponds to the t38HsDataRedundancy object.
tcf_method	smallint	Method used to verify the training check field (TCF). This object corresponds to the t38TCFmethod object.
err_correct	smallint	Object to enable the forward error correction scheme for UDP-based fax transport. This object corresponds to the t38ErrCorrection object.
nsf_override	smallint	Object to enable the gateway to override the non-standard facilities (NSF) code in the following T.30 signals: • NSF • NSC—Non-standard facilities command • NSS—Non-standard facilities set-up This object corresponds to the t38NSFOverride object.
nsf_country_code	smallint	Country code in the NSF code. The object is a single-byte field identifying the country where the group 3 fax equipment with non-standard capabilities is manufactured. This object corresponds to the t38NSFCountryCode object.

Table 2-49 fax_relay (continued)

Column	Data Type	Description
nsf_vendor_code	smallint	Vendor code (also called the Terminal Provider Code) in the NSF code. The object is a two-byte field identifying the manufacturer of the group 3 fax equipment with non-standard capabilities. This object corresponds to the t38NSFVendorCode object.
nse_ack_tmout	integer	NSE acknowledgment timeout (in milliseconds). The timer is started after sending an NSE 200 while waiting for the NSE 201 acknowledgement or NSE 202 negative acknowledgement. This object corresponds to the t38NseAckTimeOut object.
fax_lco	smallint	Configurable default value for the fax Local Connection Option (LCO). This object corresponds to the t38FxLCO object.
reserved	integer	Reserved for future use.

Frame Relay, Voice, and Data Connections

Table 2-50 contains information about Frame Relay, voice, and data connections. This table includes the segment information for FRP, FRSM, voice, data, BTM, AIT, UFM, and FRM cards. The data in this section is contained in the connection table of the stratacom database.

Table 2-50 connection

Column	Data Type	Description
con_obj_id	integer	Local end connection object ID.
rcon_obj_id	integer	Remote end connection object ID.
lcon_obj_id	integer	Local logical connection object ID.
master_flag	smallint	Flag that indicates the master end. • 0 = False • 1 = True
l_network_id	smallint	Local end CWM network ID.
l_node_id	integer	Local end CWM node ID.
shelf	integer	Local end shelf number.
bay	smallint	Bay ID.

Table 2-50 connection (continued)

Column	Data Type	Description
termination	smallint	Type of local and remote endpoints. • Bit 0—Local end has feeder. • Bit 1—Remote end has feeder. • Bits 2 to 4—Local endpoint type. – 0 = Voice or Data – 1 = Frame Relay – 2 = ATM • Bits 5 to 7—Remote endpoint type. – 0 = Voice or Data – 1 = Frame Relay – 2 = ATM – 3 = Voice – 4 = Data
l_slot	smallint	Local end slot number.
l_line	smallint	Local end line number (for FRSM connections only). For other cards, the value is set to 0.
l_channel	smallint	Local end logical port (physical port for FRSM).
l_dlci	smallint	Local end data link connection identifier (DLCI) number.
l_vci	integer	Local end virtual channel identifier (VCI) number for AIT endpoint only. This value is not valid for FRP, FRSM, or UFM.
r_network_id	smallint	Remote end CWM network ID.
r_node_id	integer	Remote end CWM node ID.
r_slot	smallint	Remote end slot number.
r_line	smallint	Remote end line number.
r_channel	smallint	Remote end logical port (physical port for FRSM).
r_dlci	smallint	Remote end DLCI number.
r_vci	integer	Remote end VCI for AIT endpoint only. This value is not valid for FRP, FRSM, or UFM.
con_type	smallint	Connection type. • 0 = Adaptive differential pulse code modulation (ADPCM–voice) • 1 = ADPCM–no voice activation detection (VAD) • 2 = Pulse code modulation (PCM)–voice • 3 = Transparent voice • 4 = Data (SDP) • 5 = Frame Relay • 6 = ATM

Table 2-50 connection (continued)

Column	Data Type	Description
rate_info	smallint	Combination field of rate info: • Bits 0 to 2—Load type – 0 = Undefined – 1 = Voice – 2 = Non-time stamp – 3 = TS – 4 = Bursty data A – 5 = Bursty data B • Bits 3 to 5—Encoding – 0 = Undefined – 1 = 7/8 – 2 = 8/8 – 3 = 8/8I – 4 = 7/8E • Bit 6—DFM – 0 = Disabled – 1 = Enabled • Bit 7—Fast EIA – 0 = Disabled – 1 = Enabled
l_load_unit	smallint	Local end maximum number of packets per second that are allocated to the connection.
r_load_unit	smallint	Remote end maximum number of packets per second that are allocated to the connection.
min_bw	integer	Minimum guaranteed bandwidth. This value is measured in cells per second (1 cell per second equals 384 bits per second) for the following cards: • FRSM-VHS • FRSM-8T1/E1 if the chanServType object is stdABR All other FRSM cards are measured in fast packets per second (1 fast packet per second equals 24 bits per second). FRP, FRM, and UFM cards are measured in 100 bits per second.

Table 2-50 connection (continued)

Column	Data Type	Description
dax_con	smallint	DAX connection flag. • -1 = Not supported • 0 = Non DAX • 1 = DAX This field is supported only on the BPX and IGX platforms.
txr_card	smallint	Flag that identifies the TXR voice connection endpoint card. • 0 = Non TXR • 1 = TXR
commentc	char (20)	Comment field.
active	smallint	Value to set the connection state. • 0 = Inactive • 1 = Active
status	smallint	Connection status. • 1 = Clear • 2 = Failed • 3 = Down • 14 = Upper level alarm (16384)
qir	integer	Quiescent information rate (QIR). This value is measured in cells per second (1 cell per second equals 384 bits per second) for the following cards: • FRSM-VHS • FRSM-8T1/E1 if the chanServType object is stdABR All other FRSM cards are measured in fast packets per second (1 fast packet per second equals 24 bits per second). FRP, FRM, and UFM cards are measured in 100 bits per second. This parameter is not used when MIB object foreSightEnable is disabled.
pir	integer	Peak information rate (PIR). This value is measured in cells per second (1 cell per second equals 384 bits per second) for the following cards: • FRSM-VHS • FRSM-8T1/E1 if the chanServType object is stdABR All other FRSM cards are measured in fast packets per second (1 fast packet per second equals 24 bits per second). FRP, FRM, and UFM cards are measured in 100 bits per second. This parameter is not used when MIB object foreSightEnable is disabled.

Table 2-50 connection (continued)

Column	Data Type	Description
vc_q_depth	integer	VC queue depth in bytes.
vc_q_thresh	integer	Ingress VC queue threshold in bytes.
vc_de_thresh	integer	Ingress queue discard eligible (DE) threshold.
eg_q_depth	integer	Egress queue depth.
eg_q_de_thresh	integer	Egress queue DE threshold.
eg_q_ecn_thresh	integer	Egress queue explicit congestion notification (ECN) threshold.
de_tag_ena	integer	DE tagging is either enabled or disabled.
cmax	integer	Credit maximum measured in packets for a connection.
lper_util	smallint	Local percent utilization.
rper_util	smallint	Remote percent utilization.
con_info_flag	smallint	Connection information flag. • Bit 0 to 4—Unused • Bit 5—chanOvrSubOvrRide – 0 = Disabled – 1 = Enabled • Bit 6—SNA priority – 0 = Low – 1 = High • Bit 7— ForeSight – 0 = Disabled – 1 = Enabled • Bit 8—chanServiceRateOverride – 0 = Disabled – 1 = Enabled
cir	integer	Committed information rate (CIR) is measured in one hundred bits per second.
a_bit_status	smallint	Connection A-bit status field. • Bit 0 to 5—Unused. • Bit 6— If an NNI remote PVC does not exist, this value is equal to 1. • Bit 7—If NNI A-bit status is OK, value is equal to 1.
ibs	integer	Initial burst size.
bc	integer	Committed burst (bc) rate, measured in bytes.
be	integer	Excess burst (be), measured in bytes.
eg_q_select	smallint	Egress queue selection.

Table 2-50 connection (continued)

Column	Data Type	Description
card_type	smallint	Local end card type. • 1 = CDP_SDP • 2 = FRP • 3 = AIT • 4 = FRSM • 5 = AUSM • 6 = CESM • 7 = ASI • 8 = BNI • 9 = AUSM_8 • 10 = BXM • 11 = UVM • 12 = CVM • 13 = HDM • 14 = LDM • 15 = CDP • 16 = SDP • 17 = LDP
channel_type	smallint	Channel type (used by connections terminating on FRSM cards). • 1 = FR-Network Interworking • 2 = FR-Service Interworking-transparent • 3 = FR-Service Interworking-translate • 4 = FR-FUNI • 5 = Frame forwarding
fecn	smallint	Forward explicit congestion notification (FECN).
de_to_clp_map	smallint	Mapping of DE to CLP. • 1 = Map DE bit to CLP in ATM cell. • 2 = Set DE to 0, and set CLP to 0. • 3 = Set DE to 1, and set CLP to 1.
clp_to_de_map	smallint	Mapping of CLP to DE. • 1 = Map CLP bit to DE bit in Frame Relay. • 2 = Set DE to 0, and set CLP to 0. • 3 = Set DE to 1, and set CLP to 1. • 4 = Ignore CLP bit, and DE bit remains as received.

Table 2-50 connection (continued)

Column	Data Type	Description
rate_type	smallint	Rate type. For voice and data connections, value is in the range 0 through 13. For other connection types, value is equal to -1.
rate_fctr	smallint	Rate factor. For data connections, value is in the range 1 through 8. For other connection types, value is equal to -1.
smpl_per_pckt	smallint	Samples per packet. For data connections, values is 1, 2, 4, 5, or 10. For other connection types, value is equal to -1.
retry_cnt	smallint	Number of retry attempts before declaring failure (for FRASM llc ports). The FRASM is no longer supported by CWM. This entry remains obsolete in Release 15.1 of CWM.
ack_wait_time	integer	Number of millisecond intervals the implementation waits before resending unacknowledged information frames (for FRASM llc ports). The FRASM is no longer supported by CWM. This entry remains obsolete in Release 15.1 of CWM.

Table 2-50 connection (continued)

Column	Data Type	Description
par_subtype	smallint	Connection service type. FRSM on PXM1E • 1 = CBR1 • 2 = VBR1-rt • 3 = VBR2-rt • 4 = VBR3-rt • 5 = VBR1-nrt • 6 = VBR2-nrt • 7 = VBR3-nrt • 8 = UBR1 • 9 = ABR2 • 10 = ABR • 11 = CBR2 • 12 = CBR3 FRSM on PXM1 • 1 = CBR • 2 = VBR • 3 = Not used • 4 = UBR • 5 = ATFR • 6 = ABRSTD • 7 = ABRFST • 8 = VBR-rt FRSM on PXM1 (continued) • 21 = CBR1 • 22 = VBR1-rt • 23 = VBR2-rt • 24 = VBR3-rt • 25 = VBR1-nrt • 26 = VBR2-nrt • 27 = VBR3-nrt • 28 = UBR1 • 29 = UBR2 • 30 = STDABR • 31 = CBR2 • 32 = CBR3 To make this connection compatible with the existing AUSM MIB definition, value 3 is not used.
par_rout_pri	smallint	Portable AutoRoute (PAR) determines the importance of this connection when selecting connections to route.
par_max_cost	smallint	Maximum allowed cost, related to cost based routing. PXM chooses a path with a cost less than or equal to this configured level. The default value is 255. For FRSM on the PXM1E, range is 1 through 2G.
par_res_trk_typ	smallint	Restricted trunk type for routing that is used by PAR. • 1 = No restriction • 2 = Terrestrial trunk • 3 = Satellite trunk
par_chan_pcr	integer	Channel peak cell rate (PCR) that is used by PAR.

Table 2-50 connection (continued)

Column	Data Type	Description
par_chan_mcr	integer	Channel minimum cell rate (MCR) that is used by PAR.
qbin_num	smallint	Class of the connection. • 1 = High priority, typically constant bit rate (CBR) connections • 2 = Real-time variable bit rate (rt-VBR) • 3 = Non-real time VBR (nrt-VBR) • 4 = Available bit rate (ABR) • 5 = Unspecified bit rate (UBR) • 9 = Standard ABR The number of queues that are defined is eight. However, five are being used. This object is supported for FRSM-VHS cards.
lcn	integer	Virtual connection index, in the following ranges: • FRSM-4T1/E1 = 16 to 271 • FRSM-8T1/E1 = 16 to 1015 • FRSM-T3/E3/HS2 = 16 to 2015 • FRSM-2CT3 = 16 to 4015
service_rate	integer	Service rate, in the range 160 through 6400000. This object can be set if the chanServiceRateOverride object is set to enabled.
eir	integer	EIR value for zero CIR connections, in the range 0 through 52000000.
tbe	integer	Transient buffer exposure, in the range 0 through 16777215 cells.
frtt	smallint	Fixed round trip time (FRTT), in the range 0 through 16700 milliseconds. A value of 0 signifies that FRTT is not available.
rdf	integer	Rate decrease factor, in the range 1 through 32768.
rif	integer	Rate increase factor, in the range 1 through 32768.
nrm	integer	Maximum number of RM cells that a source sends, in the range 1 through 32768. For FRSM-8T1/E1 the value is in the range 1 through 256.
trm	integer	Maximum time delay in forwarding RM cells, in the range 3 through 255 milliseconds.
cdf	smallint	Cutoff decrease factor, in the range 0 through 64. The valid discrete values are 1, 2, 4, 8, 16, 32, and 64.
adtf	smallint	ACR decrease time factor, in the range 10 through 10230 milliseconds.

Table 2-50 connection (continued)

Column	Data Type	Description
mir	integer	Minimum cell rate (MCR) at which the source is allowed to send, in the range 10 through 400000 cells per second. This value is measured in cells per second (1 cell per second equals 384 bits per second) for the following cards: • FRSM-VHS • FRSM-8T1/E1 if the chanServType object is stdABR All other FRSM cards are measured in fast packets per second (1 fast packet per second equals 24 bits per second). FRP, FRM, and UFM cards are measured in 100 bits per second. To convert the value from fast packets per second to 100 bits/sec use the following formula: ((val *24) +99)/100 The CLI is using cps (cells per second). To convert the value from cells per second to 100 bits/sec use the following formula: 16 fast packets = 1 cell 1 fast packet = 24 bits This parameter is not used when MIB object foreSightEnable is disabled.
alarm_status	smallint	Secondary status for FRSM on PXM1E: • 0 = Clear • 2 = Egress AIS RDI (N/W side AIS/RDI received) • 4 = Conditioned (A-bit failure from N/W) • 16 = CC Failed/RAS failed • 32 = Mismatch (failure) • 64 = Ingress A-bit Alarm (LMI) • 32768 = Unknown
stats_enable	smallint	Value to enable or disable statistics collection per connection. • 1 = Enable • 2 = Disable (default)
l_nsap_addr	byte	NSAP assigned to a local endpoint.
r_nsap_addr	byte	NSAP assigned to a remote endpoint.
l_vpi	integer	Local end VPI number for AIT endpoints. This object is not valid for FRP, FRSM, or UFM.
r_vpi	integer	Remote end VPI number for AIT endpoint. This object is not valid for FRP, FRSM, or UFM.

Table 2-50 connection (continued)

Column	Data Type	Description
egr_srv_rate	integer	Channel egress CIR. For an HSFR T3 the maximum value for chanEgrSrvRate is 44736000 m. The default value is 2400. For FRSM in PXM1E the maximum value for chanEgrSrvRate for an E1 card is 2048000 and for a T1 card is 1536000. The chanEgrSrvRate must be less than or equal to the port speed. The chanEgrSrvRate has the following maximum values: • E3 = 34368000 • T3 = 44736000 • HSSI = 52000000
vp_flag	smallint	VP flag: • 1 = VPC • 2 = VCC
par_chan_rpcr	integer	PCR of the remote end. If not set, this value is set to the same value as the local end PCR (frConnPCR). If the CIR for both local and remote end is set to a different value (for example, asymmetric conn), then this value must be set differently from the local end PCR.
par_chan_rmcr	integer	MCR of the remote end. If not set, this value is set to the same value as local end MCR (frConnMCR). If the CIR for both local and remote end is set to a different value (for example, asymmetric conn), then this value must be set differently from the local end MCR.
l_scr	integer	Sustained cell rate (SCR) of the local end. This object is used for VBR connections that are set up with a PNNI controller.
r_scr	integer	SCR of the remote end. This value is used for VBR connections that are set up with a PNNI controller.

Table 2-50 connection (continued)

Column	Data Type	Description
upload_counter	integer	Counter that tracks the number of configuration changes on a channel. The counter is associated only with the end point and not with the connection itself. This counter determines if a connection configuration has been modified and requires an upload. This functionality is conventionally achieved by time stamping, using a time-of-day clock. However, in switches where time-of-day clock is not available, use this counter. The upload counter increments when the following conditions exist: • Assignment of a connection to an endpoint channel when a connection is added and assigned this channel number. • De-assignment of connection from a channel number when a connection is deleted and the endpoint resource is released. • Configuration change to the connection that is associated with this endpoint channel number. In a new system, an unused resource (channel number) has a counter value of zero. When a connection is added to the channel endpoint, the counter increments. When a connection is deleted, the value of this counter increments and is preserved until a new connection gets associated with this channel end point. NBSM Services always set this to 0 to indicate PNNI connection.
oam_cc_flag	smallint	Value to enable or disable continuity check (CC) on a connection endpoint. • 1 = Enable • 2 = Disable The oam_cc_flag object corresponds to the frChanOamCCEnable MIB object. This object does not apply to MGX 8230, MGX 8250, and MGX 8850 (PXM1).
local_lpbk_enable	smallint	Value to add a channel-level loopback toward the port side. • 1 = Enable • 2 = Disable (default)
upc_enable	smallint	Value to enable Frame Relay policing. • 1 = Enable (default) • 2 = Disable

Table 2-50 connection (continued)

Column	Data Type	Description
ignore_incoming_de	smallint	Value that enables the incoming frames with the discard eligible (DE) bit set to 1 to be counted in the Bc bucket instead of Be bucket. • 1 = Enable • 2 = Disable The ignore_incoming_de object corresponds to the frChanCnfIgnoreIncomingDE MIB object. This object does not apply to MGX 8230, MGX 8250, and MGX 8850 (PXM1).
slave_type	smallint	Value to indicate whether or not a master endpoint has a persistent slave. • 1 = persistentSlave • 2 = nonPersistentSlave The slave_type object corresponds to the frChanSlaveType MIB object. This object does not apply to MGX 8230, MGX 8250, and MGX 8850 (PXM1).
if_index	integer	Unique value for each interface.
r_mbs	integer	Maximum burst size (MBS) used in the direction remote to local. The range is 0 through 5000000 cells.
tftp_stats	smallint	TFTP statistics information for channels. • -1 = Not applicable • 1 = Enable • 2 = Disable
snmp_stats	smallint	SNMP statistics information for channels. • -1 = Not applicable • 1 = Enable • 2 = Disable
pref_route_id	integer	Route ID of the associated preferred route. The range is 0 through 65535. The default is 0.
direct_route_flag	smallint	Directed route flag. • 1 = True • 2 = False (default)
logical_port	integer	The logical port value (MGX 8220 and PXM1-based nodes)
reserved	integer	Reserved for future use.

FRSM12 Connection Statistics Data

Table 2-45 contains information about FRSM12 connection statistics.

Table 2-51 frsm12_conn_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical data record.
conn_obj_id	integer	Connection object ID.
l_node_id	integer	Local CWM node ID.
subobject_type	smallint	Subobject type (object dependent field).
stat_type	smallint	Statistic type (object dependent field).
bucket_type	smallint	Bucket type measured in minutes of each collection bucket.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak rate of the raw data in the sample interval.

Frame Relay Ports

Table 2-52 contains information about the Frame Relay ports in all the networks.

Table 2-52 frp

Column	Data Type	Description
frp_obj_id	integer	Object ID.
l_network_id	smallint	CWM network ID.
l_node_id	integer	CWM node ID.
shelf	integer	Shelf number. For MGX 8220 ports, value is equal to 1. For all other ports, value is equal to 0.
bay	smallint	Bay ID.
l_slot	smallint	Slot number.
l_port	smallint	Physical port number. For CESM and FRSM, this object is the first DS0 time slot number of the port. This object is the logical port for UFM.
port_speed	integer	Port speed measured in one hundred bits per second. For example, 256 kbps displays as 2560.
commentc	char (20)	Comment field that is used to describe the port.
active	smallint	Active state. • 0 = Inactive • 1 = Active

Table 2-52 frp (continued)

Column	Data Type	Description
status	smallint	Status field. • 1 = Clear • 2 = Failed • 3 = Down • 4 = Remote LPBK (FRSM only) • 5 = Line fail (FRSM only) • 6 = Signaling fail (FRSM only) • 7 = Not configured (FRSM only) • 18 = Testing (FRSM only) The fourth bit (value of 8) indicates line failure for FRSM and CESM cards. This bit combined with the first three bits provides values, in the range 9 through 15.
port_type	smallint	Type of port. • 1 = FR • 4 = FRSM • 5 = FUNI • 6 = Frame Forward • 7 = Port Concentrator • 8 = Channelized UFM • 9 = SDLC-STUN • 10 = SDLC-FRAS • 11 = BSC-BSTUN • 12 = CESM-STRUC–CESM-8 only • 13 = CESM-UNSTRUC–CESM-8 only • 14 = BSC-PORT–Partial BSC-BSTUN • 15 = CESM-FRAMING-ON-VCDISCONNECT
queue_depth	integer	Port queue depth.
ecn_thresh	integer	Explicit congestion notification (ECN) queue depth.
de_thresh	smallint	Discard eligible (DE) threshold.
logical_port	smallint	Logical port number used in the MIB (FRSM and CESM-8).
line	smallint	Line number associated with this port (FRSM/UFM/CESM-8).
time slot_num	smallint	Number of time slots (FRSM and CESM-8).
timeslot_speed	smallint	Time slot speed (MGX 8220 FRSM and CESM-8). • 1 = Speed 56k • 2 = Speed 64k
port_bitmap	integer	Port bitmap (MGX 8220 FRSM and CESM-8, IGX UFM).

Table 2-52 frp (continued)

Column	Data Type	Description
status	smallint	Status field. • 1 = Clear • 2 = Failed • 3 = Down • 4 = Remote LPBK (FRSM only) • 5 = Line fail (FRSM only) • 6 = Signaling fail (FRSM only) • 7 = Not configured (FRSM only) • 18 = Testing (FRSM only) The fourth bit (value of 8) indicates line failure for FRSM and CESM cards. This bit combined with the first three bits provides values, in the range 9 through 15.
port_type	smallint	Type of port. • 1 = FR • 4 = FRSM • 5 = FUNI • 6 = Frame Forward • 7 = Port Concentrator • 8 = Channelized UFM • 9 = SDLC-STUN • 10 = SDLC-FRAS • 11 = BSC-BSTUN • 12 = CESM-STRUC–CESM-8 only • 13 = CESM-UNSTRUC–CESM-8 only • 14 = BSC-PORT–Partial BSC-BSTUN • 15 = CESM-FRAMING-ON-VCDISCONNECT
queue_depth	integer	Port queue depth.
ecn_thresh	integer	Explicit congestion notification (ECN) queue depth.
de_thresh	smallint	Discard eligible (DE) threshold.
logical_port	smallint	Logical port number used in the MIB (FRSM and CESM-8).
line	smallint	Line number associated with this port (FRSM/UFM/CESM-8).
time slot_num	smallint	Number of time slots (FRSM and CESM-8).
timeslot_speed	smallint	Time slot speed (MGX 8220 FRSM and CESM-8). • 1 = Speed 56k • 2 = Speed 64k
port_bitmap	integer	Port bitmap (MGX 8220 FRSM and CESM-8, IGX UFM).

Table 2-52 frp (continued)

Column	Data Type	Description
status	smallint	Status field. • 1 = Clear • 2 = Failed • 3 = Down • 4 = Remote LPBK (FRSM only) • 5 = Line fail (FRSM only) • 6 = Signaling fail (FRSM only) • 7 = Not configured (FRSM only) • 18 = Testing (FRSM only) The fourth bit (value of 8) indicates line failure for FRSM and CESM cards. This bit combined with the first three bits provides values, in the range 9 through 15.
port_type	smallint	Type of port. • 1 = FR • 4 = FRSM • 5 = FUNI • 6 = Frame Forward • 7 = Port Concentrator • 8 = Channelized UFM • 9 = SDLC-STUN • 10 = SDLC-FRAS • 11 = BSC-BSTUN • 12 = CESM-STRUC–CESM-8 only • 13 = CESM-UNSTRUC–CESM-8 only • 14 = BSC-PORT–Partial BSC-BSTUN • 15 = CESM-FRAMING-ON-VCDISCONNECT
queue_depth	integer	Port queue depth.
ecn_thresh	integer	Explicit congestion notification (ECN) queue depth.
de_thresh	smallint	Discard eligible (DE) threshold.
logical_port	smallint	Logical port number used in the MIB (FRSM and CESM-8).
line	smallint	Line number associated with this port (FRSM/UFM/CESM-8).
time slot_num	smallint	Number of time slots (FRSM and CESM-8).
timeslot_speed	smallint	Time slot speed (MGX 8220 FRSM and CESM-8). • 1 = Speed 56k • 2 = Speed 64k
port_bitmap	integer	Port bitmap (MGX 8220 FRSM and CESM-8, IGX UFM).

Table 2-52 frp (continued)

Column	Data Type	Description
status	smallint	Status field. • 1 = Clear • 2 = Failed • 3 = Down • 4 = Remote LPBK (FRSM only) • 5 = Line fail (FRSM only) • 6 = Signaling fail (FRSM only) • 7 = Not configured (FRSM only) • 18 = Testing (FRSM only) The fourth bit (value of 8) indicates line failure for FRSM and CESM cards. This bit combined with the first three bits provides values, in the range 9 through 15.
port_type	smallint	Type of port. • 1 = FR • 4 = FRSM • 5 = FUNI • 6 = Frame Forward • 7 = Port Concentrator • 8 = Channelized UFM • 9 = SDLC-STUN • 10 = SDLC-FRAS • 11 = BSC-BSTUN • 12 = CESM-STRUC–CESM-8 only • 13 = CESM-UNSTRUC–CESM-8 only • 14 = BSC-PORT–Partial BSC-BSTUN • 15 = CESM-FRAMING-ON-VCDISCONNECT
queue_depth	integer	Port queue depth.
ecn_thresh	integer	Explicit congestion notification (ECN) queue depth.
de_thresh	smallint	Discard eligible (DE) threshold.
logical_port	smallint	Logical port number used in the MIB (FRSM and CESM-8).
line	smallint	Line number associated with this port (FRSM/UFM/CESM-8).
time slot_num	smallint	Number of time slots (FRSM and CESM-8).
timeslot_speed	smallint	Time slot speed (MGX 8220 FRSM and CESM-8). • 1 = Speed 56k • 2 = Speed 64k
port_bitmap	integer	Port bitmap (MGX 8220 FRSM and CESM-8, IGX UFM).

Table 2-52 frp (continued)

Column	Data Type	Description
status	smallint	Status field. • 1 = Clear • 2 = Failed • 3 = Down • 4 = Remote LPBK (FRSM only) • 5 = Line fail (FRSM only) • 6 = Signaling fail (FRSM only) • 7 = Not configured (FRSM only) • 18 = Testing (FRSM only) The fourth bit (value of 8) indicates line failure for FRSM and CESM cards. This bit combined with the first three bits provides values, in the range 9 through 15.
port_type	smallint	Type of port. • 1 = FR • 4 = FRSM • 5 = FUNI • 6 = Frame Forward • 7 = Port Concentrator • 8 = Channelized UFM • 9 = SDLC-STUN • 10 = SDLC-FRAS • 11 = BSC-BSTUN • 12 = CESM-STRUC–CESM-8 only • 13 = CESM-UNSTRUC–CESM-8 only • 14 = BSC-PORT–Partial BSC-BSTUN • 15 = CESM-FRAMING-ON-VCDISCONNECT
queue_depth	integer	Port queue depth.
ecn_thresh	integer	Explicit congestion notification (ECN) queue depth.
de_thresh	smallint	Discard eligible (DE) threshold.
logical_port	smallint	Logical port number used in the MIB (FRSM and CESM-8).
line	smallint	Line number associated with this port (FRSM/UFM/CESM-8).
time slot_num	smallint	Number of time slots (FRSM and CESM-8).
timeslot_speed	smallint	Time slot speed (MGX 8220 FRSM and CESM-8). • 1 = Speed 56k • 2 = Speed 64k
port_bitmap	integer	Port bitmap (MGX 8220 FRSM and CESM-8, IGX UFM).

Table 2-52 frp (continued)

Column	Data Type	Description
status	smallint	Status field. • 1 = Clear • 2 = Failed • 3 = Down • 4 = Remote LPBK (FRSM only) • 5 = Line fail (FRSM only) • 6 = Signaling fail (FRSM only) • 7 = Not configured (FRSM only) • 18 = Testing (FRSM only) The fourth bit (value of 8) indicates line failure for FRSM and CESM cards. This bit combined with the first three bits provides values, in the range 9 through 15.
port_type	smallint	Type of port. • 1 = FR • 4 = FRSM • 5 = FUNI • 6 = Frame Forward • 7 = Port Concentrator • 8 = Channelized UFM • 9 = SDLC-STUN • 10 = SDLC-FRAS • 11 = BSC-BSTUN • 12 = CESM-STRUC–CESM-8 only • 13 = CESM-UNSTRUC–CESM-8 only • 14 = BSC-PORT–Partial BSC-BSTUN • 15 = CESM-FRAMING-ON-VCDISCONNECT
queue_depth	integer	Port queue depth.
ecn_thresh	integer	Explicit congestion notification (ECN) queue depth.
de_thresh	smallint	Discard eligible (DE) threshold.
logical_port	smallint	Logical port number used in the MIB (FRSM and CESM-8).
line	smallint	Line number associated with this port (FRSM/UFM/CESM-8).
time slot_num	smallint	Number of time slots (FRSM and CESM-8).
timeslot_speed	smallint	Time slot speed (MGX 8220 FRSM and CESM-8). • 1 = Speed 56k • 2 = Speed 64k
port_bitmap	integer	Port bitmap (MGX 8220 FRSM and CESM-8, IGX UFM).

Table 2-52 frp (continued)

Column	Data Type	Description
port_equ	smallint	Port egress queue service ratio (MGX 8220 FRSM). The default value for IGX is equal to 0.
port_flag	smallint	Port flags between frames (MGX 8220 FRSM). The default value for IGX is equal to 0.
protocol_type	smallint	Signaling protocol type. • 1 = Other • 2 = No signaling • 3 = StrataLMI • 4 = AnnexAUNI • 5 = AnnexDUNI • 6 = AnnexANNI • 7 = AnnexDNNI • 9 = Enhanced LMI
asyn_upd	smallint	Asynchronous updates. • 1 = disable—Disable asynchronous status updates and unsolicited full status. • 2 = enable—Enable asynchronous status updates. • 3 = fsenable—Enable unsolicited full status. • 4 = updfsenable—Enable asynchronous status updates and unsolicited full status.
link_timer	smallint	T391 line integrity timer (MGX 8220 FRSM).
poll_timer	smallint	T392 polling verification timer (MGX 8220 FRSM).
poll_counter	smallint	N391 full status polling counter (MGX 8220 FRSM).
err_thresh	smallint	N392 error threshold (MGX 8220 FRSM).
event_count	smallint	N393 monitored event count (MGX 8220 FRSM).
xmt_timer	smallint	Transmit CLLM status timer (MGX 8220 FRSM).
rcv_timer	smallint	Receive CLLM status timer (MGX 8220 FRSM).
cllm_ena	smallint	CLLM, either enabled or disabled (MGX 8220 FRSM).
signal_state	integer	Port signaling state (MGX 8220 FRSM). • 1 = LMI failure • 2 = CLLM failure
elmi	smallint	Value to enable Enhanced Local Management Interface (ELMI). • 1 = ELMI disabled or this field is not applicable • 2 = ELMI enabled

Table 2-52 frp (continued)

Column	Data Type	Description
port_info_bitmap	smallint	ELMI bitmap. The format is *abbbbbbb*, where *a* represents neighbor discover that has the following values: • 0 = Disable • 1 = Enable
ifIndex	integer	Interface index.
ip_address	integer	IP address of the attached device.
oper_status	smallint	This field is not used.
header_len	smallint	ID of the Q.922 address field length and DLCI length for this UNI/NNI logical port. • 1 = Two octets • 2 = Four octets
frame_chksum_type	smallint	ID of the CRC length in the HDLC packet. This object is applicable only for frame forwarding ports. • 1 = CRC-16 • 2 = CRC-32
sct_id	integer	ID of the file that contains module specific configuration parameters for this Frame Relay virtual interface. The default value is 0.
sct_version	integer	SCT version. The default value is 1.
oversubscribed	smallint	Value to indicate if the port is oversubscribed. • 1 = False • 2 = True
ingr_per_util	smallint	Percentage utilization of the port in the ingress direction. The range is 0 through 100. This field is not supported.
egr_per_util	smallint	Percentage utilization of the port in the egress direction. The range is 0 through 100. This field is not supported.
frf1dot2_enable	smallint	Value to enable or disable FRF 1.2 feature. • 1 = Disable (default) • 2 = Enable
over_sub_enable	smallint	Value to allow the port to be oversubscribed: • 1 = Disable (default) • 2 = Enable

Table 2-52 frp (continued)

Column	Data Type	Description
subrate_speed	smallint	Port subrate speed: (For FRASM only) • 1 = speed2400 • 2 = speed4800 • 3 = speed9600 • 4 = speed56000 • 5 = speed64000
interface	smallint	Port interface: (For FRASM only) • 1 = For DS0 • 2 = For DS0a • 3 = For DS0b
encoding	smallint	Port encoding: nrz or nrzi. (For FRASM only)
role	smallint	Port role: primary, secondary or negotiable. (For FRASM only)
max_frame	smallint	Maximum number of bits expected in an inbound frame. (For FRASM SDLC port only)
retry_cnt	smallint	Number of retry attempts. (For FRASM SDLC and BSC port only)
ack_wait_time	integer	Number of milliseconds the software waits for an ack before attempting recovery. (For FRASM SDLC port only)
vmac	char(15)	Virtual mac address for BAN group addressing. It is 6 bytes in hex. The format is “0000.0000.0000”. (For FRASM SDLC port only)
poll_cycle	smallint	Number of 1/10 of a second intervals to wait between the start of a polling cycle. (For FRASM BSC port only)
poll_intv	smallint	Number of 1/10 second intervals between polls. (For FRASM BSC port only)
group	smallint	Protocol group number (For FRASM STUN or BSTUN port only)
port_eqth	integer	Port egress queue threshold. The range is 1 through 15. This field is supported only for FRSM-8T1E1 service modules.
lmi_type	integer	Port LMI Signalling: • 1 = Manual • 2 = Autosense
fragmentation	integer	The value of this object enables/disables the FRF12 Fragmentation on this port. • 1 = enable • 2 = disable (default) • 3 = notApplicable
fragment_size	integer	The fragment size used for performing the fragmentation in the egress direction. Default = 64

Table 2-52 frp (continued)

Column	Data Type	Description
frame_inversion	smallint	This object is used to enable/disable the inversion of the hdlc frame received on the port. Default = False
bundle_num	integer	The bundle number which own this port in the case of mfr_bundle or mp_bundle own the port but not the line object
reserved	integer	Field that stores ELMI for FRSM (MGX 8220): • 1 = ELMI disabled • 2 = ELMI enabled

Frame Relay Statistics Data

Table 2-53 provides information about Frame Relay port statistics.

Table 2-53 frp_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical record.
frp_obj_id	integer	Frame Relay port object ID.
l_node_id	integer	CWM node ID.
stat_type	smallint	Statistic type.
bucket_type	smallint	Duration of each bucket, in minutes.
totald	float	Total amount of raw data collected in the sample interval.
peak	float	Peak rate of raw data in the sample interval.

IF Shutdown

Table 2-55 Contains information about if_shutdown for ds1 paths and SONET physical lines.

Table 2-54 if_shutdown

Column	Data Type	Description
network_id	short	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	short	Slot number.
bay	short	The bay number.
line	short	The line number.
if_index	integer	ifIndex.

Table 2-54 if_shutdown (continued)

Column	Data Type	Description
oper_state	short	Service state of the Ds1/E1 line: • 1 = inService • 2 = completeOutOfService • 3 = partialOutOfService
admin_state	short	This control object is used to change the service state of the Ds1 line from inService to outOfService or from outOfService to inService: • 1 = inService • 2 = forcefulOutOfService • 3 = gracefulOutOfService
reserved	integer	Reserved field.

IMA Groups

Table 2-55 provides information about inverse multiplexing over ATM (IMA) groups.

Table 2-55 ima_group

Column	Data Type	Description
node_id	integer	CWM node ID.
obj_id	integer	Object ID.
network_id	smallint	CWM network ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
bay	smallint	Bay number.
group_num	smallint	IMA group number.
if_index	integer	Interface index of the IMA group.
enable	smallint	Administrative status of the ATM physical interface. • 1 = Disable • 2 = Enable • 3 = Testing

Table 2-55 ima_group (continued)

Column	Data Type	Description
oper_status	smallint	Operational status of the IMA group. • 1 = Disable • 2 = Enable • 3 = Testing • 4 = Unknown • 5 = Dormant • 6 = Not present • 7 = Lower layer down
symmetry	smallint	Symmetry of the IMA group. • 1 = Symmetric operation • 2 = Asymmetric operation • 3 = Asymmetric configuration
min_tx_links	smallint	Minimum number of active transmit links that are required for the IMA group to be in the operational state. The range is an integer 1 through 32.
min_rx_links	smallint	Minimum number of active receive links that are required for the IMA group to be in the operational state. The range is an integer 1 through 32.
ne_tx_clk_mode	smallint	Transmit clocking mode used by the near-end IMA group. • 1 = CTC • 2 = ITC
tx_ima_id	smallint	IMA ID used by the near-end IMA function. The range is an integer 0 through 255.
tx_frame_length	integer	Frame length used by the IMA group in the transmit direction. • 32 = m32 • 64 = m64 • 128 = m128 • 256 = m256
tx_act_links	smallint	Number of active links in the group.
diff_delay_max	integer	Maximum number (milliseconds) of differential delay among the links that are tolerated on this interface. The default value is 25.
alpha_val	smallint	Alpha value used to specify the number of consecutive invalid ICP cells to be detected before moving to the IMA hunt state from the IMA sync state. The range is an integer 1 through 2. The default value is 2.

Table 2-55 ima_group (continued)

Column	Data Type	Description
beta_val	smallint	Beta value used to specify the number of consecutive errored ICP cells to be detected before moving to the IMA hunt state from the IMA sync state. The range is an integer 1 through 5. The default value is 2.
gamma_val	smallint	Gamma value used to specify the number of consecutive valid ICP cells to be detected before moving to the IMA sync state from the IMA pre sync state. The range is an integer 1 through 5. The default value is 1.
tx_cfg_links	smallint	Number of links that are configured to transmit in this IMA group.
rx_cfg_links	smallint	Number of links that are configured to receive in this IMA group.
tx_oam_val	smallint	IMA operation, administration, and maintenance (OAM) label value transmitted by the near-end IMA unit. The value 0 means that the IMA unit has not received an OAM Label from the near-end IMA unit at this time. The range is an integer 0 through 255.
rx_oam_val	smallint	IMA OAM label value transmitted by the far-end IMA unit. The value 0 means that the IMA unit has not received an OAM Label from the far-end IMA unit at this time. The range is an integer 0 through 255.
stuff_and_cell_ind	char (64)	Cell and Link Stuff Indication (LSI) bits. The range is 0-2.
int_up_time	integer	Interval up time. Integration time for the group UP status.The Group is declared to be UP if the status is UP persistently for the amount of time specified. The group changes to UP status immediately if 0 is specified. The range is 0 through 100000 (in milliseconds)
int_dn_time	integer	Interval down time. Integration time for the group DOWN status.The Group is declared to be DOWN if the status is DOWN persistently for the amount of time specified. The group changes to DOWN status immediately if 0 is specified. The range is 0 through 400000 (in milliseconds)
ne_version	smallint	Near-end IMA group version. • 1 = Near-end IMA group version not available • 2 = Near-end IMA group version 1.0 • 3 = Near-end IMA group version 1.1

Table 2-55 ima_group (continued)

Column	Data Type	Description
ver_fallback	smallint	This field indicates the IMA version fallback support: True(1) False(2)
auto_restart	smallint	This field specifies IMA unit sync up with FE behavior: disable(1) relearn(2) reuse(3)
rx_id_expected	integer	This field specifies the expected FE IMA ID or learned IMA ID. (0-255) -- Valid range (-1) -- Undetermined FE IMA ID from the following conditions: [1] auto-restart feature is disabled. [2] in 'relearn' auto-restart mode, IMA group restarts and the relearning process is in progress. [3] in 'reuse' auto-restart mode, value of this field is set to '-1' and the relearning process is in progress.
resync_state	smallint	This field indicates the IMA group auto restart synchronization state. When the group auto-restart feature is enabled, the IMA unit runs in an enhanced IMA GSM mode. disable(1) inProgress(2) loopbackSync(3) tempSync(4) feSync(5)
reserved	integer	Reserved for future use.

IMA Group Descriptor

Table 2-56 contains information about the IMA group descriptors. This information is contained in the ima_group_desc table of the stratacom database.

Table 2-56 ima_group_desc

Column	Data Type	Description
node_id	integer	CWM node ID
slot	smallint	Slot number.

Table 2-56 ima_group_desc (continued)

Column	Data Type	Description
bay	smallint	Bay number.
group_num	smallint	IMA Group number.
descriptor	char(64)	Descriptor.
timestamp	integer	Time in integer format when the last operation was done on this table.
deleted	smallint	Is this table deleted • 1 = Yes descriptor is deleted • 0 = No descriptor is not deleted

IMA Links

Table 2-57 provides information about IMA links.

Table 2-57 ima_link

Column	Data Type	Description
node_id	integer	CWM node ID.
obj_id	integer	Object ID.
network_id	smallint	CWM network ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
bay	smallint	Bay number.
line	smallint	Line number.
group_num	smallint	Group number.
group_if_index	integer	Interface index of the IMA group.
if_index	integer	Interface index of the IMA link.
rel_delay	integer	Latest measured delay on this link relative to the link in the same IMA group with the least delay.
link_status	smallint	Link failure status of the near-end receive link. • 1 = lifFailure • 2 = lodsFailure • 3 = other
reserved	integer	Reserved for future use.

IMA Link Statistics Data

Table 2-58 provides information about IMA link statistics.

Table 2-58 ima_link_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical record.
obj_id	integer	Object ID.
l_node_id	integer	CWM node ID.
subobject_type	smallint	Subobject type.
stat_type	smallint	Statistic type.
bucket_type	smallint	Duration of each bucket, in minutes.
totald	float	Total amount of raw data collected in the sample interval.
peak	float	Peak rate of raw data in the sample interval.

IMA Link Descriptors

Table 2-59 provides information about IMA link descriptors.

Table 2-59 ima_link_desc

Column	Data Type	Description
node_id	integer	CWM Node ID
slot	smallint	Slot Number
bay	smallint	Bay Number
line	smallint	Link (line) Number
group_num	smallint	Ima Group Number
descriptor	char(64)	Descriptor
timestamp	integer	Time in int format when the last operation is done on this table.
deleted	smallint	Is this table deleted: • 1 = Yes descriptor is deleted • 0 = No descriptor is not deleted

Licences in Use

Table 2-60 contains information about the licenses currently in use by the system. This table also includes AXSM-XG path information.

Table 2-60 license_in_use

Column	Data Type	Description
network_id	smallint	Network ID
node_id	integer	Node ID
slot	integer	Slot number
lic_type	smallint	This represents a license type being used by the entity (physical or otherwise). This defines a licenseable feature: • 1 = unknown: The license type can not be determined. • 2 = none: No license is granted for any licenseable feature/service. • 3 = reserved: This is special restricted license. • 4 = singleService: Only one of following services: ATM, FR (FrameRelay), or CES (Circuit Emulation Service). • 5 = multiService: More than one of: ATM, FR, CES. • 6 = channelization: Channelization. • 7 = ima: Inverse multiplexing over ATM. • 8 = mfr: Multilink Frame Relay. • 9 = rateControl: Rate-Control (Cisco Foresight and/or ABR).
ent_phy_idx	integer	When this value is not 0, it represents entPhysicalIndex for the physical entity which is using up license/licenses. When this value is 0, it represents all entities (most likly non-physical) which do not have implementation in the entity MIB (RFC 2737).
lic_descr	char (32)	A textual representation of the licensable feature. Value contained in this object is optional, and if not used, it should be zero length string.
in_use	integer	Number of licenses of type cellnUseLicenseType being used by this physical entity (represented by entPhysicalIndex) at this time.
needed	integer	Number of licenses of type cellnUseLicenseType required by this entity (physical or otherwise) at this time to perform the desired services.

Table 2-60 license_in_use (continued)

Column	Data Type	Description

op_exp_tm_stmp	char(32)	This time-stamp indicates that the physical entity's operation will not continue beyond this time, since for this particular entity (physical or otherwise), celNeededLicenses exceeds celInUseLicenses.
		A date-time specification.
		`field octets content range`
		`----- ------ ------- -----`
		`1     1-2    year    0 through 65536`
		`2     3      month   1 through 12`
		`3     4      day     1 through 31`
		`4     5      hour    0 through 23`
		`5     6      minutes 0 through 59`
		`6     7      seconds 0 through 60`
		`              (use 60 for leap-second)`
		`7     8      deci-seconds 0 through 9`
		`8     9      direction from UTC`
		`             '+' / '-'`
		`9     10     hours from UTC 0 through 11`
		`10    11     minutes from UTC 0 through 59`
		For example, Tuesday May 26, 1992 at 1:30:15 PM EDT would be displayed as:
		`1992-05-26,13:30:15.0,-04:00`
		Note If only local time is known, then the timezone information (fields 8-10) is not present.

lic_state	smallint	This field represents the current state of the license. • 1 = Clear • 2 = Expired • 3 = Missing • 4 = Unknown
reserved	integer	reserve field

License Pool

Table 2-61 contains information about the license pool, used by the system to provide licenses for enabling features on the MPSM service modules.

Table 2-61 license_pool

Column	Data Type	Description
network_id	smallint	Network ID
node_id	integer	Node ID
card_type	smallint	This represents vendor-specific hardware type of a physical entity which can use one or more licenses to provide licensed services or features. (same as fc_type in card table)
lic_type	smallint	This represents a license type being used by the entity (physical or otherwise). This defines a licenseable feature: • 1 = unknown: The license type can not be determined. • 2 = none: No license is granted for any licenseable feature/service. • 3 = reserved: This is special restricted license. • 4 = singleService: Only one of the following services: ATM, FR (FrameRelay), or CES (Circuit Emulation Services). • 5 = multiService: More than one of: ATM, FR, CES. • 6 = channelization: Channelization. • 7 = ima: Inverse multiplexing over ATM. • 8 = mfr: Multilink Frame Relay. • 9 = rateControl: Rate-Control (Cisco Foresight and/or ABR).
lic_index	integer	A unique running value greater than 0, used as index into the table. The values of this index are assigned contiguously starting from 1. The range is 1 through 4294967295.
installed	integer	Total number of licenses of the type celPoolLicenseType at a given time in the license pool.
in_use	integer	Number of used up licenses of the type celPoolLicenseType. Each time a license is used up by the appropriate entity (physical or otherwise), this number is incremented. Similarly, when a license is released back to the license pool, this number decrements.
max_usage	integer	The value represented by this object specifies the maximum number of the licenses of type celPoolLicenseType which can be allowed for use by the corresponding entity type (physical or otherwise).
reserved	integer	reserve field

Lines

Table 2-62 contains information about lines. This table also includes AXSM-XG path information.

Table 2-62 line

Column	Data Type	Description
node_id	integer	CWM node ID.

obj_id	integer	CWM object ID determined by the *slot, bay, line*.
		The obj_id has the following format:
		`|--------|--------|--------|-------|`
		`A B C D`
		where the length of each section is eight bits.
		For the physical line and path in MGX 8850 PXM45, BPX-SES, MGX 8850 PXM1E, MGX 8830 PXM1E the values are:
		• A = 9
		• B = (slot<<6)lbay
		• C = Part of line.line
		• D = Same as the right most byte of the line field
		For the platforms other than MGX 8850 PXM45, BPX-SES, MGX 8850 PXM1E, MGX 8830 PXM1E the values are:
		• A: 5
		• B: Slot
		• C: bay
		• D: physical line number

network_id	smallint	CWM network ID.
shelf	integer	Shelf number.
slot	smallint	Slot number. For MGX 8220 nodes the physical slot is populated in the database instead of the logical slot for the BNM trunk cards in slot 1 and slot 2. So if slot 1 is active, the line table will show 1 as the slot and if slot 2 is active, the line table will show 2 as the slot.

Table 2-62 line (continued)

Column	Data Type	Description

line	smallint	Line number of a physical interface or the path number of the path (channelized interface).
		For physical lines the range is 1 through 128.
		For paths (channels) of FRSM-2CT3 the values are
		• 1 through 56 = DS1 channels
		• 128 through 129 = DS3 lines.
		For channelized paths of AXSM-XG, this column is computed using the formula:
		`8           2 1   5 (bits)`
		`|--------|--|-|-----|`
		`A       C  D   E`
		• A = synchronous transport signal (STS) if STS is less than 128. Otherwise, A is equal to 1+STS.
		The STS formula is:
		(physical line number 1) *width + (stsPath number within the physical line)
		• C = DS3 number in the STS/STM path.
		• D = 0 for DS1/E1 or 1 for VT
		• E = DS1/E1 number in DS3/VT groups or vt number in the vt groups depending on STS1 or STM0.
		For DS1 in a DS3 line the values are:
		• 1 through 128 = Physical line
		• 128 and above = DS1 paths
		The DS1 in DS3 formula differs from the legacy FRSM-2CT3 formula.

line_type	smallint	Physical line type. • 1 = DS1_LINE (T1/E1) • 2 = DS3_LINE (T3/E3) • 3 = HS1_LINE • 4 = BNM155_LINE (SONET) • 5 = SDH_LINE • 6 = HS2_LINE • 7 = HS2B_LINE • 8 = STS_PATH • 9 = ETHERNET_INTERFACE • 10 = VT_PATH

Table 2-62 line (continued)

Column	Data Type	Description
connector	smallint	Line connector types. DSX1 types (for both PXM1-based and PXM1E/45-based nodes): • 1 = DB-15 • 2 = BNC • 3 = RJ-48 • 4 = Unused • 5 = SMB SONET types (PXM1-based nodes only - *not* supported for MGX 8830, MGX 8850 (PXM1E), and MGX 8850 (PXM45): • 1 = Other • 2 = Short single mode • 3 = Long single mode • 4 = Multimode • 5 = Coaxial • 6 = UTP For the x.21 line types, this field exists in the MIB but is not supported in the TFTP configuration upload. SONET types supported for MGX 8830, MGX 8850 (PXM1E), and MGX 8850 (PXM45): • 1 = SONET • 2 = SDH
enable	smallint	Value to enable, disable, or modify the DSX1 line. • 1 = Disable • 2 = Enable • 3 = Modify Once a line is enabled and then disabled, only this enable field is updated to 1 and alarm_state, stat_alarm_state, and agg_state fields are updated to -1. Other fields are not updated. User should disregard other fields for this line.

Table 2-62 line (continued)

Column	Data Type	Description	
subtype	smallint	These values apply to T1/E1 lines on AUSM, CESM, and FRSM cards: • 1 = dsx1ESF • 2 = dsx1D4 • 3 = dsx1E1 • 4 = dsx1E1CRC • 5 = dsx1E1MF • 6 = dsx1E1CRC-MF • 7 = dsx1E1clearchannel • 8 = dsx1E1Q50 • 9 = dsx1E1Q50CRC The following values apply to AXSM, AXSM-E, and PXM1E cards: DSX1 line type. • 1 = other • 2 = dsx1ESF • 3 = dsx1D4 • 4 = dsx1E1 • 5 = dsx1E1CRC • 6 = dsx1E1MF • 7 = dsx1E1CRC-MF • 8 = dsx1Unframed • 9 = dsx1E1Unframed • 10 = dsx1DS2M12 • 11 = dsx2E2 DSX3 line and DSX3 path types. • 1 = dsx3 Cbit Parity • 2 = g834-g804 • 3 = ds3cbitadm • 4 = dscbitplcp • 5 = e3g832adm • 6 = e3g751adm • 7 = e3g751plcp • 8 = ds3m23adm • 9 = ds3m23plcp	• 10 = dsx3Unframed • 11 = e3Unframed • 12 = dsx3M23 • 13 = g751 • 14 = other • 15 = ds3cbitfrmronly • 16 = ds3m23frmronly • 17 = e3g832frmronly • 18 = e3g751frmronly SONET or SDH line type. • 1 = sonetSts3c • 2 = sonetStm1 • 3 = sonetSts12c • 4 = sonetStm4 • 5 = sonetSts48c • 6 = sonetSTM16 • 7 = sonetSts192 • 8 = sonetStm64 • 9 = sonetSts3 x.21 line type. • 1 = DTE • 2 = DCE • 3 = DTEST These values apply to VXSM cards: DSX1 line type. • 2 = dsx1ESF • 3 = dsx1D4 • 4 = dsx1E1 • 5 = dsx1E1CRC • 6 = dsx1E1MF • 7 = dsx1E1CRC-MF • 12 = dsx1E1Q50 • 13 = dsx1E1Q50CRC Initial value is 2 (T1) or 4 (E1).

Table 2-62 line (continued)

Column	Data Type	Description
subtype (continued)	smallint	DSX3 line and DSX3 path types. • 2 = dsx3M23 • 4 = dsx3 Cbit Parity Initial value is 2 SONET or SDH line type. • 2 = sonetStm1 • 9 = sonetSts3 For STS path (8) line type, the subtypes are: • 1 = STS1 • 2 = STS3cSTM1 • 3 = STS12cSTM4 • 4 = STS24c • 5 = STS48cSTM16 • 6 = STS192cSTM64 • 7 = STS768cSTM256 For VT_PATH (10) line type, the subtypes are: • 1 = vtWidth15VC11 • 2 = vtWidth2VC12 • 3 = vtWidth3 • 4 = vtWidth6VC2 • 5 = vtWidth6c The above set of subtype values for VT_PATH line type indicates the type of the SONET VT and SDH VC. Assigned widths are VT1.5/VC11(1), VT2/VC12(2), VT3(3), VT6/VC2(4), and VT6c(5).

Table 2-62 line (continued)

Column	Data Type	Description
coding	smallint	Line coding. DSX1 line. • 1 = dsx1JBZS • 2 = dsx1B8ZS • 3 = dsx1HDB3 • 4 = dsx1ZBTSI • 5 = dsx1AMI • 6 = other • 7 = dsx1B6ZS DSX3 line.for PXM1E, PXM45, or PXM1-based nodes. • 1 = dsx3Other • 2 = dsx3B3ZS • 3 = e3HDB3 SONET or SDH line. • 1 = sonetMediumOther • 2 = sonetMediumB3ZS • 3 = sonetMediumCMI • 4 = sonetMediumNRZ • 5 = sonetMediumRZ X21 Interface.for PXM1-based nodes. • 1 = x21NoCode • 2 = x21SendLoopACode • 3 = x21SendLoopBCode • 4 = x21SendLocalLoopCode • 5 = x21SendRemoteLoopCode • 6 = x21SendUnLoopCode The supported values depend upon the card type and are listed in the corresponding line tables in the Service MIB. For more information about these tables, refer to the *Cisco WAN Manager SNMP Service Agent* documentation.

Table 2-62 line (continued)

Column	Data Type	Description
length	smallint	Line length. T1 lines on the AUSM, CESM, and FRSM cards: • 1 = 0 to 110 feet • 2 = 110 to 220 feet • 3 = 220 to 330 feet • 4 = 330 to 440 feet • 5 = 440 to 550 feet • 6 = 550 to 660 feet • 7 = 660 feet and over E1 lines on the AUSM, CESM, and FRSM cards: • 8 = lineLength-75 ohm • 9 = lineLength-120 ohm • 10 = lineLength 0 through 131 feet • 11 = lineLength 131 through 262 feet • 12 = lineLength 262 through 393 feet • 13 = lineLength 393 through 524 feet • 14 = lineLength 524 through 655 feet • 15 = lineLength 655 and over DS1 and DS3 line lengths on the AXSM, AXSM-E, and PXM1E cards: • 1 = less than 225 feet • 2 = more than 225 feet For x.21 line types, this field is not supported in the MIB.

Table 2-62 line (continued)

Column	Data Type	Description
clock_src	smallint	Line transmit clock source. DSX1 and SONET. • 1 = Loop timing • 2 = Local timing DSX3 line. • 1 = Loop timing • 2 = Local timing • 3 = Through timing DS1 line. • 1 = Loop timing • 2 = Local timing • 3 = Through timing • 4 = Adaptive

Table 2-62 line (continued)

Column	Data Type	Description
loopback	smallint	Line loopback command. DSX3 and DSX1 lines on AXSM, AXSM-E, PXM1E, and HSFR cards. (This value corresponds to the dsx3LoopbackConfig dsx1LoopbackConfig objects.) • 1 = No loop • 2 = Payload loop • 3 = Line loop • 4 = Other loop • 5 = Inward loop • 6 = Dual loop Inward loop(5) maps to local line loop, and Line loop(3) maps to remote line loop. DSX3 and DSX1 lines on AUSM, FRSM, and CESM cards. (This value corresponds to the dsx3LineLoopbackCommand and lineLoopback objects.) • 1 = No loop • 2 = Remote line loop • 3 = Local line loop • 4 = Payload loop SONET lines. (This value corresponds to the csConfigLoopbackType object.) • 1 = No loopback • 2 = Line remote • 3 = Line local X21 lines. • 1 = X21 no loop • 2 = X21 diagnostic metallic loop • 3 = X21 diagnostic front card loop • 4 = X21 remote loop • 5 = V35 metallic loop VXSM and MPSM for ds3 line: • 1 = dsx3NoLoop • 3 = dsx3LineLoop • 5 = dsx3InwardLoop for ds1 line: • 1 = dsx1NoLoop • 3 = dsx1LineLoop • 5 = dsx1InwardLoop

Table 2-62 line (continued)

Column	Data Type	Description
line_bitmap	integer	Bit map of used DS0s for line. Bit 0 corresponds to time slot 1, and bit 31 corresponds to time slot 32 (FRSM). VXSM only support the bit: • 2 = dsx1AnsiT1403
oof_criteria	smallint	Line out of frame (OOF) criteria (DSX3). • 1 = 3 of 8 framing bits in error • 2 = 3 of 16 framing bits in error • 3 = not applicable This object does not apply to E3 interfaces and thus, returns a value of 3.
aisc_check	smallint	Line alarm indication signal (AIS) C-bits check (DSX3). • 1 = Check C-bits • 2 = Ignore C-bits • 3 = not applicable This object does not apply to E3 interfaces and thus, returns a value of 3.
tx_timing_marker	smallint	Transmit timing marker.
tx_payload_type	smallint	Transmit payload type. for VXSM: • 3 = ds3 • 4 = vt15vc11 • 5 = vt2vc12
commentc	char (20)	Comment field used to describe the line.
red_severity	smallint	Received loss of signal (LOS) or OOF alarm severity. • 1 = Minor • 2 = Major
rai_severity	smallint	Remote alarm indicator (RAI) alarm severity. • 1 = Minor • 2 = Major
stat_severity	smallint	Statistical alarm severity. • 1 = Minor • 2 = Major • 3 = None

Table 2-62 line (continued)

Column	Data Type	Description
alarm_state	integer	Line alarm state represented by bitmap. SONET lines equal -1. DS1 and DS3 common values: • 0 = No alarm • 1 = Receiving RAI • 2 = Transmitting RAI • 4 = Receiving AIS • 8 = Transmitting AIS • 16 = Receiving OOF • 32 = Receiving LOS • 64 = Near end local loopback in effect • 128 = Near end remote loopback in effect DS1 lines specific: • 256 = Near end remote payload loopback • 512 = Receiving CRC, MF, OOF (E1 lines) • 1024 = Receiving Sig MF OOF (E1 lines) • 2048 = Receiving MF RAI (E1 lines) • 4096 = Receiving MF AIS (E1 lines) • 8192 = BERT in effect • 16384 = Far end remote loopback in effect • 32768 = Detected near end remote loopback in effect DS3 lines specific: • 256 = Receiving test pattern • 512 = Receive LCD • 1024 = Receiving C-bit parity pattern X.21 lines specific: • 0 = No Alarm • 1 = C/I signal is OFF (also used to indicate LOS) • 2 = Clock rate mismatch (used in DTE mode) • 4 = Internal loopback (diagnostic loopback) • 8 = HSSI local loop A (line is in loopback) • 16 = HSSI local loop B (line is in loopback) • 32 = Remote loopback (line is transmitting loop codes) • 64 = V35 DTE mode, DCD and CTS both are inactive • 128 = V35 DCE mode, RTS is inactive • 256 = No cable attached to V35 backcard • 512 = Wrong cable attached to V35 backcard VXSM: dsx1LineStatus: • use bit 4096 (dsx1OtherFailure) for BERT dsx3LineStatus: • use bit 512 (dsx3OtherFailure) for BERT

Table 2-62 line (continued)

Column	Data Type	Description
stat_alarm_state	integer	DSX3 statistical alarm state, in the range 0 through 2147483647. The default value of 0 indicates no alarms. The following list contains the individual alarm bits: • Bit 1 = PES current 15-minute threshold exceeded • Bit 2 = PES 24-hour threshold exceeded • Bit 3 = PSES current 15-minute threshold exceeded • Bit 4 = PSES 24-hour threshold exceeded • Bit 5 = SEFS current 15-minute threshold exceeded • Bit 6 = SEFS 24-hour threshold exceeded • Bit 7 = UAS current 15-minute threshold exceeded • Bit 8 = UAS 24-hour threshold exceeded • Bit 9 = LCV current 15-minute threshold exceeded • Bit 10 = LCV 24-hour threshold exceeded • Bit 11 = PCV current 15-minute threshold exceeded • Bit 12 = PCV 24-hour threshold exceeded • Bit 13 = LES current 15-minute threshold exceeded • Bit 14 = LES 24-hour threshold exceeded • Bit 15 = CCV current 15-minute threshold exceeded • Bit 16 = CCV 24-hour threshold exceeded • Bit 17 = CES current 15-minute threshold exceeded • Bit 18 = CES 24-hour threshold exceeded • Bit 19 = CSES current 15-minute threshold exceeded • Bit 20 = CSES 24-hour threshold exceeded

Table 2-62 line (continued)

Column	Data Type	Description
stat_alarm_state (continued)	integer	VXSM DS1 statistical alarm state, in the range 0 through 2147483647. The following list contains the individual alarm bits: • Bit 0 = BES current 15 minute threshold exceeded • Bit 1 = BES 24 hour threshold exceeded • Bit 2 = CSS current 15 minute threshold exceeded • Bit 3 = CSS 24 hour threshold exceeded • Bit 4 = DM current 15 minute threshold exceeded • Bit 5 = DM 24 hour threshold exceeded • Bit 6 = ES current 15 minute threshold exceeded • Bit 7 = ES 24 hour threshold exceeded • Bit 8 = PCV current 15 minute threshold exceeded • Bit 9 = PCV 24 hour threshold exceeded • Bit 10 = LCV current 15 minute threshold exceeded • Bit 11 = LCV 24 hour threshold exceeded • Bit 12 = LES current 15 minute threshold exceeded • Bit 13 = LES 24 hour threshold exceeded • Bit 14 = LSES current 15 minute threshold exceeded • Bit 15 = LSES 24 hour threshold exceeded • Bit 16 = PSAS current 15 minute threshold exceeded • Bit 17 = PSAS 24 Hour threshold exceeded • Bit 18 = SES current 15 minute threshold exceeded • Bit 19 = SES 24 hour threshold exceeded • Bit 20 = SEFS current 15 minute threshold exceeded • Bit 21 = SEFS 24 hour threshold exceeded • Bit 22 = UAS current 15 minute threshold exceeded • Bit 23 = UAS 24 hour threshold exceeded

Table 2-62 line (continued)

Column	Data Type	Description
stat_alarm_state (continued)	integer	AUSM/AXSM DS1 statistical alarm state, in the range 0 through 2147483647. The following list contains the individual alarm bits: • Bit 0 = LCV current 15 minute threshold exceeded • Bit 1 = LCV 24 hour threshold exceeded • Bit 2 = LES current 15 minute threshold exceeded • Bit 3 = LES 24 hour threshold exceeded • Bit 4 = LSES current 15 minute threshold exceeded • Bit 5 = LSES 24 hour threshold exceeded • Bit 6 = CRC current 15 minute threshold exceeded • Bit 7 = CRC 24 hour threshold exceeded • Bit 8 = CRCES current 15 minute threshold exceeded • Bit 9 = CRCES 24 hour threshold exceeded • Bit 10 = CRCSES current 15 minute threshold exceeded • Bit 11 = CRCSES 24 hour threshold exceeded • Bit 12 = SEFS current 15 minute threshold exceeded • Bit 13 = SEFS 24 hour threshold exceeded • Bit 14 = AISS current 15 minute threshold exceeded • Bit 15 = AISS 24 hour threshold exceeded • Bit 16 = UAS current 15 minute threshold exceeded • Bit 17 = UAS 24 hour threshold exceeded
agg_state	smallint	Aggregate alarm state. • 0 = No alarm. • 15 = One of the parents in object hierarchy (for example, a card) is in alarm.
rate	smallint	Line rate for FRSM HS1/HS2 cards. Each value maps to the corresponding rate. 1 = 48 Kbps 2 = 56 Kbps 3 = 64 Kbps 4 = 112 Kbps 5 = 128 Kbps 6 = 168 Kbps 7 = 192 Kbps 8 = 224 Kbps 9 = 256 Kbps 10 = 280 Kbps 11 = 320 Kbps 12 = 336 Kbps 13 = 384 Kbps 14 = 392 Kbps 15 = 448 Kbps 16 = 512 Kbps 17 = 768 Kbps 18 = 1024 Kbps 19 = 1536 Kbps 20 = 1544 Kbps 21 = 1792 Kbps 22 = 1920 Kbps 23 = 1984 Kbps 24 = 2048 Kbps 25 = 3097 Kbps 26 = 3157 Kbps 27 = 4096 Kbps
		28 = 4645 Kbps 29 = 4736 Kbps 30 = 6195 Kbps

Table 2-62 line (continued)

Column	Data Type	Description		
		31 = 6315 Kbps	32 = 7744 Kbps	33 = 7899 Kbps
		34 = 8192 Kbps	35 = 9289 Kbps	36 = 9472 Kbps
rate (continued)	smallint	37 = 10240 Kbps	38 = 10890 Kbps	39 = 11060 Kbps
		40 = 12390 Kbps	41 = 12630 Kbps	42 = 13900 Kbps
		43 = 14220 Kbps	44 = 14340 Kbps	45 = 15490 Kbps
		46 = 15800 Kbps	47 = 16380 Kbps	48 = 20030 Kbps
		49 = 24990 Kbps	50 = 52 Mbps	51 = 17370 Kbps
		52 = 18950 Kbps	53 = 20530 Kbps	54 = 22100 Kbps
		55 = 23680 Kbps	56 = 3088 Kbps	57 = 4632 Kbps
		58 = 6176 Kbps	59 = 7720 Kbps	60 = 9264 Kbps
		61 = 10808 Kbps	62 = 12352 Kbps	63 = 13896 Kbps
		64 = 15440 Kbps	65 = 16984 Kbps	66 = 18528 Kbps
		67 = 20072 Kbps	68 = 21616 Kbps	69 = 23160 Kbps
		70 = 24704 Kbps	71 = 26248 Kbps	72 = 27792 Kbps
		73 = 29336 Kbps	74 = 30880 Kbps	75 = 32424 Kbps
		76 = 33968 Kbps	77 = 35512 Kbps	78 = 37056 Kbps
		79 = 38600 Kbps	80 = 40144 Kbps	81 = 41688 Kbps
		82 = 43232 Kbps	83 = 44776 Kbps	84 = 46320 Kbps
		85 = 47864 Kbps	86 = 49408 Kbps	87 = 50952 Kbps
		88 = 6144 Kbps	89 = 12288 Kbps	90 = 14336 Kbps
		91 = 16384 Kbps	92 = 18432 Kbps	93 = 20480 Kbps
		94 = 22528 Kbps	95 = 24576 Kbps	96 = 26624 Kbps

Table 2-62 line (continued)

Column	Data Type	Description
		97 = 28672 Kbps; 98 = 30720 Kbps; 99 = 32768 Kbps 100 = 34816 Kbps; 101 = 36864 Kbps; 102 = 38912 Kbps 103 = 40960 Kbps; 104 = 43008 Kbps; 105 = 45056 Kbps 106 = 47104 Kbps; 107 = 49152 Kbps; 108 = 51200Kbps
hcs_masking	smallint	HCS masking.
payload_scramble	smallint	Payload scramble.
frame_scramble	smallint	Frame scramble.
section_state	smallint	Section state. • 1 = SONET section no defect • 2 = SONET section LOS • 4 = SONET section LOF This field is valid when the line is enabled. If the line is disabled, this value might be 0 or the previous alarm state. The various bit positions for MGX R2: • 1 = SONET section No defect • 2 = SONET Section LOS • 4 = SONET Section LOF
section_stat_sev	smallint	Section status severity.
section_stat_state	smallint	Section status state indicates the status of the interface. The following list contains the bit positions for section status: • 1 = sonetSectionTotalESs • 2 = sonetSectionTotalSESs • 3 = sonetSectionTotalSEFSs • 4 = sonetSectionTotalCVs • 5 = sonetSectionCurrentESs • 6 = sonetSectionCurrentSESs • 7 = sonetSectionCurrentSEFSs • 8 = sonetSectionCurrentCVs

Table 2-62 line (continued)

Column	Data Type	Description
line_state	smallint	Status of the interface. The sonetLineNoDefect object must be set when no other flag is set. The following list contains the bit positions for line status: • 1 = sonetLineNoDefect • 2 = sonetLineAIS • 4 = sonetLineRDI This field is valid when the line is enabled. If the line is disabled, this value might be 0 or the previous alarm state. The various bit positions for MGX R2: • 1 = sonetLineNoDefect • 2 = sonetLineAIS • 4 = sonetLineRDI
line_stat_sev	smallint	Line status severity.
line_stat_state	smallint	Line status state indicates the status of the SONET line. The following list contains the bit positions: • 1 = sonetLineTotalESs • 2 = sonetLineTotalSESs • 3 = sonetLineTotalCVs • 4 = sonetLineTotalUASs • 5 = sonetLineCurrentESs • 6 = sonetLineCurrentSESs • 7 = sonetLineCurrentCVs • 8 = sonetLineCurrentUASs • 9 = sonetFarEndLineCurrentESs • 10 = sonetFarEndLineTotalESs • 11 = sonetFarEndLineTotalSESs • 12 = sonetFarEndLineTotalCVs • 13 = sonetFarEndLineTotalUASs • 14 = sonetFarEndLineCurrentSESs • 15 = sonetFarEndLineCurrentCVs • 16 = sonetFarEndLineCurrentUASs

Table 2-62 line (continued)

Column	Data Type	Description
path_state	smallint	Path state indicates the status of the SONET path. The following list contains the bit positions: • 1 = sonetPathNoDefect • 2 = sonetPathSTSLOP • 4 = sonetPathSTSAIS • 8 = sonetPathSTSRDI • 16 = sonetPathUnequipped • 32 = sonetPathSignalLabelMismatch The various bit positions for MGX PXM45: • 1 sonetPathNoDefect • 2 sonetPathSTSLOP • 4 sonetPathSTSAIS • 8 sonetPathSTSRDI • 16 sonetPathUnequipped • 32 sonetPathSignalLabelMismatch
path_stat_sev	smallint	Path status severity.
path_stat_state	smallint	Path status state indicates the status of the interface. If none of the bits are set, no defect has occurred. The following list contains the bit positions: • 1 = sonetPathTotalESs • 2 = sonetPathTotalSESs • 3 = sonetPathTotalCVs • 4 = sonetPathTotalUASs • 5 = sonetPathCurrentESs • 6 = sonetPathCurrentSESs • 7 = sonetPathCurrentCVs • 8 = sonetPathCurrentUASs • 9 = sonetFarEndPathTotalESs • 10 = sonetFarEndPathTotalSESs • 11 = sonetFarEndPathTotalCVs • 12 = sonetFarEndPathTotalUASs • 13 = sonetFarEndPathCurrentESs • 14 = sonetFarEndPathCurrentSESs • 15 = sonetFarEndPathCurrentCVs • 16 = sonetFarEndPathCurrentUASs

Table 2-62 line (continued)

Column	Data Type	Description
atm_ln_format	smallint	Format of the cells that travel on the physical interface. • 1 = Other • 2 = ATM UNI • 3 = ATM NNI
aps_flag	smallint	Automatic protection switching (APS) flag for PXM-OC3 or OC12 lines. • 1 = APS Disabled • 2 = APS Enabled
name	char (64)	Line name as identified by the MGC lineName object. For AXSM-XG cards this name is similar to the ifName. The format of this column for various path_type values is: • stsPath:line=1,sts=3 • ds3Path:line=1,sts=3,ds3=1 • vtPath:line=2,sts=3,vtg=4,vt=1 • ds1InVtPath:line=2,sts=3,vtg=4,vt=1 • ds1InDs3Path:line=2,sts=3,ds3=1,ds1=28 • ds1InDs3Line:line=2,ds1=12
chan_assignment	integer	Channel assignment.
bay	smallint	Bay number. The default value is equal to 1. The field applies to MGX 8850(PXM45) and BPX-SES platforms. For all other platforms, this field is not applicable and returns a value of -1.
if_index	integer	Interface index that is a unique value for each interface.
parent_if_index	integer	Parent interface index of this path. The parent could be a line or another path. If a parent does not exist, this value is -1.
lpbk_code	smallint	Value to enable detection of line loopback codes. Loopback detection is implemented only in HSSI DCE mode. • 1 = codeDetectDisabled (default) • 2 = codeDetectEnabled This field applies to all FRSM-HS2 cards. Value to enable detection of line loopback codes for VXSM cards. • 1 = codeDetectEnabled (true) • 2 = codeDetectDisabled (false)

Table 2-62 line (continued)

Column	Data Type	Description
invert_clock	smallint	Value to configure the clock for the following preferences: • Invert the transmit clock that is sent. • Loop the receive clock. Values include the following options: • 1 = nonInvertedAndNotLooped—Transmit clock is not inverted. Receive clock is not looped. This option is the default for X.21 types. • 2 = invertedAndNotLooped—Transmit clock is inverted. Receive clock is not looped. • 3 = nonInvertedAndLooped—Transmit clock is not inverted. Receive clock is looped. This option is the default for V.35 types. • 4 = invertedAndLooped—Transmit clock is inverted. Receive clock is looped. This option is applicable only for V.35 types. This object is supported on FRSM-HS2B-12IN1 cards. This object is not supported on the FRSM-HS2/HS2B-HSSI cards.
subrate_enable	integer	Value to indicate that the DS3 subrates are enabled. DS3 subrates (part of DSU functionality) are supported only in FRSM-T3/E3. • 1 = Disable • 2 = Enable
dsu_select	integer	Type of DSU mode selected. This value is only on the FRSM-VHS card. • 1 = dl3100Mode—Indicates compatibility with Digital Link Inc. DL3100 DSU mode of operation. This mode permits line rates to be in multiples of 300 Kbps. • 2 = adcKentroxMode—Indicates compatibility with ADC Kentrox DSU. This mode permits line rates to be in multiples of 500 Kbps. • 3 = larsCom—Indicates compatibility with LarsCom DSU. • 4 = clearChannel—Indicates the standard G.751 framing format (12 overhead bits and 1524 data bits in an E3 frame). This option is supported only in FRSM-2E3. • 5 = dsuAlgorithm2—This value is not used. • 6 = dsuAlgorithm3—This value is not used. • 7 = dsuAlgorithm4—This value is not used. • 8 = dsuAlgorithm5—This value is not used. The object dsx3SubRateEnable must be set to enable before selecting the mode in the dsu_select object.

Table 2-62 line (continued)

Column	Data Type	Description
ln_intf_type	smallint	Serial interface type. • 1 = HSSI • 2 = x21 • 3 = v35 (default for FRSM-HS2B-12IN1) This object does not apply to FRSM-HS1B cards. This object is not configurable on FRSM-HS2B and FRSM-HS2B-HSSI cards. The default value for these cards is HSSI.
clk_freq_threshold	smallint	Percentage of clock frequency that the DTE clock monitor uses to declare the clock rate out-of-bound alarm. The range is 1 through 5, and the default is 3. These values are valid for x.21, v.35, and HSSI DTE interfaces. This object is supported on the following cards: • FRSM-HS2 • FRSM-HS2B-HSSI • FRSM-HS2B-12IN1
serl_ln_rate	integer	User configurable percentage of clock frequency that is used by the DTE clock monitoring to declare the clock rate out an of bound alarm. This object is valid only for X.21/v.35/HSSI DTE interfaces. The range is 1 through 5.
serl_ln_rate_var	integer	Line rate variation of HSSI/X.21/V.35 DCE interfaces in ppm (parts per million). For example, the clock generated from DCE hardware interface equals (serialLineRate + [serialLineRateVariation * 10^6]/ serialLineRate). This object can have a positive or negative value. This object is supported only by the FRSM-HS2/B card.
sonet_rdiv_type	smallint	Remote defect indication (RDI) for virtual tributaries (VTs). • 1 = onebit—Use 1-bit RDI-V. • 3 = threebit—Use 3-bit enhanced RDI-V.
sonet_rdip_type	smallint	RDI for paths. • 1 = onebit—Use 1-bit RDI-P. • 3 = threebit—Use 3-bit enhanced RDI-P.
sonet_trib_type	smallint	SONET/SDH tributary types that are applicable to SONET/SDH lines. • 1 = vt15vc11—Tributaries are T1. • 2 = vt2vc12—Tributaries are E1.
sonet_trib_map	smallint	Method used to map the tributaries into SONET/SDH payloads. • 1 = asynchronous • 2 = byte synchronous

Table 2-62 line (continued)

Column	Data Type	Description
sonet_trib_frm	smallint	The default framing format applied on the tributary. This object applies only to SONET/SDH lines if the sonet_trib_map object is byte synchronous. For tributary types vt15vc11, values are: • 1 = Not applicable (all tributary types *except* vt15vc11) • 2 = SF—Superframe or D4 format (tributary type vt15vc11) • 3 = ESF—Extended Superframe format (tributary type vt15vc11)
sonet_sig_trnsp	smallint	Mode used to transport signaling information. This object applies only to SONET/SDH lines if the sonet_trib_map object is byte synchronous. • 1 = Not applicable • 2 = Signaling transfer mode • 3 = Clear mode
sonet_trib_grp	smallint	Method used to group VCs into an STM-1 signal. This object applicable only to SDH lines. • 1 = Not applicable • 2 = au3Grouping • 3 = au4Grouping

Table 2-62 line (continued)

Column	Data Type	Description
sendcode	integer	Type of code sent across the DS1 interface by the device. • 1 = dsx1SendNoCode—Sending looped or normal data. • 2 = dsx1SendLineCode—Sending a request for a line loopback. • 3 = dsx1SendPayloadCode—Sending a request for a payload loopback. • 4 = dsx1SendResetCode—Sending a loopback termination request. Type of code sent across the X21 interface by the device. • 1 = x21SendNoCode—Sending looped or normal data. • 2 = x21SendLoopACode—Sending a request for a line loopback of type A. • 3 = x21SendLoopBCode—Sending a request for a line loopback of type B. • 4 = x21SendLocalLoopCode—Sending a request for a local line loopback. • 5 = x21SendRemoteLoopBCode—Sending a request for a remote line loopback. • 6 = x21SendUnLoopCode—Sending a request to unloop an existing line loopback. The type of code sent across the VXSM DS1 interface by the device does not include payload loopback. The options are: • 1 = dsx1SendNoCode—Sending looped or normal data. • 2 = dsx1SendLineCode—Sending a request for a line loopback. • 4 = dsx1SendResetCode—Sending a loopback termination request. The default value is 1 (Sending looped or normal data) The type of code sent across the VXSM DS3 interface by the device does not include payload loopback. The options are: • 1 = dsx3SendNoCode—Sending looped or normal data. • 2 = dsx3SendLineCode—Sending a request for a line loopback. • 4 = dsx3SendResetCode—Sending a loopback termination request. The sendcode field is not supported in MPSM155 and MPSM16T1E1 cards.

Table 2-62 line (continued)

Column	Data Type	Description
channel_bitmap	integer	Channelized bitmap that provides precise information about the path/line. This field uses the following bitmap: • Bit 31 = Sign bit unused • Bit 27, 28, 29, 30 uses the following ENUM values: – 0000 = Physical line – 0001 = DS1 in STS path – 0010 = DS3 in STS path – 0011 = DS1 in DS3 on STS path – 0100 -- ds1 in ds3 (With T3/E3 backcard) – 0101 -- tu path in STM – 0110 -- ds3 path in au Path – 0111 -- VT path in STS Path – 1000 -- ds1 path in VT path in STS Path – 1001 -- ds1 in STM Path – 1010 -- ds3 in STM Path – 1011 -- ds1 in ds3 on STM Path – 1100 -- ds1 Path in ds3 path in STM path • Mapping bits 26 to 0 in case of SDH (STM paths, DS1 and DS3 in those paths) – Bits 24, 25, 26 = Value of D for STM64 paths (range 1 through 4) – Bits 21, 22, 23 = Value of C for STM16 paths (range 1 through 4) – Bits 18, 19, 20 = Value of B for STM4 paths (range 1 through 4) – Bits 16, 17 = Value of A for STM1 paths – Bit 14, 15 = K number – Bits 11,12,13 = L number – Bits 8, 9, 10 = M number – Bits 0 through 7 = Physical line number • Mapping of bits 26 to 0 in case of SONET paths (STS paths, DS3 and DS1 paths in those SONET paths) – Bits 24 through 16 = STS1 path in case of SONET – Bit 14, 15 = DS3 number – Bits 11,12,13 = VTG number – Bits 8, 9, 10 = VT number – Bits 0 through 7 = Physical line number

Table 2-62 line (continued)

Column	Data Type	Description
channel_bitmap (continued)	integer	• Mapping of bits 26 to 0 in case of DS1 in DS3 on SONET Paths – Bits 24 through 16 = STS1 path in case of SONET – Bit 14, 15 = DS3 number/K number – Bits 8, 9, 10, 11, 12, 13 = DS1 number in DS3 in case of DS1 in DS3 – Bits 0 through 7 = Physical line number
sig_tx_mode	smallint	Represents the mode used to transport DS0 Signalling information for T1 byteSynchronous mapping (GR253). notApplicable (1), signallingTransferMode (2), clearMode (3)
st_chg_trap_en	smallint	Whether dsx3 or DS1 LineStatusChange traps should be generated for this interface.
lpbk_status	smallint	The current state of the loopback on the interface. A bit map represented as a sum, therefore is can represent multiple loopbacks simultaneously. The various bit positions are: for ds1 line: • 1 dsx1NoLoopback • 2 dsx1NearEndPayloadLoopback • 4 dsx1NearEndLineLoopback • 8 dsx1NearEndOtherLoopback • 16 dsx1NearEndInwardLoopback • 32 dsx1FarEndPayloadLoopback • 64 dsx1FarEndLineLoopback for ds3 line: • 1 dsx3NoLoopback • 2 dsx3NearEndPayloadLoopback • 4 dsx3NearEndLineLoopback • 8 dsx3NearEndOtherLoopback • 16 dsx3NearEndInwardLoopback • 32 dsx3FarEndPayloadLoopback • 64 dsx3FarEndLineLoopback

Table 2-62 line (continued)

Column	Data Type	Description
channelize	smallint	Indicates whether the line is channelized or unchannelized. VXSM: for ds1/e1 line: • enabledDs0 (2) for ds3 line: • enabledDs1 (2) Default = 2
signal_mode	smallint	Signaling mode on this channel VXSM only support: for DS1 line: • 1 = none • 2 = robbedBit • 3 = bitOriented • 4 = messageOriented initial value = 1
trk_cond_en	smallint	Specifies whether trunk-condition is enabled. • 1 = true • 2 = false Default = false
alarm_intg_time	integer	AIS delay timer on AXSM cards. If the feature is supported by the card the values are 200..2500. If the feature is not supported by the card the value is -1.
reserved	integer	Reserved for future use

Line Descriptor

Table 2-63 contains information about the line descriptors. This information is contained in the line_desc table of the stratacom database.

Table 2-63 line_desc

Column	Data Type	Description
node_id	integer	CWM node ID
slot	smallint	Slot number.
bay	smallint	Bay number.
line	smallint	Line number.
descriptor	char(64)	Descriptor.

Table 2-63 line_desc (continued)

Column	Data Type	Description
timestamp	integer	Time in integer format when the last operation was done on this table.
deleted	smallint	Is this table deleted • 1 = Yes descriptor is deleted • 0 = No descriptor is not deleted

Line Distribution

Table 2-64 contains information about line distributions on the MGX 8220, MGX 8230, MGX 8250, and MGX 8850 (PXM1).

Table 2-64 linedistribution

Column	Data Type	Description
dist_idx	smallint	Distribution index.
network_id	smallint	CWM network ID.
node_id	integer	CWM node ID.
bay	smallint	Bay number. • 1 = MGX 8220, MGX 8230, MGX 8250, MGX 8850 (PXM1) • 2 = MGX 8250, MGX 8850 (PXM1)
t3line	smallint	SRM-3T3 line number or the SRM-E SONET/SDH line number. For SRM-3T3 value range is 1 through 3. For SRM-E value is 1.
t1line	smallint	T1 (E1) line number within the SRM-3T3 line or SRME SONET/SDH line. The following ranges are applicable: • 1 through 28 for SRM-3T3 • 1 through 84 for SRME/T1 distribution • 1 through 63 for SRME/E1 distribution
target_slot	smallint	Target slot number. The following ranges are applicable: • 1 through 6, 9 through 14, 17 through 22, and 25 through 30 = MGX 8250, MGX 8850 (PXM1) • 3 through 6, 10 through 13 = MGX 8230 • 5 through 14 = MGX 8220
target_line	smallint	Line of the target slot. For all nodes the range is 1 through 8.

Table 2-64 linedistribution (continued)

target_line_frm	smallint	Framing type of the target line. • 1 = Not applicable • 2 = SF—Superframe • 3 = ESF—Extended Superframe
if_index	integer	Value that is unique for each interface.
reserved	integer	Reserved for future use.

Table 2-65 contains information about line distribution descriptors on the MGX 8220, MGX 8230, MGX 8250, and MGX 8850 (PXM1).

Table 2-65 linedistribution_desc

Column	Data Type	Description
node_id	integer	CWM Node ID
slot	smallint	Slot Number
bay	smallint	Bay Number
t3line	smallint	T3 Line Number
t1line	smallint	T1 Line Number
descriptor	char(64)	Descriptor
timestamp	integer	Time in int format when the last operation is done on this table.
deleted	smallint	Is this table deleted • 1 = Yes descriptor is deleted • 0 = No descriptor is not deleted

Loads

Table 2-66 contains information about the available bandwidth for different service types. The load table is updated when the ILMI topology manager (topoc) receives trap 7008.

Table 2-66 load

Column	Data Type	Description
node_id	integer	CWM node ID.
if_index	integer	Value of the ifIndex object from ifTable.
slot	smallint	Slot number.
bay	smallint	Bay number. The default value is equal to 1.
line	smallint	Line number.
port	smallint	Port number.
avlbwcbr	integer	Available bandwidth for constant bit rate (CBR) service.

Table 2-66 load (continued)

avlbwrtvbr	integer	Available bandwidth for real-time variable bit rate (rt-VBR) service.
avlbwnrtvbr	integer	Available bandwidth for non-real-time VBR service.
avlbwabr	integer	Available bandwidth for available bit rate (ABR) service.
avlbwubr	integer	Available bandwidth for unspecified bit rate (UBR) service.
reserved	integer	Reserved for future use.

Logical Connections

Table 2-67 contains information about logical connections.

Table 2-67 logical_conn

Column	Data Type	Description
lcon_id	integer	Logical connection object ID.
srcnode_id	integer	Source CWM node IS.
lcon_type	smallint	Type of logical connection. • 0 = Lcon • 1 = Junction lcon
round_trip_delay	smallint	Round trip delay. This field applies to the local logical connection.
dst_node_id	integer	Destination CWM node ID.
l_lcon_index	smallint	Local end logical connection index.
r_lcon_index	smallint	Remote end logical connection index.
r_lcon_p_index	smallint	Remote end logical partner connection index.
j_dst_node_id	integer	Destination CWM node in the junction route.
cos	smallint	Class of service. • 0 = False • 1 = True
group_flag	smallint	Grouped connection. • 0 = False • 1 = True
avoid_trk_type	smallint	Trunk types to avoid. • 1 = None • 2 = Satellite • 3 = Terrestrial

Table 2-67 logical_conn (continued)

Column	Data Type	Description
avoid_zcs	smallint	Value to avoid ZCS trunks. • 0 = False • 1 = True
pref_route	char (255)	Preferred route.
curr_route	char (255)	Current route.

Lookup

Table 2-68 contains details mapping database fields to MIB objects in the Configuration Center.

Table 2-68 lookup_field

Column	Data Type	Description
attribute_name	varchar(0..40)	Attribute Name
db_table_name	varchar(0..20)	Database Table Name
db_field_name	varchar(0..20)	Database Field Name
db_type	smallint	DataType
convert_function	varchar(0..20)	Convert Function to be used, if any

Table 2-68 contains details mapping database tables to MIB object tables in the Configuration Center.

Table 2-69 lookup_table

Column	Data Type	Description
attribute_collection_name	varchar(0..40)	Attribute Collection Name
db_table_name	varchar(0..20)	Database Table Name

Multilink Frame Relay

Table 2-70 contains information about the Multilink Frame Relay (MFR) bundle.

Table 2-70 mfr_bundle

Column	Data Type	Description
node_id	integer	CWM node ID
obj_id	integer	Object ID
network_id	smallint	CWM network ID
shelf	smallint	Shelf ID
slot	smallint	Slot ID

Table 2-70 mfr_bundle

Column	Data Type	Description
bay	smallint	Bay ID
bundle_num	smallint	MFR bundle number
if_index	integer	The if index of the mfr bundle
enable	smallint	The admin status of the mfr bundle
opers_status	smallint	The operational status of the mfr bundle
near_end_name	char(255)	Near end name of the bundle
timer_ack	smallint	Timer acknowledgement
count_max_retry	smallint	Maximum retry count
activation_class	smallint	Activation class
threshold	smallint	Threashold value
max_links	integer	Maximum links allowed in the bundle
links_configured	integer	Number of links configured
links_active	integer	Number of links active
seq_num_size	smallint	Sequence number size
bandwidth	integer	Bandwidth
reserved	integer	Reserved for future use
unique	extent size 1024 next size 1024 lock mode row	

Table 2-71 contains information about the Multilink Frame Relay (MFR) bundle.

Table 2-71 mfr_bundle_desc

Column	Data Type	Description
node_id	integer	Node ID
shelf	integer	Shelf number
slot	smallint	Slot number
bay	smallint	Bay number
bundle_num	smallint	Bundle number
descriptor	varchar(64)	A string describing the mfr bundle
timestamp	integer	Time in int format when the last operation is done on this table.
deleted	smallint	Indicates whether this table is deleted: • 1 = Yes descriptor is deleted • 0 = No descriptor is not deleted

Table 2-70 contains information about the MFR link..

Table 2-72 mfr_link

Column	Data Type	Description
node_id	integer	CWM node ID
obj_id	integer	Object ID
network_id	smallint	CWM network ID
shelf	integer	Shelf ID
slot	smallint	Slot ID
bay	smallint	Bay ID
line	smallint	Line ID
bundle_num	smallint	MFR bundle number to which this link belongs
bundle_if_index	integer	MFR bundle if index
if_index	integer	If index of the link
near_end_name	char(255)	Near end name of the link
link_status	smallint	Link operation status
reserved	integer	Reserved for future use
unique	extent size 1024 next size 1024 lock mode row	

MGX 8850 PXM45-Based Card Statistics Data

Table 2-73 contains information about MGX 8850 PXM45-based card statistics.

Table 2-73 mgx3_cd_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical data record.
axsmcard_obj_id	integer	AXSM line object ID.
l_node_id	integer	Local CWM node ID.
subobject_type	smallint	Subobject type for the statistic.
stat_type	smallint	Statistic type (object dependent field).
bucket_type	smallint	Bucket type displayed in minutes for the duration of each bucket.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak rate of the raw data in the sample interval.

MGX 8850 PXM45-Based Line Statistics Data

Table 2-74 contains information about MGX 8850 PXM45-based line statistics.

Table 2-74 mgx3_ln_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical data record.
obj_id	integer	Line object ID.
l_node_id	integer	Local CWM node ID.
subobject_type	smallint	Subobject type for the statistic.
stat_type	smallint	Statistic type (object dependent field).
bucket_type	smallint	Bucket type displayed in minutes for the duration of each bucket.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak rate of the raw data in the sample interval.

MGX 8850 PXM45-Based Physical Line Statistics Data

Table 2-75 contains information about MGX 8850 PXM45-based physical line statistics.

Table 2-75 mgx3_pl_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical data record.
obj_id	integer	Physical line object ID.
l_node_id	integer	Local CWM node ID.
subobject_type	smallint	Subobject type for the statistic.
stat_type	smallint	Statistic type (object dependent field).
bucket_type	smallint	Bucket type displayed in minutes for the duration of each bucket.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak rate of the raw data in the sample interval.

MGX 8850 PXM45-Based Port Statistics Data

Table 2-76 contains information about MGX 8850 PXM45-based port statistics. This information is contained in the mgx3_port_data table of the stratacom database.

Table 2-76 mgx3_port_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical data record.
mgx3port_obj_id	integer	Port object ID.

Table 2-76 mgx3_port_data (continued)

Column	Data Type	Description
l_node_id	integer	Local CWM node ID.
subobject_type	smallint	Subobject type for the statistic.
stat_type	smallint	Statistic type (object dependent field).
bucket_type	smallint	Bucket type displayed in minutes for the duration of each bucket.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak rate of the raw data in the sample interval.

MP Bundle

Table 2-77 contains information about the PPP multilink bundle managed objects in a multilink bundle.

Table 2-77 mpbundle

Column	Data Type	Description
node_id	integer	CWM node ID
network_id	integer	Network ID of node in
shelf	integer	Shelf number
slot	smallint	Slot number
bay	smallint	The bay #, default value = 1
bundle_id	integer	The index corresponding to the bundle (1...2147483647) This number matches with the bundle ID in the CLI.
if_index	integer	The ifIndex corresponding to this bundle in ifTable. In the implementation of the RedStone, this value is the same as the value in cmpbIndex
admin_status	smallint	The ifAdminStatus of the mpbundle: • 1 = down • 2 = up, ready to pass packets • 3 = testing, in some test mode
oper_status	smallint	The current operational state of the interface. • 1 = down • 2 = up, ready to pass packets • 3 = testing, in some test mode • 4 = unknown, status cannot be determined for some reason. • 5 = dormant • 6 = notPresent, some component is missing • 7 = lowerLayerDown, down due to state of lower-layer interface(s)

Table 2-77 mpbundle

Column	Data Type	Description
mrru	integer	The Maximum Received Reconstructed Unit for this bundle. (0..2147483647)
seq_format	smallint	The sequence number format to be used: shortSeqNum - 12 bit sequence number format longSeqNum - 24 bit sequence number format • 1 = shortSeqNum, (not support in RedStone) • 2 = longSeqNum
fragmentation	smallint	Enable or disable fragmentation.
endpt_d_cl	smallint	the class of endpoint discriminator address space used for this mpbundle. Endpoint Discriminator Class values: • 1 = nullClass • 2 = localAddress • 3 = ipAddress • 4 = ieee802dot1GlobalMACAddress • 5 = pppMagicNumberBlock • 6 = psnDirectoryNumber
endpt_d	char(21)	The Endpoint Discriminator used for this bundle.
links_conf	integer	The number of links configured as members of this bundle. (0...2147483647)
links_active	integer	The number of member links that are currently active. (0.. 2147483647)
r_mrru	integer	The Maximum Received Reconstructed Unit of the remote end bundle (0...2147483647)
r_endpt_d_cl	smallint	reflects the endpoint discriminator used for the remote end mpbundle. Endpoint Discriminator Class values: • 1 = nullClass • 2 = localAddress • 3 = ipAddress • 4 = ieee802dot1GlobalMACAddress • 5 = pppMagicNumberBlock • 6 = psnDirectoryNumber
r_endpt_d	char(21)	Reflects the endpoint discriminator used for the remote end mpbundle
avail_bw	integer	The available bandwidth of the bundle in bits per second. It is the summation of all the bandwidth of the active PPP links in the bundle. (0...4294967295)

Table 2-77 mpbundle

Column	Data Type	Description
config_bw	integer	The bandwidth configured for the bundle in bits per second. It is derived from the ifSpeed value. The range is 0 through 4294967295.
status	byte	the status of the bundle interface. It is the reason of why the oper_status is down. If the oper_staus is up, this should be 0. The object value is a bit map which is represented as a “sum” of the following values. Therefore, it can represent multiple failures simultaneously. When the ifOperStatus is down, this object provides more information about the status of the interfaces. Various bit positions are represented as follows: • 0 = mpbundleNoAlarm - No alarm. The bundle is up. • 1 = mpbundleNoLink - The bundle is down. All links in the bundle are not operational. • 2 = mpbundleAdminDown - The bundle is down. The interface is in administration down state (ifAdminStatus).
enable	smallint	to enable (true(1)) or disable (false(2)) PPP Multiplexing. • 1 = Enable • 2 = Disable
mux_opstatus	smallint	the current operation status of ppp multiplexing of the link. • 1 = active • 2 = inactive • 3 = notInService
demux_enable	smallint	the configuration option to enable (true(1)) or disable (false(2)) PPP de-multiplexing. • 1 = true • 2 = false
demux_opstatus	smallint	The current operation status of ppp de-multiplexing of the link. if cpppDeMuxEnable is true(1) and the remote end supports PPP multiplexing capability, this object is set to active(1), otherwise, this object is set to inactive(2). • 1 = active • 2 = inactive • 3 = notInService
pid	integer	The defaulted Protocol ID for PPP Multiplexing. This object has no meaning if the enable is not true. (0..65535)
rpid	integer	the default protocol ID for PPP de-multiplexing. It is applicable only if the value of cpppDeMuxEnable is true(1). (0..65535)

Table 2-77 mpbundle

Column	Data Type	Description
max_subfr_num	integer	The maximum number of subframes in a multiplexed PPP frame. This object has no meaning if the enable is not true (0...65535). The default is 15.
max_subfr_len	integer	The maximum length of a subframe in a multiplexed PPP packet. This object has no meaning if the cPPPMuxEnabled is not equal to true(1) (1...65535). The default is 64.
max_fr_len	integer	The maximum length of a multiplexed PPP packet. This object has no meaning if the enable is not true (1...65535). The default is 256.
timer	integer	the maximum time of the multiplexing process to multiplex PPP packets. This object has no meaning if the enable is not true (0...2147483647). The default is 600.
proto_status	byte	A bit map which reflects the current protocol negotiation status of PPP multiplexing. • 0 = pppMuxNotInService(0), • 1 = pppMuxActive • 2 = pppMuxLowerLayerDown • 3 = pppMuxRecGoodConfig • 4 = pppMuxRecBadConfig • 5 = pppMuxRecConfigAck • 6 = pppMuxRecConfigNackReject • 7 = pppMuxRecTerminateAck • 8 = pppMuxRecTerminateRequest • 9 = pppMuxRecUnknowCode • 10 = pppMuxRecGoodCodeReject • 11 = pppMuxRecBadCodeReject • 12 = pppMuxRecGoodProtoReject • 13 = pppMuxRecBadProtoReject • 14 = pppMuxNegotiationFail • 15 = pppMuxHardwareFail • 16 = pppMuxMaxFailures • 17 = pppMuxMaxConfigures • 18 = pppMuxUnspecified
reserved	int	Reserved for future use.

Table 2-78 contains information about the descriptor for the mpbundle.

Table 2-78 mpbundle_desc

Column	Data Type	Description
node_id	integer	SV+ Node ID
slot	smallint	slot Number
bay	smallint	Bay Number
bundle_id	smallint	bundle id number
descriptor	char(64)	Descriptor
timestamp	integer	Time in int format when the last operation is done on this table.
deleted	smallint	Is this table deleted: 1 - Yes descriptor is deleted 0 - No descriptor is not deleted

Networks

Table 2-79 contains information about ID and name of each managed network in the database.

Table 2-79 network

Column	Data Type	Description
netw_id	smallint	CWM network ID that is assigned by the user.
ipx_netw_id	smallint	Routing domain network ID.
netw_name	char (10)	CWM network name assigned by the user. The network name can be up to 10 characters in length and should be alphanumeric characters only (no periods).
active	smallint	Active state flag. • 0 = Inactive—An entry is deleted. • 1 = Active
upgrade_status	smallint	Network upgrade status. • 0 = Unknown • 1 = Upgrading • 2 = Not upgrading
mgmt_comm	smallint	Management communication. • -1 = Default value • 0 = NWIP_OFF • 1 = NWIP_ON • 2 = LANIP

Table 2-79 network (continued)

Column	Data Type	Description
protocol	smallint	Protocol used in the network. • 0 = Null protocol • 1 = AutoRoute protocol • 2 = ILMI protocol • 3 = Hybrid protocol • 4 = Tag protocol • 8 = Standalone protocol • 16 = PNNI protocol
reserved	integer	Reserved for future use.

nhm

Table 2-80 contains Manageability Information of Nodes.

Table 2-80 nhm_manageability

Column	Data Type	Description
node_id	integer	Node ID
node_name	char(40)	Node Name
ip_reachability	smallint	IP Reachability
ftp_reachability	smallint	FTP Reachability
snmp_community_string	smallint	SNMP Community String
trap_ip	smallint	Trap IP
trap_manager	smallint	Trap Manager

Table 2-81 contains Statistical Information of Nodes.

Table 2-81 nhm_stats_table

Column	Data Type	Description
node_id	integer	Node ID
node_name	char(40)	Node Name
protocol	smallint	Protocol to be used
status_type	smallint	Status Type
count	integer	Count
rate	float	Rate
time_stamp	DATETIME	TimeStamp

Nodes

Table 2-82 contains information about name and status of each node in each network.

Table 2-82 node

Column	Data Type	Description
node_id	integer	CWM node ID assigned by CWM.
netw_id	smallint	CWM network ID.
node_name	char (32)	Node name.
ipx_netw_id	smallint	Network ID for IGX and BPX nodes. MGX 8220, DAS, and DNS nodes are assigned the network ID of their attached IGX or BPX node.
ipx_node_id	smallint	Node ID for IGX and BPX nodes. For MGX 8220, DAS, and DNS nodes, this field is set to 0.
net_ip_address	integer	Access IP address for the node.
lan_ip_address	integer	LAN IP address for the node.
nw_ip_address	integer	Network IP address for the node. The default value is equal to –1.
model	integer	Model type of the node. The default is 0. • 3—SES • 8220—MGX Edge Concentrator (AXIS) • 8230—MGX 8230 • 8250—MGX 8250 • 8410—IGX 8 • 8420—IGX 16 • 8430—IGX 32 • 8600—BPX WAN switch • 8620—BPX • 8650—BPX tag switch • 8830—MGX 8830 • 8850—MGX 8850 (PXM1) or MGX 8850 (PXM45 or PXM1E) • 8950—MGX 8950 CWM does not support model type in Switch Software Releases 9.1 and earlier. For these releases, the model column value is 0.
submodel	char(7)	8830 PXM45 and model B chassis (8850 & 8830). • Empty String = All non-model B chassis (8850 & 8830) types • B = Model B chassis (8850 & 8830)
mobility	smallint	Shows mobile PNNI is enabled.

Table 2-82 node (continued)

Column	Data Type	Description
alarm_state	smallint	Node alarm state. • 0 = Clear • 1 = Minor (Bit 1) • 2 = Major (Bit 2) • 3 = Unreachable (Bits 1 and 2) • 4 = Critical (Bit 3) • 64 = CWM mode (Bit 8) • 65 = Minor for BPX and IGX • 66 = Major for BPX and IGX
filtered_alarm	smallint	Filtered shelf alarm state. This state does not include line, port, connection, or feeder alarms. • -1 = Not supported • 0 = Clear • 1 = Minor (Bit 1) • 2 = Major (Bit 2) • 3 = Unreachable (Bits 1 and 2) • 4 = Critical (Bit 3)
gateway	smallint	Flag for a node acting as a junction node between two network domains. • 0 = Not a gateway • 1 = Gateway This value is valid for structured networks.
active	smallint	Flag for an active state of the node. • 0 = Inactive—an entry is deleted • 1 = Active

Table 2-82 node (continued)

Column	Data Type	Description
platform	smallint	Flag for platform type. • 0 = Cisco IPX • 1 = BPX • 2 = IGX • 3 = MGX 8220 • 4 = INS • 5 = DNS • 6 = INSD • 11 = Cisco 3800 • 12 = ESP • 13 = Cisco 3810 • 14 = MGX 8850 (PXM1), MGX 8230, MGX 8250, SES controller • 18 = MGX 8850 (PXM45), MGX 8950 • 19 = PNNI Controller • 23 = MGX 8830, MGX 8850 (PXM1E) • 98 = Unknown • 99 = Non-CWM (for example, Cisco routers) • 100 = Non-Cisco
subtype	smallint	Flag for a shelf. • 0 = Routing node • 1 = Feeder (shelf) node • 2 = • 3 = Access node • 4 = Stand-alone node • 5 = • 6 = Routing node with LSC controller
release	char (11)	Node software release revision.
fs_inc_rate	smallint	ForeSight increase rate.
fs_dec_rate	smallint	ForeSight decrease rate.
fs_fdec_rate	smallint	ForeSight fast decrease rate.
rst_timeout	smallint	Timeout for setting permanent virtual circuit (PVC) rate to quiescent information rate (QIR).

Table 2-82 node (continued)

Column	Data Type	Description
mode	smallint	Node mode for MGX 8220. • 0 = Unknown • 1 = Init-sync • 2 = Syncing • 3 = Synced • 4 = Partially synced • 5 = Failed in sync up. This failure can be caused by an unreachable node, a control card failure, and so forth.
mgmt_state	smallint	Node management state. • 0 = Link unknown • 1 = Link up • 2 = Link down
manager	smallint	Manager type. • 100 = LINKTOPOC_MANAGED_NODE • 200 = FILETOPOC_MANAGED_NODE • 300 = SNMPTOPOC_MANAGED_NODE • 400 = ILMITOPOC_MANAGED_NODE
protocol	smallint	Protocol type. • 0 = Null • 1 = AutoRoute • 2 = ILMI • 3 = Hybrid • 4 = Tag • 8 = Standalone • 16 = PNNI
node_prefix	char (26)	SPVC node prefix of a PNNI node.
pnni_node_id	char (44)	PNNI node ID of a PNNI node.
connroute_mode	smallint	Connection Route (preferred route status) Resync Mode • -1 = unknown • 2 = syncing • 3 = synced OK • 5 = sync fail Values are chosen to be consistent with the values of “mode”
reserved	integer	Reserved for future use.

Node Descriptor

Table 2-83 contains information about the node descriptors. This information is contained in the node_desc table of the stratacom database.

Table 2-83 node_desc

Column	Data Type	Description
node_id	integer	CWM node ID
descriptor	char(64)	Descriptor
timestamp	integer	Time in integer format when the last operation was done on this table.
deleted	smallint	Is this table deleted • 1 = Yes descriptor is deleted • 0 = No descriptor is not deleted

Node Information

Table 2-84 contains information about a particular node in the network.

Table 2-84 node_info

Column	Data Type	Description
node_id	integer	CWM node ID of the node.
node_name	char (32)	Node name.
network_id	smallint	CWM network ID to which the node belongs
subnetwork_id	smallint	CWM sub-network ID to which the node belongs
get_str	char (33)	SNMP GetCommunity used for SNMP operations.
set_str	char (33)	SNMP SetCommunity used for SNMP operations.
ftp_user_name	char (33)	FTP user name used for FTP operations.
ftp_user_passwd	char (33)	FTP password used for FTP operations.
descriptor	char(32)	Customer Descriptor.
mode	smallint	Mode type. • 0 = All others • 4 = Standalone
ipaddress	integer	IP address of the node.
model	smallint	Model number for standalone nodes (8850, 8250, 8230). For other nodes, the value is 0.
submodel	char(7)	Submodel of the chassis, if any.

Table 2-84 node_info (continued)

Column	Data Type	Description
active	smallint	node active state flag • 0 = inactive • 1 = active Inactive indicates that entry has been deleted.

Node Grooming

Table 2-85 contains information about route optimization or node grooming in the network.

Table 2-85 node_groom

Column	Data Type	Description
node_id	integer	CWM node ID of the node.
orderly_grooming	small integer	Route Optimization(Grooming) feature: orderly grooming enabled or not
orderly_groom_group_ size	integer	Route Optimization(Grooming) feature: number of connections to be groomed in orderly grooming batch
orderly_groom_group_ time	integer	Route Optimization(Grooming) feature: maximum time to process each grooming batch in seconds
softrerouteenable	small integer	Route Optimization(Grooming) feature: soft reroute functionality enabled or not
trunk_util_threshold	integer	Route Optimization(Grooming) feature: bandwidth utilization threshold on the interface
node_alarm_delay_timer	integer	AIS delay, Deroute delay, Absolute & Percentage Grooming Thresholds feature: alarm delay in seconds.
reserved	integer	reserved for future use.

Node Grooming Thresholds

Table 2-86 contains information about route optimization or node grooming thresholds in the network.

Table 2-86 node_thresh

Column	Data Type	Description
node_id	integer	CWM node ID of the node.
atmservicecategor y	smallint	Route Optimization(Grooming) feature: Table index, ATM service category as defined in cmscNodeThreshServiceCategory, CmscNodeAndCardGroup.mib(SV+Service.mib) object.
awabsolute	int8	AIS delay, Deroute delay, Absolute & Percentage Grooming Thresholds feature: absolute threshold of AW to reroute connections of CBR, NRTVBR, RTVBR, ABR and UBR categories.

Table 2-86 node_thresh (continued)

Column	Data Type	Description
awpercentage	integer	AIS delay, Deroute delay, Absolute & Percentage Grooming Thresholds feature: percentage threshold of AW to reroute connections of CBR, NRTVBR, RTVBR, ABR and UBR categories.
ctdabsolute	int8	AIS delay, Deroute delay, Absolute & Percentage Grooming Thresholds feature: absolute threshold of CTD to reroute connections of CBR and RTVBR categories.
ctdpercentage	integer	AIS delay, Deroute delay, Absolute & Percentage Grooming Thresholds feature: percentage threshold of CTD to reroute connections of CBR and RTVBR categories.
cdvabsolute	int8	AIS delay, Deroute delay, Absolute & Percentage Grooming Thresholds feature: absolute threshold of CDV to reroute connections of CBR and RVBR categories.
cdvpercentage	integer	AIS delay, Deroute delay, Absolute & Percentage Grooming Thresholds feature: percentage threshold of CDV to reroute connections of CBR and RTVBR categories
reserved	integer	reserved for future use

Packet Lines

Table 2-87 contains information about all trunks in all the networks.

Table 2-87 packet_line

Column	Data Type	Description
pln_obj_id	integer	Object ID.
l_network_id	smallint	Local end CWM network ID.
l_node_id	integer	Local end CWM node ID.
l_bay	smallint	Local end bay number.
l_line	smallint	Local end trunk number.
l_slot	smallint	Local end slot number.
l_port	smallint	Local end logical port number.
l_vtrk	smallint	Local end virtual trunk number.
l_num_phy_line	smallint	Local end number of physical lines. • -1 = Trunks without physical lines (No IMA configured) • 1 = Normal and virtual trunks with physical lines • 2 through 8 = IMA trunks
l_primary_phy_line	smallint	Local end primary physical line ID. Equal to l_line value if l_num_phy_lines is greater than 1.
l_phy_line_bitmap	smallint	Local end physical line bitmap. Bitmap showing which lines participate in the IMA Group on the local end.

Table 2-87 packet_line (continued)

Column	Data Type	Description
card_type	smallint	Card type. • 3 = TXR • 22 = NTC • 34 = AIT • 41 = UXM • 103 = BNI_T3 • 104 = BNI_E3 • 110 = BNI_OC3 For a list of card types, see Appendix E, "Card Types".
interface	smallint	Interface type. • 0 = Unknown • 1 = T1 • 2 = Not used • 3 = Not used • 4 = OC3 • 5 = E1 • 6 = Subrate • 7 = Broadband • 8 = E3 • 9 = T3 • 10 = OC12 • 11 = E2 (IGX) • 12 = HSSI (IGX)
line_load	integer	Trunk load. For BPX and IGX trunks, units are measured in cells per second.
r_network_id	smallint	Remote end CWM network ID.
r_node_id	integer	Remote end CWM node ID.
r_bay	smallint	Remote end bay number.
r_line	smallint	Remote end trunk number.
r_slot	smallint	Remote end slot number.
r_port	smallint	Remote end logical port number.
r_vtrk	smallint	Remote end virtual trunk ID.
r_num_phy_line	smallint	Remote number of physical lines. • -1 = Trunks without physical lines (No IMA configured) • 1 = Normal and virtual trunks with physical lines • 2 through 8 = IMA trunks

Table 2-87 packet_line (continued)

Column	Data Type	Description
r_primary_phy_line	smallint	Remote end primary physical line ID. Equal to r_line value if r_num_phy_lines is greater than 1.
r_phy_line_bitmap	smallint	Remote end physical line bitmap. Bitmap showing which lines participate in the IMA Group on the remote end.
mobility	smallint	Shows mobile PNNI is enabled.
aps_flag	smallint	Automatic protection switching (APS) flag. The default is equal to 0.
alarm_state	smallint	Alarm state. • 0 = Clear • 1 = Minor • 2 = Major • 3 = Unknown
commentc	char (20)	Comment field.
active	smallint	Active state. • 0 = Inactive • 1 = Active Internal use. Not to be considered for verification of network entities.
status	smallint	Status field. • 1 = Clear • 2 = Failed
stat_reserve	integer	Statistical reserve field measured in packets per second.
b_bq_depth	integer	Bursty data B queue depth.
b_bq_efcn	integer	Bursty data B EFCN/ENCI threshold.
clp_h_thresh	smallint	Cell loss priority (CLP) high dropping threshold.
clp_l_thresh	smallint	CLP low dropping threshold.
time_load	integer	Time-stamped load units.
non_time	integer	Non-time-stamped load units.
v_load	integer	Voice load units.
bursty_a_load	integer	Bursty data A load units.
bursty_b_load	integer	Bursty data B load units.
bursty_a_cmax	smallint	Bursty data A credit maximum.
bursty_b_cmax	smallint	Bursty data B credit maximum.
max_chan_per_port	integer	Maximum channel per port. The default value is equal to -1.

Table 2-87 packet_line (continued)

Column	Data Type	Description
protocol	smallint	Protocol type. • 0 = NULL_PROTOCOL • 1 = AUTOROUTE_PROTOCOL • 2 = ILMI_PROTOCOL • 3 = HYBRID_PROTOCOL • 4 = TAG_PROTOCOL • 8 = STANDALONE_PROTOCOL • 16 = PNNI_PROTOCOL
pnni_status	smallint	PNNI status.
st_ar_vpi_ran_1	smallint	Start of the access rate (AR) virtual path identifier (VPI) range 1.
end_ar_vpi_ran_1	smallint	End of AR VPI range 1.
st_ar_vpi_ran_2	smallint	Start of AR VPI range 2.
end_ar_vpi_ran_2	smallint	End of AR VPI range 2.
st_ar_vpi_ran_3	smallint	Start of AR VPI range 3.
end_ar_vpi_ran_3	smallint	End of AR VPI range 3.
st_ar_vpi_ran_4	smallint	Start of AR VPI range 4.
end_ar_vpi_ran_4	smallint	End of AR VPI range 4.
reserved	integer	Reserved for future use.
mobility	smallint	Shows mobile PNNI enabled.

Packet Line Statistics Data

Table 2-88 provides trunk line statistic data.

Table 2-88 packet_ln_data

Column	Data Type	Description
timestamp	integer	Time-stamp of the statistical record.
pln_obj_id	integer	Packet line object ID.
l_node_id	integer	CWM node ID.
subobject_type	smallint	Subobject type (object dependent field).
stat_type	smallint	Statistic type.
bucket_type	smallint	Duration of each bucket measured in minutes.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak rate of raw data in the sample interval.

Party

Table 2-88 provides information about parties for the slave endpoint of the point to multipoint SPVC.

Table 2-89 party

Column	Data Type	Description
rt_network_id	smallint	Root side network ID.
rt_node_id	integer	Root side node ID.
rt_ifindex	integer	Interface index of the root endpoint of this party.
rt_vpi	smallint	Root VPI number in the range 0 through 4095.
rt_vci	integer	Root VCI number in the range 0 through 65535.
rt_shelf	smallint	Root shelf number.
party_ref	integer	Arbitrary integer that distinguishes between the multiple parties attached to a root of a point to multipoint SPVC. This value is in the range 1 through 65535 and is unique per root.
rt_slot	smallint	Root side slot number. This field is derived from the cwaRootPhysicalId object that has the format: *slot:bay.port:line*.
rt_bay	smallint	Root side bay number. The default is 1. This field is derived from the cwaRootPhysicalId object that has the format: *slot:bay.port:line*.
rt_line	smallint	Root side line number. This field is derived from the cwaRootPhysicalId object that has the format: *slot:bay.port:line*.
rt_port	smallint	Root side port number. This field is derived from the cwaRootPhysicalId object that has the format: *slot:bay.port:line*.
p_nsap_addr	char (40)	ATM NSAP address of this party.
p_vpi	smallint	Channel VPI value of this party.
p_vci	integer	Channel VCI value of this party.
admin_status	smallint	Administrative status of this party. • 1 = Up • 2 = Down
oper_status	smallint	Operational status of this party. • 1 = Ok • 2 = Fail • 3 = Down
party_id	integer	ID of this party. This value is unique per node.

Table 2-89 party (continued)

Column	Data Type	Description
upd_counter	integer	Number of status changes that happen on a cwaPartyIdentifier. The upload counter is associated only with the cwaPartyIdentifier and not with the connection itself. The range is 0 through 4294967295.
is_validated	smallint	Flag used by the party process to track the validation status of this party entry.
reserved	integer	Reserved for future use.

Password Rules

Table 2-90 provides general password setting rules. The data in this table is applied across all users while determing the validity of the password being set.

Table 2-90 password_rules

Column	Data Type	Description
password_aging	smallint	Number of days the current passwor will be valid.
pwd_exp_notify	smallint	Number days before which the password expiry notification to be sent to the user when he logs in.
pwd_chn_interval	smallint	Number of days between password change to allow new changes.
pwd_diff_previous	smallint	Number of previously used passwords to compare against the new password.
pwd_diff_char	smallint	Number of characters by which the new password must differ from the previous one.
pwd_min_length	smallint	Minimum password length. The range is 2 to 10 characters. The default is 6 characters.
pwd_max_length	smallint	Maximum password length. The range is 10 to 12 characters. The default is 12 characters.
num_alpha	smallint	Minimum number of alphabetic characters that the password must include.
num_alpha_lower	smallint	Minimum number of lowercase characters that the password must include.
num_alpha_upper	smallint	Minimum number of uppercase characters that the password must include.
num_number	smallint	Minimum number of numeric characters that the password must include.
num_special	smallint	Minimum number of special characters that the password must include.

Table 2-90 password_rules (continued)

Column	Data Type	Description
special_char_set	char(64)	Special character set to use. Permitted ASCII special characters: @ ` ! " # $ % & ' ( ) * : + ; [{ , < \ | - =] } . > ^ ~ / ? _
pwd_misc_rules	smallint	• Bit 0 – 0 = Prevents a special character to be the first or last character. – 1 = Permits a special character to be the first or last character. • Bit 1 – 0 = Prevents a number to be the first or last character. – 1 = Permits a number to be the first or last character. • Bit 2 – 0 = User ID or a circular shift of the ID cannot be used in the password.. – 1 = User ID or a circular shift of the ID can be used in the password.
user_type	smallint	This column is a placeholder in case there are any groupings supported when applying password rules. The column currently has a value of 0.
reserved	smallint	Reserved for future use.

Path Descriptors

Table 2-91 provides information about the path descriptors.

Table 2-91 path_desc

Column	Data Type	Description
node_id	integer	CWM Node ID.
slot	smallint	Slot Number.
bay	smallint	Bay Number.
channel_bitmap	int	Channel_bitmap number.
descriptor	char(64)	Descriptor.
timestamp	integer	Time in int format when the last operation is done on this table.
deleted	smallint	Is this table deleted: • 1 = Yes descriptor is deleted. • 0 = No descriptor is not deleted.

Peripheral Hardware

Table 2-92 contains information about peripheral hardware.

Table 2-92 peripheral

Column	Data Type	Description
obj_id	integer	Object ID.
node_id	integer	CWM node ID.
network_id	smallint	CWM network ID.
node_type	smallint	CWM node ID.
shelf	integer	Shelf number.

Table 2-92 peripheral (continued)

Column	Data Type	Description
peri_type	smallint	BPX and IGX trap peripheral types: • 1 = Unknown • 2 = Power supply • 3 = Cabinet fan • 4 = Local bus • 5 = Temperature sensor • 6 = DC voltage monitor • 7 = External clock source • 8 = Invalid login monitor BPX and IGX utilization peripheral types: • 9 = CPU • 10 = Memory MGX 8220 shelf: • 1 = Other • 2 = Temperature • 3 = Power supply unit • 4 = DC level • 5 = Fan unit Bitmap for the PXM1E/PXM45-based platform alarm status of the shelf: • 1 = Other • 2 = Unknown • 3 = Chassis • 4 = Backplane • 5 = Container • 6 = Power supply • 7 = Cabinet fan • 8 = Sensor • 9 = Module • 10 = Port • 11 = Stack • 12 = Temperature sensor • 13 = DC level sensor • 14 = Fan speed sensor • 15 = Ethernet interface • 16 = RCON-1TO5-8850 • 17 = RCON-1TO3-8850 • 18 = RCON-1TO3-8830
serial_num	char (12)	Serial number, if applicable.

Table 2-92 peripheral (continued)

Column	Data Type	Description
hw_rev	char (6)	hardware revision, if applicable.
unit_num	smallint	Unit numbers within each peripheral group. Only one temperature sensor exists on switch. On PXM1-based and PXM1E/PXM45-based platforms, the unit_num of temperature sensor is assigned a value of 1. On PXM1E/PXM45-based nodes only one DC level sensor exists in each group. On this platform, the unit_num of DC level sensor is assigned a value of 1. However, on PXM1-based nodes, the group concept is not used. Each DC level sensor is assigned unique unit_num. On PXM1-based nodes, the group concept is not used. The unit_num for each peripheral is unique in its own peripheral category. On both PXM1-based nodes and PXM1E/PXM45-based nodes, the unit_num of ethernet interface is 1.
status	integer	Physical alarm state. This field is a bit map with these values: • 0 = (All bits ZERO): normal • 1 = (Bit0 set): above normal • 2 = (Bit1 set): below normal • 8 = (Bit3 set): AC power failure • 256 = (Bit8 set): peripheral missing • 5 = (Bit2|Bit0):oper_status up • 6 = (Bit2|Bit1):oper_status down
severity	smallint	Alarm severity. • 1 = Minor • 2 = Major
alarm_num	smallint	Alarm number.
phy_index	integer	Physical index of the peripheral on switch. Arbitrary value that uniquely identifies the physical entity. These index values might not be contiguous.
group_num	smallint	The group number of the peripheral group that the peripheral belongs to. Only one temperature sensor exists on switch. On the PXM1-based platform and on the PXM1E/PXM45-based platform, the group_num of temperature sensor is assigned a value of 1. On the PXM1-based platform, each peripheral unit_num is unique in its own peripheral category. The group concept is not used. Therefore the group_num is assigned a value of 1. On PXM1-based and PXM1E/PXM45-based nodes, the group_num of ethernet interface is 1.
reserved	integer	Reserved for future use.

Physical Lines

Table 2-93 contains information about physical lines.

For IMA lines, there will be one entry for every line that is part of the IMA group. For every AutoRoute trunk, there will be one entry in this table.

Table 2-93 phy_line

Column	Data Type	Description
phyline_obj_id	integer	Object ID.
l_network_id	smallint	Network ID.
l_node_id	integer	Node ID.
card_type	smallint	Type of card.
interface	smallint	Interface type.
l_slot	smallint	Slot number.
l_port	smallint	Port number.
l_trk	smallint	Trunk number.
l_vtrk	smallint	Virtual trunk number.
l_line	smallint	Line number.
primary_phy_line	smallint	Primary physical line number.
aps_flag	smallint	Auto protection switching (APS) flag.
commentc	char (20)	Comment field used for describing the line.
active	smallint	A value to enable the line.
status	smallint	Line status.
reserved	integer	Reserved for future use.

Physical Line Statistics Data

Table 2-94 contains information about physical line statistics.

Table 2-94 phy_ln_data

Column	Data Type	Description
timestamp	integer	Time-stamp of the statistical data record.
phyline_obj_id	integer	Physical line object ID.
l_node_id	integer	Local CWM node ID.
subobject_type	smallint	Subobject type (object dependent field).
stat_type	smallint	Statistic type (object dependent field).
bucket_type	smallint	Bucket type measured in minutes of each collection bucket.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak rate of the raw data in the sample interval.

PLCP Lines

Table 2-95 contains information about physical layer convergence protocol (PLCP) DS3 lines.

Table 2-95 plcp

Column	Data Type	Description
node_id	integer	CWM node ID.
obj_id	integer	Physical layer convergence procedure (PLCP) object ID, in the format *slot, bay, plcp*.
network_id	smallint	CWM network ID.
shelf	integer	Shelf number. This object does not apply to the BPX switch.
slot	smallint	Slot number.
line	smallint	Line number.
plcp	smallint	PLCP number. This object does not apply to the BPX switch.
enable	smallint	This object is not used.
cell_frm	smallint	PLCP cell framing (PLCP, ATM).
scramble	smallint	PLCP payload scramble. • 1 = Enable scrambling • 2 = Disable scrambling
loopback	smallint	PLCP loopback configuration. • 1 = No loopback • 2 = Remote loopback • 3 = Local loopback
commentc	char (20)	Comment field used to describe the line. This object does not apply to the BPX switch.
red_severity	smallint	Received loss of signal (LOS) or out of frame (OOF) alarm severity. • 1 = Minor • 2 = Major This object does not apply to the BPX switch.
rai_severity	smallint	Remote alarm indicator (RAI) alarm severity. • 1 = Minor • 2 = Major This object does not apply to the BPX switch.
lss_severity	smallint	Link status signal (LSS) alarm severity. • 1 = Minor • 2 = Major This object does not apply to the BPX switch.

Table 2-95 plcp (continued)

Column	Data Type	Description
stat_severity	smallint	Statistical alarm severity. • 1 = Minor • 2 = Major This object does not apply to the BPX switch.
alarm_state	integer	PLCP alarm state, represented by bitmap. • 0 = No alarm • 1 = Receiving RAI • 2 = Transmitting RAI • 4 = Receiving OOF state • 8 = Receiving LSS link up • 16 = Transmitting LSS link up • 32 = Receiving LSS link down • 64 = Transmitting LSS link down • 128 = Local loopback state • 256 = Remote line loopback state These values are not consistent with the following values from cds3PlcpLineAlarmState: • 0 = Receiving RAI • 1 = Transmitting RAI • 2 = Receiving OOF • 3 = Near end local loopback in effect • 4 = Near end remote loopback in effect This object does not apply to the BPX switch.
stat_alarm_state	integer	Statistical alarm state. • Bit 0 = Bip8CV 15-minute threshold exceeded • Bit 1 = Bip8CV 24-hour threshold exceeded • Bit 2 = Bip8ES 15-minute threshold exceeded • Bit 3 = Bip8ES 24-hour threshold exceeded • Bit 4 = Bip8SES 15-minute threshold exceeded • Bit 5 = Bip8SES 24-hour threshold exceeded • Bit 6 = Plcp SEFS 15-minute threshold exceeded • Bit 7 = Plcp SEFS 24-hour threshold exceeded • Bit 8 = Plcp UAS 15-minute threshold exceeded • Bit 9 = Plcp UAS 24-hour threshold exceeded This object does not apply to the BPX switch.

Table 2-95 plcp (continued)

Column	Data Type	Description
agg_state	smallint	Aggregate alarm state. • 0 = No alarm. • 15 = One of the parents in object hierarchy (such as card) is in alarm. This object does not apply to the BPX switch.
bit_err_corr	smallint	Bit error correction. • 1 = Disabled • 2 = Enabled This object does not apply to the BPX switch.
bay	smallint	Bay number. The default value is equal to 1. This object does not apply to the BPX switch.
reserved	integer	Reserved for future use.

PNNI

Table 2-96 contains information about Private Network-to-Network Interface.

Table 2-96 pnni_if

Column	Data Type	Description
node_id	integer	CWM node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
bay	smallint	Bay number. The default value is equal to 1.
line	smallint	Line number.
port	smallint	Port number.
if_index	integer	Value of the ifIndex object from the ifTable.
if_aggr_token	integer	Configured aggregation token for this interface. The aggregation token controls the other links that are aggregated with the link of this interface. The default is equal to 0.
lf_admwt_cbr	integer	Administrative weight of this interface for the constant bit rate (CBR) service category. The default is equal to 5040.
lf_admwt_rtvbr	integer	Administrative weight of this interface for the real-time variable bit rate (rt-VBR) service category. The default is equal to 5040.

Table 2-96 pnni_if (continued)

Column	Data Type	Description
lf_admwt_nrtvbr	integer	Administrative weight of this interface for the non-real-time (nrt-VBR) service category. The default is equal to 5040.
lf_admwt_abr	integer	Administrative weight of this interface for the available bit rate (ABR) service category. The default is equal to 5040.
lf_admwt_ubr	integer	Administrative weight of this interface for the unspecified bit rate (UBR) service category. The default is equal to 5040.
if_mobility	smallint	Interface mobile PNNI.
reserved	integer	Reserved for future use.

PNNI Logical Nodes

Table 2-96 contains information about Private Network-to-Network Interface (PNNI) related information of logical nodes, links, and peer groups. This table is populated when the multiple peer group (MPG) feature is turned on.

Table 2-97 nodal_ig

Column	Data Type	Description
pnni_node_id	char (44)	PNNI node ID. The default is 0.
pnni_node_name	char (35)	Logical node name. This field is the physical node name without the 2- digit index.
node_id	integer	CWM node ID or the corresponding physical node. The default is -1.
pnni_node_index	smallint	PNNI node index. The default is 0.
pgl_prority	smallint	Value to indicate whether or not this node is capable of becoming a peer group leader (PGL). A value of 0 (default) indicates that the node is either unwilling or unable to become PGL.
pnni_oper_status	smallint	PNNI operational status. • 0 = Down • 1 = Up
pnni_admin_status	smallint	PNNI administrative status. • 0 = Down • 1 = Up

Table 2-97 nodal_ig (continued)

Column	Data Type	Description
pgl	smallint	Value to indicate whether or not this node is a peer group leader (PGL). • 0 = Not peer group leader • 1 = Peer group leader
lowest_level	smallint	Value to indicate whether or not the node is at its lowest level. • 0 = Node is not at lowest level, • 1 = Otherwise
restricted_transit	smallint	Value that determines whether or not the node is deemed restricted transit. • 0 = Node not configured to be restricted transit node • 1 = Otherwise
complex_node_rep	smallint	Value to determine whether or not the node is deemed complex. • 0 = Simple node representation • 1 = Complex node representation
restricted_branch+	smallint	Value to determine whether or not restricted branch points are supported. • 0 = Additional branch point supported • 1 = Additional branch points not supported
atm_address	char (40)	ATM end system address (AESA). The default is 0.
peer_group_id	char (28)	ID of the peer group in which this node is located. The default is 0.
parent_lgn_id	char (44)	PNNI node ID of the logical group node (LGN). The LGN represents the peer group in which this node is located. This value is 0 for all the nodes in the highest peer group and non-PGL nodes. The default is 0.

PNNI Logical Links

Table 2-96 contains information about Private Network-to-Network Interface (PNNI) logical links to support multiple peer groups (MPGs).

Table 2-98 pnni_link_ig

Column	Data Type	Description
type	smallint	Type of link. • 288 = Horizontal link • 289 = Up link
l_pnni_node_id	char (44)	PNNI ID of the local logical node.
l_port	integer	Local port.

Table 2-98 pnni_link_ig (continued)

Column	Data Type	Description
r_pnni_node_id	char(44)	PNNI ID of the remote logical node (upnode for up links).
r_port	integer	Remote port. For up links the value is 0.
aggr_token	integer	Derived aggregation token.

PNNI Node Statistics Data

Table 2-99 contains information about Private Network-to-Network Interface PNNI node statistics.

Table 2-99 pnni_nodal_data

Column	Data Type	Description
timestamp	date time year to second	Time-stamp of the statistical data record.
l_node_id	smallint	Local CWM node ID.
subobject_type	smallint	Subobject type.
stat_type	smallint	Statistic type.
bucket_type	smallint	Bucket type measured in minutes of each collection bucket.
totald	integer	Total raw data collected in the sample interval.
obj_id	integer	—
peak	float	—

Port Descriptor

Table 2-100 contains information about the port descriptors. This information is contained in the port_desc table of the stratacom database.

Table 2-100 port_desc

Column	Data Type	Description
node_id	integer	CWM node ID
slot	smallint	Slot number.
logical_port	smallint	Logical Port Number
vPort	smallint	Virtual Port Number Used Only for BXM Virtual port and RPM subinterfaces.
descriptor	char(64)	Descriptor.
timestamp	integer	Time in integer format when the last operation was done on this table.

Table 2-100 port_desc (continued)

Column	Data Type	Description
deleted	smallint	Is this table deleted • 1 = Yes descriptor is deleted • 0 = No descriptor is not deleted

Port Queues

Table 2-101 contains information about the service queue table. In AUSM-4, the service queue table has 64 entries, 16 for each port. In addition, four queues are reserved for operation, administration, and maintenance (OAM) and integrated local management interface (ILMI) traffic.

In AUSM-8, the service queue table has 128 entries, 16 for each port. In addition eight queues are reserved for OAM and ILMI traffic.

Table 2-101 port_ques

Column	Data Type	Description
l_node_id	integer	Node ID.
l_slot	smallint	Slot number.
l_port	smallint	Port number.
q_index	smallint	Egress queue number. In AUSM-4, value is in the range 1 through 12.
q_depth	integer	Maximum depth of the egress queue. In AUSM-4, value is in the range 1 through 8000. For FRSM in PXM1E, this value indicates the peak egress queue depth for the logical port. The total queue depth of all connections mapped to this queue should not exceed this value.
clp_hi_thresh	integer	High cell loss priority (CLP) threshold of the egress queue. In AUSM-4, value is in the range 1 through 8000. This value must be less than or equal to the egrQDepthMax object.
clp_lo_thresh	integer	Low CLP threshold of the egress queue. In AUSM-4, value is in the range 1 through 8000. This value must be less than or equal to the egrQCLPThreshHigh object.
efci_thresh	integer	Threshold of the egress queue for explicit forward congestion indication (EFCI). In AUSM-4, value is in the range 1 through 8000. This value must be less than or equal to the egrQDepthMax object.

Table 2-101 port_ques (continued)

Column	Data Type	Description
ecn_thresh	integer	Explicit congestion notification (ECN) threshold for the logical port. If the total queue depth of all connections mapped to this port queue exceeds this threshold, then the appropriate ECN bit (FECN in the downstream direction and BECN in the upstream direction) gets set.
de_thresh	smallint	Discard eligible (DE) threshold for the logical port. If the total queue depth of all connections mapped to this port queue exceeds this threshold, and the DE bit is set in the incoming frame, then the frame gets dropped.
reserved	integer	Reserved for future use.

PPP Link

Table 2-102 allows users to add PPP Links (lines) to an MP Bundle.

Table 2-102 ppp_link

Column	Data Type	Description
node_id	integer	CWM node ID.
network_id	integer	Network ID of the node in.
shelf	integer	Shelf number.
slot	smallint	Slot number.
bay	smallint	Bay #, default value is 1.
link_id	integer	A unique value identifies a PPP link: (1...511) for regular ppp link. If the link_id is greater than 511, it is not the regular ppp link but rpm ppp link. This value matched with the link ID in the CLI.
line	smallint	Line who associate with this ppp link
bundle_id	integer	Bundle ID who associate to this ppp link
admin_status	smallint	ifAdminStatus of the ppp link • 1 = down • 2 = up, ready to pass packets • 3 = testing, in some test mode

Table 2-102 ppp_link

Column	Data Type	Description
oper_status	smallint	The current operational state of the interface: • 1 = down • 2 = up, ready to pass packets • 3 = testing, in some test mode • 4 = unknown, status cannot be determined for some reason. • 5 = dormant • 6 = notPresent, some component is missing • 7 = lowerLayerDown, down due to state of lower-layer interface(s)
link_if_idx	integer	ifIndex corresponds to this PPP link. In the implementation, this value is the same as in cPPPLinkIndex.
intf_if_idx	integer	ifIndex of the interface over which this PPP link is operating
bundle_if_idx	integer	ifIndex of the multilink bundle interface this PPP link belongs to. The ifType corresponding to this ifIndex is pppMultilinkBundle(108). If this PPP link does not belong to any multilink bundle, the value of this object is 0.
descriptor	char (65)	Description of the link
restart_t	integer	Timeout value waiting for remote end to respond to Configure-Request or Terminate-Request packets. (0..60000) Default = 3000
max_conf_retry	smallint	the maximum number of retries to send configure-request packets (1..255) Default = 10
max_term_retry	smallint	Maximum number of retries to send terminate-request packets (1..255) Default = 2
max_fail	smallint	Maximum number of sending a configure-nak packet without sending configure-ack. When this number is reached, the rejected configure-reject will be sent. (1..255) Default = 5

Table 2-102 ppp_link

Column	Data Type	Description
lcp_timeout	integer	Amount of time to close the LCP Opened state if the link does not received an Echo-Reply packet after the Echo-Request packet is sent (1..2147483647) Default = 10000
lcp_mru	integer	Maximum Received Unit for this packet. (0..2147483647) Default = 1500
lcp_pfc_tran	smallint	Control to enable (true(1)) or disable (false(2)) Protocol Field Compression (PFC) in PPP packets transmitted from this end • 1 = enable • 2 = disable Default = false
lcp_pfc_t_opst	smallint	Local PPP entity can use Protocol Compression when transmitting packets to the remote PPP entity for LCP. the operation status of cpppLinkLcpPFCTransmit. meaningful only when the link has reached the open state (ifOperStatus is up)
lcp_pfc_recv	smallint	This end is capable (true(1)) of receiving Protocol Field Compression (PFC) PPP packets for LCP.enable (1): • 1 = true • 2 = false Default = false
lcp_acfc_tran	smallint	Provides control to enable (true(1)) or disable (false(2)) Protocol Address/Control Field Compression (ACFC) in PPP packets transmitted from this end: • 1 = enable • 2 = disable Default = false
lcp_acfc_t_opst	smallint	Local PPP entity can use Address and Control Compression when transmitting packets to the remote PPP entity for LCP.
lcp_acfc_recv	smallint	Indicates whether this end is capable true(1) of receiving Address/Control Field Compression (ACFC) PPP packets: • 1 = enable • 2 = disable Default = false

Table 2-102 ppp_link

Column	Data Type	Description
lcp_loop_chk	smallint	Provides control to enable (true(1)) or disable (false(2)) loopback detection mechanism on the PPP link: • 1 = enable • 2 = disable Default = false
lcp_echo_m_retry	smallint	Maximum number of retries to send Echo-request packets. (0..255)
link_status	byte	the status of the PPP link interface. It is the reason of why the oper_status is down. If the oper_staus is up, this should be 0. BitPos Alarm: • 0 = pppLinkNoAlarm • 1 = pppLinkLowerLayerDown • 3 = pppLinkAdminDown • 3 = pppKeepAliveTimeOut • 4 = pppRecGoodConfigInOpen • 5 = pppRecBadConfigInOpen • 6 = pppRecConfigAck • 7 = pppRecConfigNackReject • 8 = pppRecTerminateAck • 9 = pppRecTerminateReq • 10 = pppRecUnknowCode • 11 = pppRecGoodCodeReject • 12 = pppRecBadCodeReject • 13 = pppRecGoodProtoReject • 14 = pppRecBadProtoReject • 15 = pppNegotiationFail • 16 = pppHardwareFail • 17 = pppMaxFailures • 18 = pppMaxConfigures • 19 = pppInLoopback • 20 = pppUnspecified
r_mru	integer	MRU for the remote PPP entity

Table 2-102 ppp_link

Column	Data Type	Description
ds1_lnk_ds0	smallint	First DS0 channel number when DS1 link is channelized. If cpdDS1LinkChannelized isbfalse(2), the value of this object is 0. If cpdDS1LinkChannelized is true(1), the value of this object has to be greater than 0. The maximum range of the values depends on the dsx1LineType of the DS1 link. (0..32) Default = 0
ds1_lnk_num_ds0	smallint	Number of contiguous DS0 channels on the channelized DS1 interface for the PPP link. If cpdDS1LinkChannelized is false(2), the value of this object is 0. If cpdDS1LinkChannelized is true(1), the value of this object has to be greater than 0. The last DS0 channel number equals to cpdDS1LinkStartDS0 + cpdDS1LinkNumDS0 -1. The last DS0 channel number should not exceed the maximum valid channel range supported by the DS1 line type. (0.32) Default = 0
ds1_lnk_56kmode	smallint	If 56Kbps mode is true(1) or false(2) on DS0 channel(s) defined on the link. If 56Kbps mode is enable, the least significant bit will be ignored, the channel is only 7 bits wide and the resulting DS0 bandwidth is 64K * (7/8) = 56K). If cpdDS1LinkChannelized is false(2), the value of this value of this object has no meaning. • 1 = enable • 2 = disable Default = false
reserved	int	reserved for future use

Table 2-103 shows the descriptor for the PPP Link..

Table 2-103 ppp_link_desc

Column	Data Type	Description
node_id	integer	SV+ Node ID
slot	smallint	Slot Number
bay	smallint	Bay Number
bundle_id	smallint	Bundle id number
link_id	smallint	Link ID

Table 2-103 ppp_link_desc

Column	Data Type	Description
descriptor	char(64)	Descriptor
timestamp	integer	Time in int format when the last operation is done on this table.
deleted	smallint	Indicates if the table is deleted: • 1 = Yes descriptor is deleted • 0 = No descriptor is not deleted

PPP Mux

Table 2-104 allows users to configure multiplexing protocol options on a PPP link.

Table 2-104 ppp_mux

Column	Data Type	Description
node_id	integer	CWM node ID
shelf	integer	Shelf number
slot	smallint	Slot number
bay	smallint	Bay #, default value = 1
if_index	integer	ifIndex of an MP Bundle who owns this mux (1.2147483647).
enable	smallint	Enable PPP Multiplexing. • 1 = enable • 2 = disable
pid	integer	Defaulted Protocol ID for PPP Multiplexing. This object has no meaning if the enable is not true (0.65535).
max_subfr_num	integer	Maximum number of subframes in a multiplexed PPP frame. This object has no meaning if the enable is not true (0.65535). Default = 15
max_subfr_len	integer	Maximum length of a subframe in a multiplexed PPP packet. This object has no meaning if the cPPPMuxEnabled is not equal to true(1) (1..65535). Default = 64
max_fr_len	integer	Maximum length of a multiplexed PPP packet. This object has no meaning if the enable is not true (1..65535). Default = 256
timer	integer	Maximum time of the multiplexing process to multiplex PPP packets. This object has no meaning if the enable is not true (0..2147483647). Default = 600
reserved	int	Reserved for future use

Preferred Routes

Table 2-93 contains information about preferred route configurations.

Table 2-105 pref_route_config

Column	Data Type	Description
network_id	integer	CWM network ID.
source_node_id	integer	CWM source node ID in which the preferred route is provisioned.
pref_route_id	integer	Route ID of the provisioned preferred route. The range is 0 through 65535.
ne_count	smallint	Number of network elements in the preferred route. The range is 1 through 20.
dest_node_id	integer	CWM destination node ID.
status	smallint	Status of the preferred route. • 1 = Partial (default) • 2 = Complete

Preferred Route Elements

Table 2-106 contains information about the network elements in the preferred route.

Table 2-106 pref_route_nw_elem

Column	Data Type	Description
network_id	integer	CWM network ID.
source_node_id	integer	CWM source node ID in which the preferred route is provisioned.
pref_route_id	integer	Route ID of the provisioned preferred route. The range is 0 through 65535.
ne_pos	smallint	Relative position of the node within the preferred route. The range is 1 through 20.
ne_node_name	char(32)	Node name of the intermediate network element.
ne_slot	integer	Slot number of the intermediate network element.
ne_bay	integer	Bay number of the intermediate network element.
ne_line	integer	Line number of the intermediate network element.
ne_port	integer	Port number of the intermediate network element.
ne_last	smallint	Value to indicate the last node of the preferred route. • 1 = False • 2 = True

PXM1E Connection Statistics Data

Table 2-107 contains information about PXM1E connection statistics.

Table 2-107 pxm1E_conn_data

Column	Data Type	Description
timestamp	integer	Time-stamp of the statistical data record.
con_obj_id	integer	Connection object ID.
l_node_id	integer	Local CWM node ID.
subobject_type	smallint	Subobject type (object dependent field).
stat_type	smallint	Statistic type (object dependent field).
bucket_type	smallint	Bucket type measured in minutes of each collection bucket.
totald	float	Total raw data collected in the sample interval.
peak	float	Peak rate of the raw data in the sample interval.

Redundant Cards

Table 2-108 contains information about redundant cards.

Table 2-108 redundantcard

Column	Data Type	Description
network_id	smallint	CWM network ID.
node_id	integer	CWM node ID.
pri_slot	smallint	Primary slot number.
pri_type	smallint	Primary card type.
pri_status	smallint	Primary card status.
sec_slot	smallint	Secondary slot number.
sec_type	smallint	Secondary card type.
sec_status	smallint	Secondary card status.
covered_slot	smallint	Covered slot number.
red_type	smallint	Redundancy type. • 1 = 1-to-1 (Y cable) • 2 = 1-to-n
reserved	integer	Reserved for future use.

RPM Connections

Table 2-109 contains information about RPM, RPM-PR, and RPM-XF connections.

Table 2-109 rpm_connection

Column	Type	Description

con_obj_id	integer	Connection object ID derived by the CWM based on the slot number and local channel number (LCN).
		This field is four bytes with the following format:
		`1             3         Bytes`
		`+------+------------------+`
		`|l_slot|       LCN        |`
		`+------+------------------+`

master_flag	smallint	Master flag. • 1 = True • 2 = False (default)
l_network_id	smallint	Network ID.
l_node_id	integer	Node ID.
l_slot	smallint	Slot number of the local RPM card, range 1 through 32.
l_line	smallint	RPM port adapter interface at the local end of the connection.
l_port	smallint	Sub-interface number at the local end of the connection. The range is 0 through 32767.
l_vpi	smallint	Local virtual path identifier (VPI). RPM in MGX 8850 (PXM45) supports the following values: • 0 = VCC connection • 1 through 255 = VPC connection The local VPI, local VCI, and NSAP represent the local end point in this connection.
l_vci	integer	Local virtual channel identifier (VCI). RPM in MGX 8850 (PXM45) supports the following values: • 1 through 3803 = VCC connection • 1 through 65535 = VPC connection The local VCI, local VPI, and NSAP represent the local end point for this connection.
r_network_id	smallint	Remote network ID.
r_node_id	integer	Remote Node ID.
r_slot	smallint	Remote slot number derived from rpmRemoteNsap. The range is 1 through 32.
r_line	smallint	Remote line derived from rpmRemoteNsap.
r_port	smallint	Remote port derived from rpmRemoteNsap.

Table 2-109 rpm_connection (continued)

Column	Type	Description
r_vpi	smallint	Remote VPI derived from rpmChanRemote. RPM in MGX 8850 (PXM45) supports the following values: • 0 = VCC connection • 1 through 255 = VPC connection The local VPI, local VCI, and NSAP represent the remote end point in this connection.
r_vci	integer	Remote VCI derived from rpmChanRemoteVci. RPM in MGX 8850 (PXM45) supports the following values: • 1 through 3803 = VCC connection • 1 through 65535 = VPC connection The local VCI, local VPI, and NSAP represent the remote end point for this connection.
sub_type	smallint	Service type. • 1 = ATFR • 2 = VBR • 3 = CBR • 5 = ABSRSTD • 6 = ABRFST • 10 = UBR • 13 = VBR3 • 14 = ABR1 These values are consistent with the atm_connection table. This object is mapped from the rpmChanServiceType object. RPM in MGX 8850(PXM45) supports the following values: • 7 = VBR3nRT • 8 = UBR1 • 10 = ABR

Table 2-109 rpm_connection (continued)

Column	Type	Description
status	smallint	Status of the channel. In MGX 8850 (PXM1), the values are: • 1 = Clear • 2 = Fail In MGX 8850 (PXM45), this field represents the secondary status that defines the possible alarms at an endpoint. • 0 = Clear • 1 = ingAisRdi—Endpoint is receiving AIS or RDI cells in the ingress direction. • 2 = egrAisRdi—Endpoint is receiving AIS or RDI cells in the egress direction. • 4 = Conditioned—The endpoint is out of service due to a routing failure or a maintenance operation. • 8 = interfaceFail—The connection interface has failed. • 16 = ccFail—The OAM continuity check between the connection and the peer endpoint has detected a failure. For RPM, this failure is interpreted as an OAM loopback failure. • 32 = Mismatch—The connection exists in the SM database but not in the network controller database. • 64 = ingAbitFail—Feeder connection detects A-bit failure in the ingress direction.
peak	integer	Peak cell rate, in the range 0 through 353208 cells per second. This field is used in MGX 8230, MGX 8250, and MGX 8850 (PXM1), but not in MGX 8850 (PXM45).
average	integer	For ABR service type, this field is the minimum cell rate (MCR) measured in cells per second. For VBR service type, this field is the sustainable cell rate measured in cells per second. This field is used in MGX 8230, MGX 8250, and MGX 8850 (PXM1), but not in MGX 8850 (PXM45).
burst	integer	Number of ATM cells the virtual circuit can transmit, in the range 1 through 65535. This field is used in MGX 8230, MGX 8250, and MGX 8850 (PXM1), but not in MGX 8850 (PXM45).
mid_low	smallint	Channel middle low that is the starting message identifier number of the PVC, in the range 0 through 1023. This field is not used in MGX 8850 (PXM45).
mid_high	smallint	Channel middle high that is the ending message identifier number of the PVC, in the range 0 through 1023. This field is not used in MGX 8850 (PXM45).

Table 2-109 rpm_connection (continued)

Column	Type	Description
oam	smallint	Frequency of generating an OAM F5 loopback cell, in the range 0 through 600 seconds.
inverse_arp	smallint	Frequency of sending an inverse ARP datagram, in the range 0 through 60 minutes. The default value is 15 minutes.
aal_encap	smallint	ATM adaptation layer (AAL) channel encapsulation type. For MGX 8230, MGX 8250, and MGX 8850 (PXM1) values are • 1 = aal5snap • 2 = aal34smds • 3 = aal5nlpid • 4 = qsaal • 5 = ilmi • 6 = aal5muxXNS • 7 = aal5muxIP • 8 = aal5muxVINES • 9 = aal5muxNOVELL1 • 10 = unknown For MGX 8850 (PXM45), values are • 1 = aal5ciscoPPP • 2 = aal5muxAPOLLO • 3 = aal5muxAPPLETALK • 4 = aal5muxDECNET • 5 = aal5muxIP • 6 = aal5muxIPX • 7 = aal5muxPPP • 8 = aal5muxVINES • 9 = aal5muxXNS • 10 = aal5nlpid • 11 = aal5snap (default) • 12 = ilmi • 13 = qsaal
vcd	integer	Virtual circuit descriptor, in the range 0 through 4095. The CLI uses this value as a unique identifier for the connection.
virtual_template	integer	Virtual template ID, in the range 0 through 25. The default value is 0.
commentc	char (20)	Comment field.

Table 2-109 rpm_connection (continued)

Column	Type	Description
vp_flag	smallint	VP/VC endpoint. • 1 = True—VP endpoint • 2 = False—VC endpoint
rate_up	smallint	Rate increase factor (RIF) for RPM in MGX 8850 (PXM45). • 1 = One • 2 = One over 2 • 4 = One over 4 • 8 = One over 8 • 16 = One over 16 (default) • 32 = One over 32 • 64 = One over 64 • 128 = One over 128 • 256 = One over 256 • 512 = One over 512 • 1024 = One over 1024 • 2048 = One over 2048 • 4096 = One over 4096 • 8192 = One over 8192 • 16384 = One over 16384 • 32768 = One over 32768

Table 2-109 rpm_connection (continued)

Column	Type	Description
rate_down	smallint	Rate decrease factor for RPM in MGX 8850 (PXM45). • 1 = One • 2 = One over 2 • 4 = One over 4 • 8 = One over 8 • 16 = One over 16 (default) • 32 = One over 32 • 64 = One over 64 • 128 = One over 128 • 256 = One over 256 • 512 = One over 512 • 1024 = One over 1024 • 2048 = One over 2048 • 4096 = One over 4096 • 8192 = One over 8192 • 16384 = One over 16384 • 32768 = One over 32768
if_index	integer	Port value.
shelf	smallint	Shelf number.
bay	smallint	Bay number.
vt_port	smallint	Connection type. • 0 = VCC • 1 = VPC
lcn	integer	Logical channel number (LCN) that identifies a connection. • 17 through 3824 = VCC • 3841 through 4095 = VPC
upd_counter	integer	Counter that determines whether or not a channel in the table has been modified and requires an upload. The data type is unsigned 32.
l_nsap_addr	byte	Internal network service access point (NSAP) assigned to a local endpoint.
r_nsap_addr	byte	NSAP of the peer endpoint. The r_node_id, r_slot, r_line, and r_port values are decoded from this field.
ctlr_id	smallint	Controller ID associates an endpoint with a specific controller. Values are in the range 1 through 255. The default value is 2.

Table 2-109 rpm_connection (continued)

Column	Type	Description
max_cost	integer	Cost of the route per the number of segments in the connection. The range is 0 through 0xffffffff. The default value is 0xffffffff.
oper_status	smallint	Primary operational status of an endpoint. • 1 = operOk • 2 = operFail • 3 = adminDown • 16384—Upper level alarm (bit 14)
pcr	integer	PCR, in the range 7 through 353208.
mcr	integer	MCR, in the range 7 through 353208.
scr	integer	Sustainable cell rate (SCR), in the range 7 through 353208.
cdv	integer	Cell delay variation, in the range 0 through 16777215.
ctd	integer	Network transfer delay, in the range 0 through 65535.
mbs	integer	Maximum burst size (MBS), in the range 1 through 65536 cells.
cdvt	integer	Cell delay variation tolerance (CDVT), in the range 0 through 4292967295.
lper_util	smallint	Local percent utilization, in the range 1 through 100. The default is 100.
r_pcr	integer	Remote PCR, in the range 7 through 353208.
r_mcr	integer	Remote MCR, in the range 7 through 353208.
rper_util	smallint	Remote percent utilization, in the range 0 through 100. The default value is 100.
icr	integer	Initial cell rate (ICR), in the range 0 through 4294967295.
adtf	integer	Allowed cell rate (ACR) decrease time factor, in the range 1 through 1023.
nrm	smallint	Maximum number of cells a source sends for each forwarded resource management (RM) cell. • 1 = nrm2 • 2 = nrm4 • 3 = nrm8 • 4 = nrm16 • 5 = nrm32 • 6 = nrm64 • 7 = nrm128 • 8 = nrm256

Table 2-109 rpm_connection (continued)

Column	Type	Description
trm	smallint	Upper limit of the time between the forwarded RM cells for an active source. • 1 = trm0point78125 • 2 = trm1point5625 • 3 = trm3point125 • 4 = trm6point25 • 5 = trm12point5 • 6 = trm25 • 7 = trm50 • 8 = trm100
cdf	smallint	Cutoff decrease factor. • 1 = cdf0 • 2 = cdfOneOver64 • 3 = cdfOneOver32 • 4 = cdfOneOver16 • 5 = cdfOneOver8 • 6 = cdfOneOver4 • 7 = cdfOneOver2 • 8 = cdfOne
frtt	integer	Fixed round trip time (FRTT), in the range 0 through 16700000.
tbe	integer	Transient buffer exposure (TBE), in the range 0 through 16777215.
ais_iw_cap	smallint	AIS capability of an SPVC endpoint. • 1 = e2eAisCapable—Endpoint is capable of detecting or generating end-to-end AIS. • 2 = segAisCapable—Endpoint is capable of detecting or generating segmented AIS.
clr	integer	Cell loss ratio, in the range 1 through 15.
oam_mgr	smallint	OAM management for the channel, either enabled or disabled. • 1 = True (enabled) • 2 = False (disabled) The default value is 2.
oam_up_count	smallint	Number of consecutive end-to-end F5 OAM loopback cells that make an SVPC connection up. The range is 1 through 600. The default value is 5.
oam_down_count	smallint	Number of consecutive end-to-end F5 OAM loopback cells that make an SVPC connection down. The range is 1 through 600. The default value is 5.

Table 2-109 rpm_connection (continued)

Column	Type	Description
oam_retry_intvl	smallint	Frequency that end-to-end F5 OAM loopback cells are transmitted. The range is 1 through 1000. The default value is 1.
rout_pri	smallint	Routing priority of the connection in the range 1 through 15. The default is 8.
slave_type	smallint	This object indicates whether a master endpoint has a persistent slave or not. A connection with a master and a non-persistent slave is considered a single-ended SPVC. • 1 = Persistent slave • 2 = Non persistent slave
r_src	integer	Sustainable cell rate for the remote to local direction. The range is 0 through 4294967295 cps.
r_mbs	integer	Maximum burst size (MBS) used for the remote to local direction. The range is 0 through 5000000 cps.
r_cdv	integer	Maximum tolerable cell delay variation (CDV) for the remote to local direction. The range is 0 through 16777215 microseconds. The default value is 16777215.
r_ctd	integer	Maximum tolerable network transfer delay for the remote to local direction. The range is 0 through 65535 milliseconds. The default value is 0.
pref_route_id	integer	This object serves to associate a preferred route with a connection. The value ’0’ means no preferred route is associated with this connection. If the value of this set to 0, the object vismChanDirectRoute is automatically set to FALSE by the switch. The range is 0 through 65535. The default is 0.

Table 2-109 rpm_connection (continued)

Column	Type	Description
direct_route_flag	smallint	This object serves to associate a preferred route as directed route (correspond to the preferred route object vismChanPrefRouteId). A directed route specifies that the associated preferred route is the only permission route for the connection to take. Should the associated preferred route be unavailable, the connection is failed. The object is not applicable if there is no associated preferred route with the connection, or in other words, if the object vismChanPrefRouteId has a value of 0. • 1 = True • 2 = False (default)
sa_vpi_lo	short	The low end of the VPI range for this SVC aggregate (0..4095)
sa_vpi_hi	short	The high end of the VPI range for this SVC aggregate (0..4095)
sa_egr_pctbw	short	the total egress bandwidth that is used by SVC connections within the resource partition (1..100)
sa_ing_pctbw	short	the total ingress bandwidth that is used by SVC connections within the resource partition. (1..100)
sac_vad_tol	short	the customer accepted drop rate for voice connections when the bandwidth usage exceeds allowed value (1..10000)
sac_vad_dc	short	the talk-spurts duty cycle. in percentage. (1..99)
reserved	integer	Reserved for future use.

RPM Ports

Table 2-110 contains information about RPM ports.

Table 2-110 rpm_port

Column name	Type	Description

port_obj_id	integer	Port object ID that is a 4-byte field.
		`  1      1        2      Bytes`
		`+----+------+--------+`
		`| 7  |l_slot| l_port |`
		`+----+------+--------+`

Table 2-110 rpm_port (continued)

Column name	Type	Description
l_network_id	smallint	Network ID.
l_node_id	integer	Node ID.
l_slot	smallint	Logical slot number of the RPM card, in the range 1 through 32.
l_line	smallint	For MGX 8850 (PXM1), the line type is ATM interface. The value is 1. For MGX 8850 (PXM45/PXM1E), this value does not have meaning.
l_port	smallint	Port sub-interface, in the range 0 through 32767.
ip_address	integer	IP address of the sub-interface (4 bytes).
subnet_mask	integer	Subnet mask of the sub-interface (4 bytes).
status	smallint	Status. For RPM on MGX 8850 (PXM1E/PXM45): • 1 = Up • 2 = Down • 3 = Testing • 4 = Unknown For RPM on MGX 8850 (PXM1): • 0 = Inactive • 1 = Clear • 2 = Fail
commentc	char (20)	Comment field. For RPM on MGX 8850 (PXM1E/PXM45) only.
shelf	integer	Shelf number. For RPM on MGX 8850 (PXM1E/PXM45) only.
bay	smallint	Bay number. For RPM on MGX 8850 (PXM1E/PXM45) only.
adapter_if	integer	RPM port adapter interface. For RPM on MGX 8850 (PXM1E/PXM45) only.
subif_type	smallint	Link type of the sub-interface. • 1 = Point-to-point • 2 = Multipoint • 3 = Label switching For RPM on MGX 8850 (PXM1E/PXM45) only.

Table 2-110 rpm_port (continued)

Column name	Type	Description
admin_status	smallint	Administrative state of the interface. • 1 = Up • 2 = Down • 3 = Testing For RPM on MGX 8850 (PXM1E/PXM45) only.
reserved	integer	Reserved for future use.

Resource Partitions

Table 2-111 contains information about the resource partitions on the following cards:

- RPM
- RPM-PR
- RPM-XF

Table 2-111 rsc_part

Column	Type	Description

obj_id	integer	Object ID that is a 4-byte field in the format *slot, port, part*.
		`1      2       1   Bytes`
		`+----+--------+----+`
		`|slot| port   |part|`
		`                Id`
		`+----+--------+----+`

network_id	smallint	Network ID.
node_id	integer	Node ID.
slot	smallint	Slot number.
line	smallint	Line number associated with the logical interface. PXM cards have four physical lines. If this partition belongs to an IMA port, line indicates IMA group number with the 15th bit set.
port	integer	Logical interface number. For the RPM and RPM-PR the value is -1.
ctrlr_type	smallint	Index for controller type. • 1 = PAR • 2 = PNNI • 3 = TAG (LSC)
ingr_pctbw	integer	Percentage of logical interface bandwidth that is available for UNI channels.
egr_pctbw	integer	Percentage of aggregate physical line bandwidth that is available for the broadband interface in the egress. The default value is 0%.

Table 2-111 rsc_part (continued)

Column	Type	Description
vpi_low	integer	Start of the virtual path identifier (VPI) range reserved for the partition, in the range 0 through 4095. For RPM or RPM-PR the range is 0 through 255.
vpi_high	integer	End of the VPI range reserved for the partition, in the range 0 through 4095. For RPM or RPM-PR the range is 0 through 255. If the VPI range is configured as 0 through 0 on the RPM or RPM-PR, then the partition terminates only VCCs.
vci_low	integer	Start of the virtual channel identifier (VCI) range reserved for the partition, in the range 0 through 65535. This field is valid only for logical interfaces configured with a single VPI.
vci_high	integer	End of the VCI range reserved for the partition. This field is valid only for logical interfaces configured with a single VPI. If the VPI range is configured as 0 through 0 on the RPM or RPM-PR, then the VCI range is 1 through 3824. If the VCI range is 0 through 65535, then the range is reserved for each VPI in the partition (used to terminate VPCs).
max_chans	integer	Maximum channels available to the controller, in the range 0 through 4047. The following values are applicable for a PXM1E platform: • 0 through 32767 = AUSM-8T1/E • 0 through 248 = CESM For CESM-T3/E3 and CESM-8T1/E1, the value is 1 to indicate one channel per port. • 0 through 4000 = FRSM
min_chans	integer	Minimum channels available to the controller. The default value is equal to 0.
if_index	integer	Interface index that is a unique value for each interface.
shelf	integer	Shelf number.
bay	smallint	Bay number.
part_id	smallint	Resource partition ID, in the range 1 through 255.
ctrlr_id	smallint	Controller ID, in the range 1 through 255.
vtrk_id	smallint	Virtual trunk ID. The default value is equal to 0.
egr_guar_bw	integer	Guaranteed percentage bandwidth in the egress direction. The range is 0 through 1000000. The default value is equal to 0. For RPM or RPM-PR the value is in multiples of 10,000.

Table 2-111 rsc_part (continued)

Column	Type	Description
egr_max_bw	integer	Maximum percentage bandwidth in the egress direction. The range is 0 through 1000000. The default value is equal to 0. For RPM or RPM-PR the value is in multiples of 10,000.
ing_guar_bw	integer	Guaranteed percentage bandwidth in the ingress direction. The range is 0 through 1000000. The default value is 0. For RPM or RPM-PR the value is in multiples of 10,000.
ing_max_bw	integer	Maximum percentage bandwidth in the ingress direction. The range is 0 through 1000000. The default value is 0. For RPM or RPM-PR the value is in multiples of 10,000.
part_guar_con	integer	Guaranteed number of connections that can be configured on the partition. The range is 0 through 131072. The default value is 0. For RPM or RPM-PR the range is bounded by the VPI and VCI range.
part_max_con	integer	Maximum number of connections that can be configured on the partition. The range is 0 through 131072. For RPM or RPM-PR the range is bounded by the VPI and VCI range.
ilmi_enabled	smallint	Flag to enable Integrated Local Management Interface (ILMI) signaling resource partition. • 1 = Enable • 2 = Disable (default) This field is not supported in RPM or RPM-PR.
signal_vpi	integer	VPI on which signaling cells arrive, in the range 0 through 255. This field is not supported in RPM or RPM-PR.
signal_vci	integer	VCI on which signaling cells arrive, in the range 0 through 65535. This field is not supported in RPM or RPM-PR.
ilmi_trap_enable	smallint	ILMI trap generation. • 1 = Enable • 2 = Disable This field is not supported in RPM or RPM-PR.
ilmi_e_poll_intvl	integer	Amount of time to establish ILMI connectivity, in the range 1 through 65535 seconds. The default value is 1. This field is not supported in RPM or RPM-PR.

Table 2-111 rsc_part (continued)

Column	Type	Description
ilmi_ck_poll_intvl	integer	Amount of time to detect a loss of ILMI connectivity, in the range 0 through 65535 seconds. The default value is 5. This field is not supported in RPM or RPM-PR.
ilmi_poll_intvl_fr	integer	ILMI consecutive polls factor, in the range 0 through 65535. The default value is 4. This field is not supported in RPM or RPM-PR.
reserved	integer	Reserved for future use.
sa_vpi_lo	smallint	The low end of the VPI range for this SVC aggregate (0...4095).
sa_vpi_hi	smallint	The high end of the VPI range for this SVC aggregate (0...4095).
sa_egr_pctbw	smallint	The total egress bandwidth that the SVC connections use within the resource partition (1...100).
sa_ing_pctbw	smallint	The total ingress bandwidth that the SVC connections use within the resource partition (1...100).
sac_vad_tol	smallint	The customer accepted drop rate for voice connections when the bandwidth usage exceeds the allowed value (1...1000).
sac_vad_dc	smallint	The talk-spurts duty cycle in percentage (1...99).

RTP Connection

Table 2-112 contains information about attributes that are used to set up a static trunked VoIP connection between a local VISM endpoint and a remote VISM endpoint.

Table 2-112 rtp_conn

Column	Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
conn_num	smallint	Index of the rtp_connection table. This object corresponds to the vismRtpConnNum object.
lcn	integer	RTP related LCN (PVC). This object corresponds to the vismRtpLcn object.
endpt_num	smallint	Endpoint number to which the RTP connection is associated. The value is the same as the mgEndpointNumber in the mgEndpointTable. This object corresponds to the vismRtpEndptNum object.

Table 2-112 rtp_conn (continued)

Column	Type	Description
loc_port	integer	Static local RTP port of the connection. This object corresponds to the vismRtpLocPort object.
rmt_ip	integer	Remote VISMs IP address. This object corresponds to the vismRtpRmtIp object.
rmt_port	integer	Static remote RTP port of the connection. This object corresponds to the vismRtpRmtPort object.
conn_mode	smallint	Object to define whether or not a connection is set up for sending, receiving, or both sending and receiving. This object corresponds to the vismRtpConnMode object.
br_tos	smallint	Object to provision the bitmask used for the type of service (TOS) octet for cells carrying VOIP bearer (RTP) traffic. This object corresponds to the vismRtpBearerTos object.
codec_type	smallint	Object to define the Codec used to transport voice and voice band data (VBD) packets. This object corresponds to the vismRtpCodecType object.
pkt_period	smallint	Packetization period for a particular codec (in milliseconds). This object corresponds to the vismRtpPktPeriod object.
vad_tmr	integer	Hangover time for VAD (in milliseconds). This object corresponds to the vismRtpVadTimer object.
ecan_enable	smallint	Object to define whether or not echo cancellation should be enabled on this connection. This object corresponds to the vismRtpEcanEnable object.
tri_red	smallint	Object to tell whether or not the packets need to be sent in triplicates. This object corresponds to the vismRtpTriRedundancy object.
dtmf_trspt	smallint	Object to define whether or not the dual tone multifrequency (DTMF) digits should be transported to the other endpoint. This object corresponds to the vismRtpDtmfTransport object.

Table 2-112 rtp_conn (continued)

Column	Type	Description
cas_trspt	smallint	Object to define whether or not the CAS bits (ABCD bits) should be transported to the other endpoint. This object corresponds to the vismRtpCasTransport object.
vad	smallint	Object to define whether or not the voice activity detection (VAD) should be applied on this channel upon detection of silence. This object corresponds to the vismRtpVad object.
ics_enable	smallint	Object to enable or disable the idle channel suppression for a connection. This object corresponds to the vismRtpICSEnable object.
alm_state	smallint	Alarm state of this connection. This object corresponds to the vismRtpConnAlarmState object.
upper_lev_alm	smallint	RTP failure reason. This object corresponds to the vismRtpFailReason object.
payload_type	smallint	This object specifies the payload type to be used, when adding connection(s) in VoIp Trunking. IANA values (0 through 95) are static payload and (96 through 127) are dynamic payload type.
reserved	integer	Reserved for future use.

RUDP Session

Table 2-113 contains information about the Reliable User Data Protocol (RUDP) session.

Table 2-113 rudp_session

Column	Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
session_num	smallint	Index of the vismRudpSessionCnfEntry table, in the range 1 through 64. This field maps to the vismRudpSessionNum object.
l_ipaddr	integer	VISM gateway IP address. This field maps to the vismRudpSessionLocalIp object.

Table 2-113 rudp_session (continued)

Column	Type	Description
l_port	integer	VISM gateway port number for this session, in the range 1124 through 3123 (1 based). The default value is 1124. This field maps to the vismRudpSessionLocalPort object.
r_ipaddr	integer	Media gateway controller (MGC) IP address. This field maps to the vismRudpSessionRmtIp object.
r_port	integer	MGC port number for this session, in the range 1124 through 3123. The default value is 1124. This field maps to the vismRudpSessionRmtPort object.
group_num	smallint	Session group to which this session belongs, in the range 1 through 16. This field maps to the vismRudpSessionGrpNum object.
priority	smallint	Priority that determines the session to be activated when a session fails. The lower number has the higher priority. The range is 1 through 4, and the default value is 1. This field maps to the vismRudpSessionPriority object.
session_state	smallint	State of this session. • 1 = OOS (default) • 2 = is • 3 = primary-is When an RUDP session has been created the state is set to OOS. When a channel has been created between the gateway (VISM) and MGC and the VISM has sent a Start message to the MGC, the state of the session is changed to Is. If the communication is lost between VISM and the MGC, the state of this session becomes OOS. This field maps to the vismRudpSessionState object.
win_size	smallint	Maximum size (segments) of the receive window, in the range 1 through 64. The default value is 32. This field maps to the vismRudpSessionMaxWindow object.

Table 2-113 rudp_session (continued)

Column	Type	Description
sync_attempts	smallint	Maximum number of attempts to synchronize with the other MGC, in the range 1 through 32. The default value is 5. This field maps to the vismRudpSessionSyncAttempts object.
max_seg_size	integer	Maximum number of octets that can be received by the peer sending the synchronization segment. The range is 30 through 65535, and the default value is 384. This field maps to the vismRudpSessionMaxSegSize object.
max_auto_reset	smallint	Maximum number of consecutive automatic resets that can be performed before a connection is reset. The range is 0 through 255, and the default is 5. This field maps to the vismRudpSessionMaxAutoReset object.
retrans_timeout	integer	Timeout value (in milliseconds) for retransmission of unacknowledged packets. The range is 100 through 65535, and the default is 600. This field maps to the vismRudpSessionRetransTmout object.
max_retrans	smallint	Maximum number of times consecutive retransmission is attempted before the connection is broken. The range is 0 through 255, and the default value is 3. This field maps to the vismRudpSessionMaxRetrans object.
max_ack	smallint	Maximum number of acknowledgments that accumulate before sending an acknowledgment if another segment is not sent. The range is 0 through 255, and the default value is 3. This field maps to the vismRudpSessionMaxCumAck object.
ack_timeout	integer	Timeout value for sending an acknowledgment segment if another segment is not sent. The range is 100 through 65535, and the default is 300. This field maps to the vismRudpSessionCumAckTmout object.
out_of_seq	smallint	Maximum number of out of sequence packets that accumulate before an EACK segment is sent. The range is 0 through 255, and the default value is 4. This field maps to the vismRudpSessionMaxOutOfSeq object.

Table 2-113 rudp_session (continued)

Column	Type	Description
null_seg_timeout	integer	Milliseconds of idle time before sending a null segment. The range is 0 through 65535, and the default is 2000. This field maps to the vismRudpSessionNullSegTmout object.
trans_stat_timeout	integer	Milliseconds to wait for a transfer state before an automatic reset occurs. The range is 0 through 65535, and the default value is 2000. This field maps to the vismRudpSessionTransStateTmout object.
rudp_session_type	smallint	Object to indicate whether or not the session is configured for trunking or PRI backhaul. This object corresponds to the vismRudpSessionType object.
rudp_session_rgwip	integer	IP address of the remote VISM. This object corresponds to the vismRudpSessionRmtGwIp object.
reserved	integer	Reserved for future use.

SCM Card

Table 2-115 stores all cards that have been enabled or started. The enable list of the node is specified by the colpar_id column that references the scmcolpar table. One record represents one node. The information is displayed in the SCM GUI.

Table 2-114 scmcard

Column	Type	Description
node_id	integer	The node id
slot	smallint	Assigned by emc
card_family	char(8)	Unique card family name that a group of cards are mapped into
card_fctype	smallint	fc_type (front card type) as defined in the card table. A card compatibility list will be used in the code, so this does not have all the card fc type.
colpar_id	integer	Collection Parameter Id
is_started	smallint	True if collection is already started.
conn_enabled	smallint	True if connection stats enabled.
line_enabled	smallint	True if line stats enabled.
trunk_enabled	smallint	True if trunk stats enabled.
port_enabled	smallint	True if port stats enabled.

Table 2-114 scmcard (continued)

Column	Type	Description
card_enabled	smallint	True if card stats enabled.
update_time	date	Last Time state was changed

SCM Card Collection

Table 2-115 provides information about statistics collection on a card. The information is displayed in the SCM GUI.

Table 2-115 scmcardcoll

Column	Type	Description
node_id	integer	ID of the node where statistics collection starts.
slot	smallint	Number of the slot where statistics collection starts.
timesync_id	integer	Time synchronization ID.
proxy_id	integer	Proxy ID. This field applies to SES.
pri_collsvr	char (20)	Host name of the primary SCM collection server.
sec_collsvr	char (20)	Host name of the secondary SCM collection server.
ter_collsvr	char (20)	Host name of the tertiary SCM collection server.
ip_routing	smallint	IP routing. • 0 = Inband • 1 = Out of band
colpar_id	integer	Collection parameter ID.
collection_method	smallint	Collection method for the node. • 1 = SES collection • 2 = MGX 8850 (PXM45) card collection • 4 = SRM card collection
transfer_method	smallint	Transfer method for the node. • 0 = TFTP (applicable only for IGX and BPX nodes) • 1 = FTP
parser_method	smallint	Parser method. • 1 = SES parser • 2 = MGX 8850 (PXM45) card parser • 4 = PXM1E card parser • 5 = SRM card parser
active	smallint	Value to enable card collection.
update_time	date	Time that the state changed.

SCM Cards Enabled

Table 2-116 contains information about all enabled and started cards. The enable list of the node is specified by column colpar_id which references the scmcolpar table. One record represents one node.

Table 2-116 scmcardenable

Column	Type	Description
node_id	integer	Node ID.
slot	smallint	Slot number.
enable_type	smallint	Enable type for the slot.
card_family	char (8)	Unique card family name in which a group of cards are mapped.
card_fctype	smallint	Front card type defined in the card table.
colpar_id	integer	Collection parameter ID.
prev_colpar_id	integer	Previous collection parameter ID for rollback.
enable_method	smallint	Enable method for the node: • 1 = Ses • 2 = axsm • 3 = axsme, pxm1e, frsm, srme
conn_enabled	smallint	Value is true to enable connection statistics.
line_enabled	smallint	Value is true to enable service line statistics.
trunk_enabled	smallint	Value is true to enable trunk statistics.
port_enabled	smallint	Value is true to enable port statistics.
card_enabled	smallint	Value is true to enable card statistics.
ima_enabled	smallint	Value is true to enable IMA statistics.
phyline_enabled	smallint	Value is true to enable physical line statistics.
path_enabled	smallint	Value is true to enable path statistics.
pns_enabled	smallint	Value is true to enable PNNI statistics.
ppp_enabled	smallint	Supports MP bundle PPP statistics.
stat_level	smallint	Statistics level for the slot.
active	smallint	Value is set to 1 if the card is active.
update_time	date	Time that state changed as mentioned in EDCS.
proxy_id	integer	—
proto_enaabled	smallint	When the value is *true*, protocol statistics are enabled; when *false*, it is disabled.

SCM Card Family

Table 2-117 contains information about the SCM card family. One record represents one card family.

Table 2-117 scmcardfamily

Column	Type	Description
card_family	char (8)	Group of cards defined by the following components: • Node platform • Node release • Front card type • Back card type • Card version
card_familydescr	char (40)	String description of the card family.

SCM Card Family Definition

Table 2-118 contains information about cards that are members of the SCM card families. One record represents one type of card specified by its node platform, release, front card type, back card type, and card version.

Table 2-118 scmcardfamilydef

Column	Type	Description
card_family	char (8)	Unique card family name in which a group of cards are mapped.
node_platform	smallint	Node platform defined in node table.
node_release_min	char (11)	Numeric value of the minimum release that this node supports. For example, A.B.C.D becomes *aabbccdd*.
node_release_max	char (11)	Numeric value of the maximum release that this node supports. For example, A.B.C.D becomes *aabbccdd*.
enable_type	smallint	Enable type. • 1 = AXSM with PXM45, PXM1E • 2 = AXSM-E with PXM45, PXM1E with SRM • 3 = FRSM with PXM45
card_fctype	smallint	Front card type defined in the card table.
card_version	char (21)	Numeric value of the card release. For example, A.B.C.D becomes *aabbccdd*.
card_bctype	smallint	Back card type.

SCM Card Family Statistics

Table 2-119 contains information about all statistics that are applicable for the SCM card families.

Table 2-119 scmcardfamilystat

Column	Type	Description
card_family	char (32)	SCM unique card family name in which a group of cards are mapped.
cwm_objtype	smallint	Statistics object type. • 0 = Connection • 1 = Line • 2 = Trunk • 3 = Port • 4 = Card
cwm_subtype	smallint	Object subtype that defines a specific type of connection, line, trunk, port, and card.
cwm_stattype	smallint	Statistics ID, specific to the CWM.
stat_level	smallint	Statistics level identifier.

SCM Card Collection

Table 2-120 contains information about card based statistics collection.

Table 2-120 scmcardcoll

Column	Type	Description
node_id	integer	ID of the node where collection is started.
slot	smallint	Slot number.
timesync_id	smallint	Node ID for time synchronization.
proxy_id	smallint	Proxy ID used for SES.
pri_collsvr	char (40)	Host name of the primary SCM collection server.
sec_collsvr	char (40)	Host name of the secondary SCM collection server
ter_collsvr	char (40)	Host name of the tertiary SCM collection server.
ip_routing	smallint	IP routing. • 0 = Inband • 1 = Out of band
colpar_id	integer	Collection parameter ID.
collection_method	smallint	Collection method for this node. • 1 = SES collection • 2 = MGX 8850 (PXM45) card collection • 4 = SRM card collection

Table 2-120 scmcardcoll (continued)

Column	Type	Description
transfer_method	smallint	Transfer method for this node. • 0 = TFTP • 1 = FTP
parser_method	smallint	Parser method. • 1 = SES parser • 2 = MGX 8850 (PXM45) card parser • 4 = PXM1E card parser • 5 = SRM card parser
active	smallint	Object to indicate whether or not statistics collection is active.
update_time	date	Time that the state changed.

SCM Card Collection Host

Table 2-121 contains information for each card and host collecting statistics for the card. The table is propagated via the CWM gateway for cards based statistics.

Table 2-121 scmcardcollhost

Column	Type	Description
node_id	integer	ID of the node where collection is started.
slot	smallint	Slot number.
cwm_host	char (40)	CWM host collecting statistics for this node.
active	smallint	Object to indicate whether or not statistics collection is active.
update_time	date	Time that the state changed.

SCM Card Collection Status

Table 2-122 contains the information about the status of the card collecting statistics.

Table 2-122 scmcardcollstatus

Column	Type	Description
node_id	integer	ID of the node where collection is started.
slot	smallint	Card slot number.
collsvr_host	char (40)	CWM collection server host.
coll_status	smallint	Status of the SCM card collection.

SCM Card Template

Table 2-123 contains information about all SCM card templates for card statistics based enabling.

Table 2-123 scmcardtemplate

Column	Type	Description
node_platform	smallint	Platform of the node.
enable_type	smallint	Enable type. • 1 = AXSM with PXM45, PXM1E • 2 = AXSM-E with PXM45, PXM1E with SRM • 3 = FRSM with PXM45
card_family	char (32)	Card family name.
template_name	char (40)	Name of the template.
template_descr	char (255)	Description for the template.
colpar_id	integer	Collection parameter ID.
is_default	smallint	Object to determine whether or not the template is default. Value is 1 if this template is default.

SCM Collection Server

Table 2-124 contains information about all SCM collection servers managed by the SCM control server. One record represents one SCM collection server.

Table 2-124 scmcollsvr

Column	Type	Description
collsvr_host	char (20)	Host name of the collection server.
overall_status	smallint	General status of the server. • 0 = Up • 1 = Down • 2 = Connected
collsvr_status	smallint	Collection server status.
create_time	date	Creation time.

SCM Collection Parameters

Table 2-125 contains information about instances of SCM collection parameters referenced by the node and template. One record represents one collection parameter, for example, the interval and enable list.

Table 2-125 scmcolpar

Column	Type	Description
colpar_id	integer	Collection parameter ID.
coll_period	smallint	Collection period.
bucket_interval	smallint	Bucket interval.
tftp_timeout	smallint	TFTP timeout interval.
tftp_retries	smallint	TFTP retries count.
ftp_retry_interval	smallint	FTP retry interval.
ftp_retries	smallint	FTP retries count.
peak_stats_enable	smallint	Peak statistics enable toggle.

SCM Collection Parameter Statistics Data

Table 2-126 contains information about the SCM collection parameter statistics.

Table 2-126 scmcolparstat

Column	Type	Description
colpar_id	integer	Collection parameter ID.
card_family	char (32)	Unique card family name in which a group of cards are mapped.
cwm_objtype	smallint	Statistics object type. • 0 = Connection • 1 = Line • 2 = Trunk • 3 = Port • 4 = Card
cwm_subtype	smallint	Object subtype that defines a specific type of connection, line, trunk, port, and card.
cwm_stattype	smallint	Statistics ID, specific to the CWM. The nodes might have different statistic IDs.

SCM Collection Parameters Subobjects

Table 2-127 contains information about the SCM statistics collection parameters subobjects.

Table 2-127 scmcolparsubobj

Column	Type	Description
colpar_id	integer	Collection parameter ID.
card_family	char (8)	Unique card family name in which a group of cards are mapped.
cwm_objtype	smallint	Statistics object type. • 0 = Connection • 1 = Line • 2 = Trunk • 3 = Port • 4 = Card
cwm_subtype	smallint	Object subtype that defines a specific type of connection, line, trunk, port, and card.
peak_interval	smallint	Peak interval for the subobject.

SCM Enable Type

Table 2-128 contains information about the enable method for each type of card. SCM statistics collection parameters subobjects.

Table 2-128 scmenabletype

Column	Type	Description
node_platform	smallint	Platform of the node.
enable_type	smallint	Enable type ID.
card_family	char (32)	Card family name.
enable_level	smallint	Enable level. • 0 = Node • 1 = Card
enabletype_desc	char (80)	Description of the enable type.
coll_interval	char (40)	Collection interval supported for the card family at this enable level and type.
enable_interval	char (40)	Bucket interval supported for the card family at this enable level and type.

SCM Enabled Nodes

Table 2-129 contains information about all nodes that have been enabled or started. The enable list of the node is specified by the colpar_id column that references the scmcolpar table. One record represents one node.

Table 2-129 scmnodeenable

Column	Type	Description
node_id	integer	Node ID.
proxy_id	integer	Proxy ID for SES.
enable_type	smallint	enable type for the slot
colpar_id	integer	Collection parameter ID.
prev_colpar_id	integer	Previous collection parameter ID for rollback.
enable_method	smallint	Enable method used by the SCM: • 0 = Legacy • 1 = Nbsm
conn_enabled	smallint	Value is true to enable connection statistics.
line_enabled	smallint	Value is true to enable service line statistics.
trunk_enabled	smallint	Value is true to enable trunk statistics.
port_enabled	smallint	Value is true to enable port statistics.
card_enabled	smallint	Value is true to enable card statistics.
ima_enabled	smallint	Value is true to enable IMA statistics.
phyline_enabled	smallint	Value is true to enable physical line statistics.
path_enabled	smallint	Value is true to enable path statistics.
pns_enabled	smallint	Value is true to enable PNNI statistics.
ppp_enabled	smallint	Support MP bundle PPP statistics.
update_time	date	Time the state changed.
proto_enabled	smallint	When the value is *true*, protocol statistics are enabled; when *false*, it is disabled.

SCM ID Mapper

Table 2-130 contains information about a stat ID mapper. One record represents one type of mapping.

Table 2-130 scmidmap

Column	Type	Description
idmap_group	integer	Unique ID of an ID mapping group.
idmap_groupname	char (8)	Group of nodes specified by node platform and node release. Value is either IGX or non-IGX.
idmap_groupdescr	char (40)	String description of the ID group.

SCM ID Mapper Definitions

Table 2-131 contains information about all nodes and cards that use the ID mapper specified in scmidmap.

Table 2-131 scmidmapdef

Column	Type	Description
idmap_group	integer	Unique ID of an ID mapping group.
node_platform	smallint	Node platform defined in the node table.
node_release	char (11)	Node release. The ID mapping group for a specific node uses the version closest to the node version.
card_fctype	smallint	Front card type defined in the card table. This column is only applicable to AXSM cards.
card_version	char (21)	Card version. By default the ID mapping group for a specific card uses the version closest to the card version.

SCM Method

Table 2-132 contains information about the meta methods for SCM enabling.

Table 2-132 scmmethod

Column	Type	Description
scmmethod	smallint	Meta method ID.
scmmethod_desc	char (40)	Meta method type description.
enable_method	smallint	Enabling method. This object supports all possible enable methods as described in the Table 2-129scmnodeenable and Table 2-116scmcardenable tables.
collection_method	smallint	Collection method. This object supports all collection methods that are described in the Table 2-120scmcardcoll and Table 2-134scmnodecoll tables.
transfer_method	smallint	Transfer method. • 0 = TFTP • 1 = FTP
parser_method	smallint	Parsing method. This object supports all parsing methods that are described in the Table 2-120scmcardcoll and Table 2-134scmnodecoll tables.

SCM Method Definition

Table 2-133 contains information about the node and card that use the meta methods defined in scmmethod table.

Table 2-133 scmmethoddef

Column	Type	Description
platform	smallint	Platform number of the node.
model	integer	Model number of the node.
scmcardfamily	char (12)	Card family name.
scmmethod	smallint	Meta method used by the SCM. This object corresponds to the scmmethod ID from the Table 2-132scmmethod table.
level	smallint	Node or card level.

SCM Node Collection

Table 2-134 provides information about nodes that have started statistics collection. The information is displayed in the SCM GUI.

Table 2-134 scmnodecoll

Column	Type	Description
node_id	integer	Node ID where statistics collection is started.
timesync_id	smallint	Node ID for time synchronization.
proxy_id	smallint	Proxy ID used for SES.
pri_collsvr	char (40)	Host name of the primary SCM collection server.
sec_collsvr	char (40)	Host name of the secondary SCM collection server.
ter_collsvr	char (40)	Host name of the tertiary SCM collection server.
ip_routing	smallint	IP routing. • 0 = Inband • 1 = Out of band
colpar_id	integer	Collection parameter ID.
collection_method	smallint	Collection method for this node. • 0 = Others (older cards) • 3 = Narrow band service module (NBSM)
transfer_method	smallint	Transfer method for this node. • 0 = TFTP • 1 = FTP
parser_method	smallint	Parsing method. • 0 = Other method (used with older cards) • 3 = NBSM

Table 2-134 scmnodecoll (continued)

Column	Type	Description
node_status	smallint	Status of the node.
update_time	date	Time that the state changed.

SCM Node Collection Host

Table 2-135 contains information about the hosts that are collecting statistics from a node. This information propagates via the CWM gateway.

Table 2-135 scmnodecollhost

Column	Type	Description
node_id	integer	ID of the node where collection is started.
cwm_host	char (40)	CWM host that is collecting statistics for this node.
active	smallint	Value to indicate that the CWM host is collecting statistics. For the host to be active set this object to 1.
update_time	date	Time that the state changed.

SCM Node Statistics

Table 2-136 contains information about the mapping between the CWM stat ID and Node stat ID for all the ID mapper.

Table 2-136 scmnodestat

Column	Type	Description
idmap_group	integer	Unique ID of the ID mapping group.
node_objtype	smallint	Statistics object type used by the node.
node_subtype	smallint	Subtype used by the node to define a specific type of connection, line, trunk, port, and card.
node_stattype	smallint	Statistics data ID used by the node.
cwm_objtype	smallint	Statistics object type. • 0 = Connection • 1 = Line • 2 = Trunk • 3 = Port • 4 = Card
cwm_subtype	smallint	Object subtype that defines a specific type of connection, line, trunk, port, and card.
cwm_stattype	smallint	Statistics ID, specific to the CWM. The node might have a different statistics IDs.

Table 2-136 scmnodestat (continued)

Column	Type	Description
stat_level	smallint	Statistics level identifier.

SCM Node Template

Table 2-137 contains information about the templates for node based statistics enabling. The enable list of the template is specified by the colpar_id column that references the scmcolpar table. One record represents one template.

Table 2-137 scmnodetemplate

Column	Type	Description
node_platform	smallint	Platform of the node.
enable_type	smallint	Enable type.
template_name	char (40)	Name of the template.
template_descr	char (255)	Description for the template.
colpar_id	integer	Collection parameter ID.
is_default	smallint	Object to determine whether or not the template is default. Value is 1 for a default template.

SCM Objects

Table 2-138 contains information about CWM statistics objects. One record represents one statistic object.

Table 2-138 scmobj

Column	Type	Description
cwm_objtype	smallint	Statistics object type. • 0 = Connection • 1 = Line • 2 = Trunk • 3 = Port • 4 = Card
cwm_objname	char (5)	String name of the object type. The length is restricted to five characters since this object is used to form table names in the SCM statistics database.
cwm_objdescr	char (40)	String description of the object type.

SCM Statistics

Table 2-139 contains information about CWM statistics. One record represents one statistics type.

Table 2-139 scmstat

Column	Type	Description
cwm_objtype	smallint	Statistics object type. • 0 = Connection • 1 = Line • 2 = Trunk • 3 = Port • 4 = Card
cwm_subtype	smallint	Object subtype that defines a specific type of connection, line, trunk, port, and card.
cwm_stattype	smallint	Statistics ID, specific to the CWM. The node might have different statistics IDs.
cwm_statdescr	char (40)	Name or description of the statistics data.
stat_level	smallint	Statistics level identifier.

SCM Subobjects

Table 2-140 contains information about CWM statistics subobjects. One record represents one statistics subobject.

Table 2-140 scmsubobj

Column	Type	Description
cwm_objtype	smallint	Statistics object type. • 0 = Connection • 1 = Line • 2 = Trunk • 3 = Port • 4 = Card
cwm_subtype	smallint	Object subtype that defines a specific type of connection, line, trunk, port, and card.
cwm_subname	char (16)	Short name of the subobject.
cwm_subdescr	char (40)	String description of node subtype.

Statsdb Host

Table 2-141 contains information about each statistic parser associated with this CWM. One record represents one statistics parser.

Table 2-141 statsdbhost

Column	Type	Description
statsdb_host	char (20)	Name of the statsdb host.
ftp_user_name	char (32)	User name for FTP to statsdbhost.
ftp_user_passwd	char (32)	Password for FTP to statsdbhost.
overall_status	smallint	General status of the parser. • 0 = Up • 1 = Down • 2 = Connected
parser_status	smallint	Specific status of the parser. • 0 = ParserDown • 1 = ParserConnected • 2 = ParserNotConnected • 3 = ParserDBError • 4 = ParserSpaceCritical • 5 = ParserSpaceWarning • 6 = ParserStatusUnknown
create_time	datetime	Time of statsdbhost creation.

SCT

Table 2-142 contains general information about service connection template (SCT).

Table 2-142 sct

Column	Data Type	Description
sct_id	smallint	ID of the SCT files in the range 1 through 65535. • 0 = Default SCT files • 1 through 99 = Reserved • 100 through 65535 = User defined SCT files The default SCT files define the default parameters that are hardcoded on the switch. These files can be viewed only through the CWM GUI. They cannot be modified, deleted, or downloaded from the CWM.

Table 2-142 sct (continued)

Column	Data Type	Description
sct_type	smallint	SCT type. • 0 = Port (ingress) • 1 = Card (egress)

Table 2-142 sct (continued)

Column	Data Type	Description
fc_type	smallint	Front card type. • 26 = AXSM family that includes the following front card types: – 3000 = AXSM1_OC48 – 3001 = AXSM4_OC12 – 3002 = AXSM8_OC3 – 3003 = AXSM16_OC3 – 3004 = AXSM16_T3E3 – 3005 = AXSM2_OC12 • 31 = AXSM-E family that includes the following front card types: – 3100 = AXSM1_OC12_E – 3101 = AXSM2_OC12_E – 3102 = AXSM4_OC3_E – 3103 = AXSM8_OC3_E – 3104 = AXSM4_STM1_E – 3105 = AXSM8_STM1_E – 3106 = AXSM8_T3E3_E – 3107 = AXSM16_T3E3_E – 3108 = AXSM8_T1_E – 3109 = AXSM16_T1_E – 3110 = AXSM8_E1_E – 3111 = AXSM16_E1_E • 33 = FRSM12 family that includes the following front card type: – 160 = FRSM-12-T3E3 • 34 = AXSM-XG family that includes the following front card types: – 3400 = AXSM-1-9953-XG – 3401 = AXSM-4-2488-XG – 3405 = AXSM-16-OC3-XG • 36 = MPSM OC3/T3E3 family that includes the following front card types: – 3900 = MPSM-155-T3E3 – 3921 = MPSM-155-T3E3-PPP • 37 = MPSM 16T1E1 family that includes the following front card types: – 3905 = MPSM-16T1E1 – 3921 = MPSM-16T1E1-PPP

Table 2-142 sct (continued)

Column	Data Type	Description
major_version	smallint	SCT version number.
sct_name	char (132)	SCT file name specified by the user.
discrepancy	smallint	Value to determine data consistency. • 1 = Data OK • 2 = Version inconsistent • 3 = Data inconsistent • 4 = Partial • 5 = In progress
temp_data_flag	smallint	Value to indicate if the table contains temporary data. • 0 = Does not have temp data. • 1 = Has temp data.

SCT CoSB

Table 2-143 contains information about the Service Class Template (SCT) class-of-service buffer (CoSB) descriptors .

Table 2-143 sct_cosb

Column	Data Type	Description
sct_id	smallint	ID of the SCT files in the range 1 through 65535. • 0 = Default SCT files • 1 through 99 = Reserved • 100 through 65535 = User defined SCT files The default SCT files define the default parameters that are hardcoded on the switch. These files can be viewed only through the CWM GUI. They cannot be modified, deleted, or downloaded from the CWM.
sct_type	smallint	SCT type. • 0 = Port (ingress) • 1 = Card (egress)

Table 2-143 sct_cosb (continued)

Column	Data Type	Description
fc_type	smallint	Front card type. • 26 = AXSM family that includes the following front card types: – 3000 = AXSM1_OC48 – 3001 = AXSM4_OC12 – 3002 = AXSM8_OC3 – 3003 = AXSM16_OC3 – 3004 = AXSM16_T3E3 – 3005 = AXSM2_OC12 • 31 = AXSM-E family that includes the following front card types: – 3100 = AXSM1_OC12_E – 3101 = AXSM2_OC12_E – 3102 = AXSM4_OC3_E – 3103 = AXSM8_OC3_E – 3104 = AXSM4_STM1_E – 3105 = AXSM8_STM1_E – 3106 = AXSM8_T3E3_E – 3107 = AXSM16_T3E3_E – 3108 = AXSM8_T1_E – 3109 = AXSM16_T1_E – 3110 = AXSM8_E1_E – 3111 = AXSM16_E1_E • 33 = FRSM12 family that includes the following front card type: – 160 = FRSM-12-T3E3 • 34 = AXSM-XG family that includes the following front card types: – 3400 = AXSM-1-9953-XG – 3401 = AXSM-4-2488-XG – 3405 = AXSM-16-OC3-XG • 36 = MPSM OC3/T3E3 family that includes the following front card types: – 3900 = MPSM-155-T3E3 – 3921 = MPSM-155-T3E3-PPP • 37 = MPSM 16T1E1 family that includes the following front card types: – 3905 = MPSM-16T1E1 – 3921 = MPSM-16T1E1-PPP

Table 2-143 sct_cosb (continued)

Column	Data Type	Description
major_version	smallint	SCT major version number.
minor_version	smallint	SCT minor version number.
node_id	integer	Node ID of the node on which the SCT is first discovered. A value of -1 indicates that the SCT is created on that node.
cosb_num	integer	CoSB number, in the range 1 through 16.
cosb_min_rate	integer	CoSB minimum rate or the guaranteed bandwidth, in the range 0 through 1000000.
max_reserv_rate	integer	CoSB maximum guaranteed bandwidth, in the range 0 through 1000000.
cosb_min_pri	integer	CoSB minimum priority, in the range 0 through 15.
cosb_excess_pri	integer	CoSB excess priority, in the range 0 through 15.
max_thresh	integer	Maximum delay that cells with cell loss priority (CLP) equal to 0 or 1 encounter when entering this CoSB. The range is 0 through 5000000.
clp1_high_thresh	integer	Maximum delay that cells with CLP equal to 1 encounter when entering this CoSB. The range is 0 through 1000000.
clp1_low_thresh	integer	Minimum delay that cells with CLP equal to 1 encounter when entering this CoSB. The range is 0 through 1000000.
epd0_thresh	integer	Maximum delay of early packet discards, in the range 0 through 1000000.
efci_thresh	integer	Explicit forward congestion indication (EFCI) threshold, in the range 0 through 1000000.
ers	smallint	Value to enable explicit rate stamping (ERS). • 1 = Enable • 2 = Disable
red_sel	smallint	Value to enable random early discard (RED). • 1 = Enable • 2 = Disable
red_thresh	integer	RED threshold, in the range 0 through 1000000.
red_prob_factor	integer	RED probability factor, in the range 0 through 15.
red_wfq	smallint	Value to enable RED weighted fair queue. • 1 = Enable • 2 = Disable
best_effort_ind	smallint	Value to enable best effort indicator. • 1 = Enable • 2 = Disable

Table 2-143 sct_cosb (continued)

Column	Data Type	Description
disc_alarm_enable	smallint	Value to enable alarm per virtual channel (VC). • 1 = Enable • 2 = Disable
disc_alarm_thresh	integer	CoSB cells discarded threshold, in the range 0 through 10000000.
cell_loss_ratio	integer	Cell loss ratio that is supported in the CoSB, in the range 1 through 15.
reserved	integer	Reserved for future use.

SCT AXSM-XG CoSB Descriptors

Table 2-144 contains information about the AXSM-XG Service Class Template (SCT) class-of-service buffer (CoSB) descriptors, in addition to the ones in the sct_cosb table.

Table 2-144 sct_cosbdesc

Column	Data Type	Description
sct_id	smallint	ID of the SCT files in the range 1 through 65535. • 0 = Default SCT files • 1 through 99 = Reserved • 100 through 65535 = User defined SCT files The default SCT files define the default parameters that are hardcoded on the switch. These files can be viewed only through the CWM GUI. They cannot be modified, deleted, or downloaded from the CWM.
sct_type	smallint	SCT type. • 0 = Port (ingress) • 1 = Card (egress)
fc_type	smallint	AXSM-XG front card type in card family 34. • 3400 = AXSM-1-9953-XG • 3401 = AXSM-4-2488-XG
major_version	smallint	SCT major version number.
minor_version	smallint	SCT minor version number.
node_id	integer	Node ID of the node on which the SCT is first discovered. A value of -1 indicates that the SCT is created on that node.
cosb_num	integer	CoSB number, in the range 1 through 16.
rel_service_delay	integer	Relative service delay between CoSBs.
ran_early_det_hi_+	integer	Cell loss priority (CLP) (0+1) threshold value for random early detection (RED) to start.

Table 2-144 sct_cosbdesc (continued)

Column	Data Type	Description
ran_early_det_hi_01	integer	CLP1 threshold value for RED to start.
ran_early_det_lo_+	integer	CLP (0+1) threshold value for RED to stop.
ran_early_det_lo_01	integer	CLP1 threshold value for RED to stop.

SCT MPSM155 CoSB Descriptors

Table 2-145 contains information about the Service Class Template (SCT) COSB descriptors for the MPSM155 cards .

Table 2-145 sct_cosb_desc_mpsm155

Column	DataType	Description
sct_id	smallint	ID of the SCT files in the range 1 through 65535. • 0 = Default SCT files • 1 through 99 = Reserved • 100 through 65535 = User defined SCT files **Note** The default SCT files define the default parameters that are hardcoded on the switch. These files can be viewed only through the CWM GUI. They cannot be modified, deleted, or downloaded from the CWM.
sct_type	smallint	SCT type. • 0 = Port (ingress) • 1 = Card (egress)
fc_type	smallint	• 36 = MPSM OC3/T3E3 family that includes the following front card types: – 3900 = MPSM-155-T3E3 – 3921 = MPSM-155-T3E3-PPP • 37 = MPSM 16T1E1 family that includes the following front card types: – 3905 = MPSM-16T1E1 – 3921 = MPSM-16T1E1-PPP
major_version	smallint	SCT major version number.
minor_version	smallint	SCT minor version number.
node_id	Integer	Node ID of the node on which the SCT is first discovered. A value of -1 indicates that the SCT is created on that node.
cosb_num	Integer	CoSB number, in the range 1 through 16.
rel_service_delay	Integer	Relative Service Delay between Cosbs
ran_early_det_hi_+	Integer	Cell loss priority (CLP) (0+1) threshold value for random early detection (RED) to start.

Table 2-145 sct_cosb_desc_mpsm155 (continued)

ran_early_det_hi_01	Integer	CLP1 threshold value for RED to start.
ran_early_det_lo_+	Integer	CLP (0+1) threshold value for RED to stop.
ran_early_det_lo_01	Integer	CLP1 threshold value for RED to stop.
fr_max_threshold	Integer	Cosb Maximum threshold for FR service types
fr_de_threshold	Integer	Cosb DE threshold for FR service types
fr_fecn_threshold	Integer	Cosb FECN threshold for FR service types.

SCT Deployment

Table 2-146 provides information about the Service Class Template (SCT) files on the switches during CWM start-up time.

Table 2-146 sct_deployment

Column	Data Type	Description
sct_id	smallint	SCT ID. The range is 1 through 65535.
sct_type	smallint	SCT type. • 1 = Port SCT • 2 = Card SCT
card_type	smallint	Card type. • 1 = AXSM-A, AXSM-B • 2 = AXSM-E • 3 = PXMIE • 4 = HSFR
major_version	smallint	Major version of SCT file.
minor_version	smallint	Minor version of SCT file.
node_id	integer	Node ID.
location	char(132)	File name with full path name in the following format: <***cardType***>_SCT.<*SCTType*>.<*SCTId*>.V<*Major_version*>
checksum	integer	Checksum of the SCT file. SCT files across the network with the same combination of card type, SCT type, and major and minor versions have the same checksum.
description	char(132)	Description string associated with the SCT file.
oper_status	smallint	Operational status. • 1 = Valid—SCT file is present on switch and is valid. • 2 = Invalid—SCT file is present on switch but is corrupted. • 3 = Absent—SCT file is missing on the switch.

Table 2-146 sct_deployment (continued)

Column	Data Type	Description
row_status	smallint	Row status. • 1 = Active • 2 = Not in service • 3 = Not ready • 4 = Create and go • 5 = Create and wait • 6 = Destroy
reserved	integer	Reserved for future use.

SCT Download

Table 2-147 contains information about service connection template (SCT) download.

Table 2-147 sct_usage

Column	Data Type	Description
sct_id	smallint	ID of the SCT files in the range 1 through 65535. • 0 = Default SCT files • 1 through 99 = Reserved • 100 through 65535 = User defined SCT files The default SCT files define the default parameters that are hardcoded on the switch. These files can be viewed only through the CWM GUI. They cannot be modified, deleted, or downloaded from the CWM.
sct_type	smallint	SCT type. • 0 = Port (ingress) • 1 = Card (egress)

Table 2-147 sct_usage (continued)

Column	Data Type	Description
fc_type	smallint	Front card type. • 26 = AXSM family that includes the following front card types: – 3000 = AXSM1_OC48 – 3001 = AXSM4_OC12 – 3002 = AXSM8_OC3 – 3003 = AXSM16_OC3 – 3004 = AXSM16_T3E3 – 3005 = AXSM2_OC12 • 31 = AXSM-E family that includes the following front card types: – 3100 = AXSM1_OC12_E – 3101 = AXSM2_OC12_E – 3102 = AXSM4_OC3_E – 3103 = AXSM8_OC3_E – 3104 = AXSM4_STM1_E – 3105 = AXSM8_STM1_E – 3106 = AXSM8_T3E3_E – 3107 = AXSM16_T3E3_E – 3108 = AXSM8_T1_E – 3109 = AXSM16_T1_E – 3110 = AXSM8_E1_E – 3111 = AXSM16_E1_E • 33 = FRSM12 family that includes the following front card type: – 160 = FRSM-12-T3E3 • 34 = AXSM-XG family that includes the following front card types: – 3400 = AXSM-1-9953-XG – 3401 = AXSM-4-2488-XG – 3405 = AXSM-16-OC3-XG
major_version	smallint	SCT major version number.
minor_version	smallint	SCT minor version number.
node_id	integer	Node ID of the node on which the SCT is first discovered. A value of -1 indicates that the SCT is created on that node.
sct_name	char (132)	SCT file name that is specified by the user.
checksum	integer	Checksum of the SCT.

Table 2-147 sct_usage (continued)

Column	Data Type	Description
ru	smallint	Value to indicate data consistency. • 0 = Obsolete—Data is inconsistent with network data. • 1 = Insync—Data is specified by user. If ru and rn are both Insync, the data specified by the user in CWM cache is in sync with the network data. If ru is Insync and rn is Obsolete, the data in CWM cache is specified by the user and is not verified with the network. If ru is Obsolete and rn is Insync, the data specified by the user is not consistent with the network data.
rn	smallint	Value to indicate data verification by the network. • 0 = Obsolete—Data is not verified by the network. • 1 = Insync—Data is verified by the network. If ru and rn are both Insync, the data specified by the user in CWM cache is in sync with the network data. If ru is Insync and rn is Obsolete, the data in CWM cache is specified by the user and is not verified with the network. If ru is Obsolete and rn is Insync, the data specified by the user is not consistent with the network data.

SCT Virtual Channel Descriptor

Table 2-148 contains information about service connection template (SCT) virtual channel (VC) descriptors.

Table 2-148 sct_vc

Column	Data Type	Description
sct_id	smallint	ID of the SCT files in the range 1 through 65535. • 0 = Default SCT files • 1 through 99 = Reserved • 100 through 65535 = User defined SCT files The default SCT files define the default parameters that are hardcoded on the switch. These files can be viewed only through the CWM GUI. They cannot be modified, deleted, or downloaded from the CWM.
sct_type	smallint	SCT type. • 0 = Port (ingress) • 1 = Card (egress)

Table 2-148 sct_vc (continued)

Column	Data Type	Description
fc_type	smallint	Front card type. • 26 = AXSM family that includes the following front card types: – 3000 = AXSM1_OC48 – 3001 = AXSM4_OC12 – 3002 = AXSM8_OC3 – 3003 = AXSM16_OC3 – 3004 = AXSM16_T3E3 – 3005 = AXSM2_OC12 • 31 = AXSM-E family that includes the following front card types: – 3100 = AXSM1_OC12_E – 3101 = AXSM2_OC12_E – 3102 = AXSM4_OC3_E – 3103 = AXSM8_OC3_E – 3104 = AXSM4_STM1_E – 3105 = AXSM8_STM1_E – 3106 = AXSM8_T3E3_E – 3107 = AXSM16_T3E3_E – 3108 = AXSM8_T1_E – 3109 = AXSM16_T1_E – 3110 = AXSM8_E1_E – 3111 = AXSM16_E1_E • 33 = FRSM12 family that includes the following front card type: – 160 = FRSM-12-T3E3 • 34 = AXSM-XG family that includes the following front card types: – 3400 = AXSM-1-9953-XG – 3401 = AXSM-4-2488-XG – 3405 = AXSM-16-OC3-XG • 36 = MPSM OC3/T3E3 family that includes the following front card types: – 3900 = MPSM-155-T3E3 – 3921 = MPSM-155-T3E3-PPP • 37 = MPSM 16T1E1 family that includes the following front card types: – 3905 = MPSM-16T1E1 – 3921 = MPSM-16T1E1-PPP

Table 2-148 sct_vc (continued)

Column	Data Type	Description
major_version	smallint	SCT major version number.
minor_version	smallint	SCT minor version number.
node_id	integer	Node ID of the node on which the SCT is first discovered. A value of -1 indicates that the SCT is created on that node.
service_type	integer	Service type in the range 0 through 65535. • 2 = VSI-sig • 256 = CBR1 • 257 = VBR-rt1 • 258 = VBR-rt2 • 259 = VBR-rt3 • 260 = VBR-nrt1 • 261 = VBR-nrt2 • 262 = VBR-nrt3 • 263 = UBR1 • 264 = UBR2 • 265 = ABR • 266 = CBR2 • 267 = CBR3 • 512 = Tag_cos0 • 513 = Tag_cos1 • 514 = Tag_cos2 • 515 = Tag_cos3 • 516 = Tag_cos4 • 517 = Tag_cos5 • 518 = Tag_cos6 • 519 = Tag_cos7 • 528 = Tag_abr. This value is not supported. • 1280 = fr-hi-priority • 1281 = fr-low-priority • 1282 = fr-atm-cbr • 1283 = fr-atm-vbr-rt • 1284 = fr-atm-vbr-nrt • 1285 = fr-atm-abr • 1286 = fr-atm-ubr

Table 2-148 sct_vc (continued)

Column	Data Type	Description
service_catgy	integer	Service category in the range 0 through 65535. • 2 = VSI-sig • 256 = CBR • 257 = VBR-rt • 258 = VBR-nrt • 259 = UBR • 260 = ABR • 512 = Tag_cos0 • 513 = Tag_cos1 • 514 = Tag_cos2 • 515 = Tag_cos3 • 516 = Tag_cos4 • 517 = Tag_cos5 • 518 = Tag_cos6 • 519 = Tag_cos7
cosb_num	integer	Class of Service Buffer number (CoSB), in the range 1 through 16.
cac_treatment	integer	Connection admission control (CAC) algorithm, in the range 1 through 256. • 1 = lcnCac • 2 = basicCac (default) • 3 = eCac-Model A • 4 = eCac-Model B • 5 = eCac-Model C • 6 = eCac-Model D • 7 = eCac-Model E • 8 = eCac-Model F • 9 = mbBwCac
upc_enable	smallint	Usage parameter control (UPC) policing. • 1 = enableAll • 2 = enableGcra1 • 3 = enableGcra2 • 4 = enableGcra1WithPktPolicing • 5 = enableGcra2WithPktPolicing • 6 = disableAll

Table 2-148 sct_vc (continued)

Column	Data Type	Description
upc_clp_sel	integer	Value to select processing of policing buckets based on the cell loss priority (CLP) bit. The range is 0 through 4.
pol_act_gcra1	smallint	Type of policing in bucket 1. • 1 = discard • 2 = setClpBit • 3 = setClpDiscTagged
pol_act_gcra2	smallint	Type of policing in bucket 2. • 1 = discard • 2 = setClpBit • 3 = setClpDiscTagged
pcr	integer	Peak cell rate (PCR), in the range 0 through 1000000.
scr	integer	Sustained cell rate (SCR), in the range 0 through 1000000.
mcr	integer	Minimum cell rate (MCR), in the range 0 through 1000000.
icr	integer	Initial cell rate, in the range 0 through 1000000.
mbs	integer	Maximum burst size, in the range 1 through 5000000.
mfs	integer	Maximum frame size, in the range 1 through 1236.
cdvt	integer	Cell delay variation tolerance (CDVT), in the range 0 through 5000000.
pkt_discard_mode	smallint	Packet discard mode for a virtual channel. • 1 = Enable • 2 = Disable
max_thresh	integer	VC maximum threshold, in the range 0 through 5000000.
clp1_high_thresh	integer	CLP high threshold, in the range 0 through 1000000.
clp1_low_thresh	integer	CLP low threshold, in the range 0 through 1000000.
epd0_thresh	integer	Cells with early packet discard (EPD) set to 0 threshold, in the range 0 through 1000000.
efci_thresh	integer	Explicit forward congestion indication (EFCI) threshold, in the range 0 through 1000000.
cos_scaling_class	integer	Scaling class that reduces the maximum queue depth, in the range 1 through 4.
l_port_scaling	integer	Logical port scaling class that reduces the maximum queue depth, in the range 1 through 4.
ci_control	smallint	Value to set the congestion indicator. • 1 = Enable • 2 = Disable
crm_cells	integer	Cut off resource management (RM) cells, in the range 1 through 4095.

Table 2-148 sct_vc (continued)

Column	Data Type	Description
vsvd	smallint	Available bit rate (ABR) virtual source/virtual destination. • 1 = enable_with_FCES • 2 = enable_without_FCES • 3 = disable
adtf	integer	Allowed cell rate (ACR) decrease time factor, in the range 62 through 8000.
rdf	integer	Rate decrease factor (ABR connections), in the range 1 through 32768.
rif	integer	Rate increase factor (ABR connections), in the range 1 through 32768.
nrm	integer	Number of data cells between forward RM cells, in the range 2 through 256.
trm	integer	Time between forward RM cells, in the range 0 through 7.
cdf	integer	Cut off decrease factor, in the range 0 through 64.
tbe	integer	Transient buffer exposure (TBE), in the range 0 through 16777215.
frtt	integer	Fixed round trip time (FRTT), in the range 0 through 16700.
wfq	smallint	Weighted fair queueing (WFQ) per VC. • 1 = Enable • 2 = Disable
reserved	integer	Reserved for future use.

SCT Additional FRSM12 Virtual Channel Descriptors

Table 2-149 contains information about FRSM12 service connection template (SCT) virtual channel (VC) descriptors, in addition to the ones in the sct_vc table.

Table 2-149 sct_vcdesc

Column	Data Type	Description
sct_id	smallint	ID of the SCT files in the range 1 through 65535. • 0 = Default SCT files • 1 through 99 = Reserved • 100 through 65535 = User defined SCT files The default SCT files define the default parameters that are hardcoded on the switch. These files can be viewed only through the CWM GUI. They cannot be modified, deleted, or downloaded from the CWM.

Table 2-149 sct_vcdesc (continued)

Column	Data Type	Description
sct_type	smallint	SCT type. • 0 = Port (ingress) • 1 = Card (egress)
fc_type	smallint	FRSM12 front card type in card family 33. 160 = FRSM-12-T3E3
major_version	smallint	SCT major version number.
minor_version	smallint	SCT minor version number.
node_id	integer	Node ID of the node on which the SCT is first discovered. A value of -1 indicates that the SCT is created on that node.
service_type	integer	Service type in the range 0 through 65535. • 2 = VSI-sig • 256 = CBR1 • 257 = VBR-rt1 • 258 = VBR-rt2 • 259 = VBR-rt3 • 260 = VBR-nrt1 • 261 = VBR-nrt2 • 262 = VBR-nrt3 • 263 = UBR1 • 264 = UBR2 • 265 = ABR • 266 = CBR2 • 267 = CBR3 • 512 = Tag_cos0 • 513 = Tag_cos1 • 514 = Tag_cos2 • 515 = Tag_cos3 • 516 = Tag_cos4 • 517 = Tag_cos5 • 518 = Tag_cos6 • 519 = Tag_cos7 • 528 = Tag_abr. This value is not supported.
detaggingenable	smallint	Value to enable discard eligible (DE) traffic. • 1 = Enable • 2 = Disable

Table 2-149 sct_vcdesc (continued)

Column	Data Type	Description
fecnconfig	smallint	Value to configure forward explicit congestion notification (FECN). • 1 = mapEFCI • 2 = setEFCIzero
detoclpmap	smallint	Value to map the cell loss priority (CLP) traffic. • 1 = mapCLP • 2 = mapCLPzero • 3 = selCLPone
clptodemap	smallint	Value to map DE traffic. • 1 = mapDE • 2 = setDEzero • 3 = setDEone • 4 = ignoreCLP
ingrpercentutil	integer	Ingress percent utilization on the channel.
egrpercentutil	integer	Egress percent utilization on the channel.
ignoreincomingde	smallint	Value to ignore the incoming DE traffic. • 1 = enable • 2 = disable

SCT Virtual Channel Descriptor for AXSM-XG

This table contains information about the AXSM-XG service connection template (SCT) virtual channel (VC) descriptors in addition to the ones in the sct_vc table. T See Table 2-149, which contains the same data as for this section.

SCT Virtual Channel Descriptor for MPSM155

Table 2-150 contains information about the MPSM155 service connection template (SCT) virtual channel (VC) descriptors in addition to the ones in the sct_vc table.

Table 2-150 sct_vc_desc_mpsm155

Column	Data Type	Description
sct_id	smallint	ID of the SCT files in the range 1 through 65535. • 0 = Default SCT files • 1 through 99 = Reserved • 100 through 65535 = User defined SCT files The default SCT files define the default parameters that are hardcoded on the switch. These files can be viewed only through the CWM GUI. They cannot be modified, deleted, or downloaded from the CWM.
sct_type	smallint	SCT type. • 0 = Port (ingress) • 1 = Card (egress)
fc_type	smallint	• 36 = MPSM OC3/T3E3 family that includes the following front card types: – 3900 = MPSM-155-T3E3 – 3921 = MPSM-155-T3E3-PPP • 37 = MPSM 16T1E1 family that includes the following front card types: – 3905 = MPSM-16T1E1 – 3921 = MPSM-16T1E1-PPP
major_version	smallint	SCT major version number.
minor_version	smallint	SCT minor version number.
node_id	integer	Node ID of the node on which the SCT is first discovered. A value of -1 indicates that the SCT is created on that node.

Table 2-150 sct_vc_desc_mpsm155 (continued)

Column	Data Type	Description
service_type	integer	Service type in the range 0 through 65535. • 2 = vsi-sig • 3 = term-sig • 256 = cbr1 • 257 = vbr-rt1 • 258 = vbr-rt2 • 259 = vbr-rt3 • 260 = vbr-nrt1 • 261 = vbr-nrt2 • 262 = vbr-nrt3 • 263 = ubr1 • 264 = ubr2 • 265 = abr • 266 = cbr2 • 267 = cbr3 • 1280 = fr-hi-priority • 1281 = fr-low-priority • 1282 = fr-atm-cbr • 1283 = fr-atm-vbr-rt • 1284 = fr-atm-vbr-nrt • 1285 = fr-atm-abr • 1286 = fr-atm-ubr
red_prob_class	Integer	VC random early discard (RED) probability class values for various degrees of CoSB congestion.
abr_cng_threshold	Integer	ABR Congestion Threshold for MPSM
de_tagging_enable	smallint	Enable or disable tagging of traffic as discard eligible (DE). • 1 = Enable • 2 = Disable
fecn_config_	smallint	Value to configure forward explicit congestion notification (FECN). • 1 = mapEFCI • 2 = setEFCIzero
de_to_clp_map	smallint	Value to map the cell loss priority (CLP) traffic. • 1 = mapCLP • 2 = mapCLPzero • 3 = selCLPone

Table 2-150 sct_vc_desc_mpsm155 (continued)

Column	Data Type	Description
clp_to_de_map	smallint	Value to map DE traffic. • 1 = mapDE • 2 = setDEzero • 3 = setDEone • 4 = ignoreCLP
ingr_percent_util	integer	Ingress percent utilization on the channel.
egr_percent_util	integer	Egress percent utilization on the channel.
ignore_incoming_de	smallint	Value to ignore the incoming DE traffic. • 1 = Enable • 2 = Disable
fr_max_threshold	integer	Maximum depth of an FR Vc
fr_fecn_threshold	integer	VCQ threshold for FECN marking of FR packets
fr_de_threshold	integer	VCQ threshold for dropping DE set FR packets
fr_becn_threshold	integer	VCQ threshold for BECN marking of remote FR packets
fr_global_disc_th+	integer	Global Payload memory threshold for FR packet discard

Sensor

Table 2-151 contains information about sensors.

Table 2-151 sensor

Column	Data Type	Description
network_id	smallint	Network ID
node_id	integer	Node ID
shelf	integer	Shelf number
slot	smallint	Slot number
ent_phy_idx	integer	entPhyiscalIndex of the sensors. index: • bit 25 - 32: shelf number • bit 17 - 24: slot number • bit 1 - 16: sensor number(1-14) (1..2147483647)

Table 2-151 sensor (continued)

Column	Data Type	Description
description	char (64)	Description of the sensor. • 1 = 5v sensor • 2 = 3.3v sensor • 3 = 2.5v sensor • 4 = 1.8v sensor • 5 = 1.2v sensor • 6 = 1.25v sensor • 7 = DSP_CORE sensor • 8 = BottomHost • 9 = TopHost • 10 = CPUHost • 11 = MiddleHost • 12 = BottomDaughterCard • 13 = TopDaughterCard • 14 = MiddleDaughterCard
type	smallint	Type of data reported by the entSensorValue. Only support: • 4 = voltsDC • 8 = celsius
scale	smallint	the exponent to apply to sensor values reported by entSensorValue. only support: • milli(8), -- 10^-3 • units(9), -- 10^0
value	integer	the most recent measurement seen by the sensor (-1000000000..1000000000).
status	smallint	the present operational status of the sensor • 1 = ok • 2 = unavailable • 3 = nonoperational

Table 2-151 sensor (continued)

Column	Data Type	Description
alarm_state	smallint	The alarm status of the sensor. It represented as bitmap: • bit 0: normal severity • bit 1: minor severity • bit 2: major severity • bit 3: critical severity • bit 4 - bit 7: is reserved as 0 • bit 8: less than (<) threshold • bit 9: less than or equal to (<=) threshold • bit 10: greater than (>) threshold • bit 11: greater than or equal to (>=) threshold • bit 12: equal to (==) threshold • bit 13: not equal (!=) threshold
sensor_num	smallint	Sensor Number: • 1-7 Voltage Sensor • 8-14 Temperature Sensor • Range 1..14
reserved	integer	Reserved field.

Table 2-152 contains information about sensor threshold.

Table 2-152 sensor_thrhd

Column	Data Type	Description
network_id	smallint	Network ID
node_id	integer	Node ID
shelf	integer	Shelf number
slot	smallint	Slot number
ent_phy_idx	integer	entPhysicalIndex reference to the sensor
thrhd_idx	integer	uniquely identifies an entry in the entSensorThreshold table (1..99999999)
thrhd_severity	smallint	the severity of this threshold: • 1 = other • 2 = minor • 3 = major • 4 = critical

Table 2-152 sensor_thrhd (continued)

Column	Data Type	Description
thrhd_rel	smallint	the relation between sensor value (entSensorValue) and threshold value (entSensorThresholdValue), required to trigger the alarm. • 1 = lessThan • 2 = lessOrEqual • 3 = greaterThan • 4 = greaterOrEqual • 5 = equalTo • 6 = notEqualTo
thrhd_value	integer	the value of the threshold (-1000000000..1000000000)
thrhd_eval	smallint	the result of the most recent evaluation of the threshold • 1 = true • 2 = false
thrhd_notif	smallint	controls generation of entSensorThresholdNotification for this threshold • 1 = true • 2 = false
reserved	integer	Reserved field.

Serial Line Statistics Data

Table 2-153 contains information about serial line statistical data.

Table 2-153 serial_ln_data

Column	Data Type	Description
timestamp	integer	Timestamp of the statistical record.
sln_obj_id	integer	Serial line object ID.
l_node_id	integer	CWM node ID.
stat_type	smallint	Statistic type.
bucket_type	smallint	Duration of each bucket measured in minutes.
totald	float	Total of raw data collected in the sample interval.
peak	float	Peak rate of raw data in the sample interval.

Shelf Data

Table 2-154 contains information about shelves.

Table 2-154 shelf

Column	Data Type	Description
node_id	integer	CWM node ID.
network_id	smallint	CWM network ID.
name	char (32)	Name of shelf.
mac_addr	char (6)	MAC address.
routing_ip_addr	integer	IP address for routing.
lan_ip_addr	integer	IP address of feeder shelf.
slip_ip_addr	integer	SLIP IP address.
shelf	integer	Shelf number.
serial_id	char (21)	Backplane serial number.
shelf_type	smallint	Shelf type based on the number of slots (used by MGX 8220). A value of 1 equals a 16-slot shelf.
status	smallint	ASM alarm status of the shelf object. • 1 = ASM alarm off • 2 = ASM alarm on
filtered_alarm	smallint	Filtered alarm. • -1 = Not supported • 0 = Clear • 1 = Minor • 2 = Major • 3 = Critical This field applies only to MGX 8230, MGX 8250, and MGX 8850 (PXM1) feeders.
reserved	integer	Reserved for future use.

Subnetworks

Table 2-155 contains information about the name and ID of each subnetwork.

Table 2-155 sub_network

Column	Data Type	Description
subnetwork_id	smallint	CWM sub-network ID (the ID of the logical sub-network).
subnetwork_id	char (50)	CWM sub-network name (the user-supplied name of the logical sub-network).
subnetwork_name	char (50)	Name of the logical subnetwork.

Table 2-155 sub_network (continued)

Column	Data Type	Description
subnetwork_id	char (50)	ID of the logical subnetwork.

SVC CAC

Table 2-156 contains information about the port channel admission control (CAC) configuration, specifying the CAC information for each interface.

Table 2-156 svc_cac

Column	Data Type	Description
node_id	integer	CWM node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
bay	smallint	Bay number. The default value is 1.
line	smallint	Line number.
port	smallint	Port number.
if_index	integer	Interface index from the ifTable.
util_fact_cbr	integer	Booking factor for constant bit rate (CBR).
util_fact_rt_vbr	integer	Booking factor for real-time variable bit rate (rt-VBR).
util_fact_nrt_vbr	integer	Booking factor for non-real-time (nrt-VBR).
util_fact_abr	integer	Booking factor for available bit rate (ABR).
util_fact_ubr	integer	Booking factor for unspecified bit rate (UBR).
max_bw_cbr	integer	Maximum bandwidth for CBR.
max_bw_rt_vbr	integer	Maximum bandwidth for rt-VBR.
max_bw_nrt_vbr	integer	Maximum bandwidth for nrt-VBR.
max_bw_abr	integer	Maximum bandwidth for ABR.
max_bw_ubr	integer	Maximum bandwidth for UBR.
min_bw_cbr	integer	Minimum bandwidth for CBR.
min_bw_rt_vbr	integer	Minimum bandwidth for rt-VBR.
min_bw_nrt_vbr	integer	Minimum bandwidth for nrt-VBR.
min_bw_abr	integer	Minimum bandwidth for ABR.
min_bw_ubr	integer	Minimum bandwidth for UBR.
max_vc_cbr	integer	Maximum number of virtual channels (VCs) for CBR.
max_vc_rt_vbr	integer	Maximum number of VCs for rt-VBR.
max_vc_nrt_vbr	integer	Maximum number of VCs for nrt-VBR.
max_vc_abr	integer	Maximum number of VCs for ABR.
max_vc_ubr	integer	Maximum number of VCs for UBR.
min_vc_cbr	integer	Minimum number of VCs for CBR.

Table 2-156 svc_cac (continued)

Column	Data Type	Description
min_vc_rt_vbr	integer	Minimum number of VCs for rt-VBR.
min_vc_nrt_vbr	integer	Minimum number of VCs for nrt-VBR.
min_vc_abr	integer	Minimum number of VCs for ABR.
min_vc_ubr	integer	Minimum number of VCs for UBR.
max_vc_bw_cbr	integer	Maximum bandwidth of a VC for CBR.
max_vc_bw_rt_vbr	integer	Maximum bandwidth of a VC for rt-VBR.
max_vc_bw_nrt_vbr	integer	Maximum bandwidth of a VC for nrt-VBR.
max_vc_bw_abr	integer	Maximum bandwidth of a VC for ABR.
max_vc_bw_ubr	integer	Maximum bandwidth for UBR.
def_cdvt_cbr	integer	Default cell delay variation tolerance (CDVT) for CBR.
def_cdvt_rt_vbr	integer	Default CDVT rt-VBR.
def_cdvt_nrt_vbr	integer	Default CDVT nrt-VBR.
def_cdvt_abr	integer	Default CDVT for ABR.
def_cdvt_ubr	integer	Default CDVT for UBR.
def_mbs_rt_vbr	integer	Default MBS rt-VBR
def_mbs_nrt_vbr	integer	Default maximum burst size (MBS) nrt-VBR.
reserved	integer	Reserved for future use.

SVC Operations

Table 2-157 contains information about SVC operations.

Table 2-157 svc_operation

Column	Data Type	Description
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
bay	smallint	Bay number.
line	smallint	Line number.
port	smallint	Port number.
if_index	integer	Interface index.
ilmi_enable	smallint	Operational state of the Integrated Local Management Interface (ILMI). • 1 = True • 2 = False

Table 2-157 svc_operation (continued)

Column	Data Type	Description
ifc_type	smallint	Interface type. • 1 = publicUni • 2 = privateUni • 3 = iisp • 4 = pnni • 5 = aini • 6 = enni
ifc_side	smallint	Interface side of the ATM device. • 1 = userSide • 2 = networkSide • 3 = symmetric
max_vpcs	integer	Maximum number of switched and permanent virtual path connections (VPCs) supported on this ATM interface.
max_vccs	integer	Maximum number of switched and permanent virtual channel connections (VCCs) supported on this ATM interface.
max_vpibits	integer	Maximum number of active virtual path identifier (VPI) bits.
max_vcibits	integer	Maximum number of active virtual channel identifier (VCI) bits.
uni_type	smallint	UNI type. • 1 = Public • 5 = Private
uni_version	smallint	Latest version of the ATM Forum UNI Signaling Specification. • 1 = version2point0 • 2 = version3point0 • 3 = version3point1 • 4 = version4point0 • 5 = unsupported
device_type	smallint	Type of ATM device. • 1 = User • 2 = Node
ilmi_version	smallint	Latest version of the ATM Forum ILMI Specification. • 1 = unsupported • 2 = version4point0

Table 2-157 svc_operation (continued)

Column	Data Type	Description
nni_sig_version	smallint	Latest version of the ATM Forum PNNI Signaling Specification. • 1 = unsupported • 2 = iisp • 3 = pnniVersion1point0 • 4 = enni • 5 = aini
max_svpc_vpi	integer	Maximum switched VPC VPI.
min_svpc_vpi	integer	Minimum switched VPC VPI.
max_svcc_vpi	integer	Maximum switched VCC VPI.
min_svcc_vpi	integer	Minimum switched VCC VPI.
max_svcc_vci	integer	Maximum switched VCC VCI.
min_svcc_vci	integer	Minimum switched VCC VCI.
reserved	integer	Reserved for future use.

SVC Ports

Table 2-158 contains information about SVC interface configurations and attributes that affect the operation of the controller interface.

Table 2-158 svc_port

Column	Data Type	Description
node_id	integer	CWM node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
bay	smallint	Bay number. The default value is 1.
line	smallint	Line number.
port	smallint	Port number.
if_index	integer	Interface index from the ifTable.
admin_status	smallint	Administrative status. • 1 = inService • 2 = outService • 3 = blocked
oper_status	smallint	Operational state. • 1 = OK • 2 = Failed • 3 = Other

Table 2-158 svc_port (continued)

Column	Data Type	Description
svc_blocked	smallint	Value to allow switched virtual connections.
spvc_blocked	smallint	Value to allow soft permanent virtual connections.
signalling_vpi	integer	Signaling virtual path identifier (VPI).
signalling_vci	integer	Signaling virtual channel identifier (VCI).
routing_vpi	integer	VPI used for PNNI lowest level RCC.
routing_vci	integer	VCI used for PNNI lowest level RCC.
uni_version	smallint	Latest version of the ATM Forum UNI Signaling Specification. • 1 = uni20 • 2 = uni30 • 3 = uni31 • 4 = uni40 • 5 = ituDss2 • 6 = frf4 • 7 = unsupported • 8 = ip • 9 = self
nni_version	smallint	Latest version of the ATM Forum PNNI Signaling Specification. • 1 = iisp30 • 2 = iisp31 • 3 = pnni10 • 4 = enni • 5 = aini • 7 = unsupported
uni_type	smallint	Type of ATM device. • 1 = Public • 2 = Private
side	smallint	Object determines the side of the ATM device. • 1 = User • 2 = Network
svcc_vpi_lo	integer	Minimum SVCC VPI configured.
svcc_vpi_hi	integer	Maximum SVCC VPI configured.
svcc_vci_lo	integer	Minimum SVCC VCI configured.
svcc_vci_hi	integer	Maximum SVCC VCI configured.
svpc_vpi_lo	integer	Minimum SVPC VPI configured.

Table 2-158 svc_port (continued)

Column	Data Type	Description
svpc_vpi_hi	integer	Maximum SVPC VPI configured.
enhanced_lisp	smallint	Enhanced LISP.
spvc_addr	char (40)	Address that identifies the internal NSAP assigned to a port by the switch. The format is a 13-byte node prefix and 7-byte port number.
trunkmaintenance	smallint	Trunk Maintenance feature: if the interface is in maintenance mode or not
maint_start_timer	integer	Trunk Maintenance feature: connection deroute start timer after trunk in maintenance mode
maint_conn_per_group	integer	Trunk Maintenance feature: number of connections to be derouted in parallel per batch
maint_interval	integer	Trunk Maintenance feature: time interval in seconds between each batch of connections derouted
maint_deroute_option	smallint	Trunk Maintenance feature: deroute options such as none or serviceCategoryBased or vpiVciBased or numConnBased
maint_service_category	smallint	Trunk Maintenance feature: service category to be derouted
maint_start_vpi	integer	Trunk Maintenance feature: starting VPI of the connections to be derouted
maint_start_vci	integer	Trunk Maintenance feature: starting VCI of the connections to be derouted
maint_end_vpi	integer	Trunk Maintenance feature: ending VPI of the connections to be derouted
maint_end_vci	integer	Trunk Maintenance feature: ending VCI of the connections to be derouted
maint_num_deroute	integer	Trunk Maintenance feature: total number of connections to be derouted
deroute_delay_enable	smallint	AIS delay, Deroute delay, Absolute & Percentage Grooming Thresholds feature: deroute delay enabled or disabled on this PNNI interface
deroute_delay_timer	integer	AIS delay, Deroute delay, Absolute & Percentage Grooming Thresholds feature: deroute delay timer in seconds
sched_groom_start_vpi	integer	Route Optimization(Grooming) feature: starting VPI of the connections to be groomed on the interface
sched_groom_start_vci	integer	Route Optimization(Grooming) feature: starting VCI of the connections to be groomed on the interface
sched_groom_end_vpi	integer	Route Optimization(Grooming) feature: ending VPI of the connections to be groomed on the interface
sched_groom_end_vci	integer	Route Optimization(Grooming) feature: ending VCI of the connections to be groomed on the interface
sched_groom_interval	integer	Route Optimization(Grooming) feature: frequency at which the grooming is initiated in minutes on the interface

Table 2-158 svc_port (continued)

Column	Data Type	Description
sched_groom_start_tod	char(5)	Route Optimization(Grooming) feature: grooming start time of the day on the interface
sched_groom_end_tod	char(5)	Route Optimization(Grooming) feature: grooming end time of the day on the interface
sched_groom_week_day	char(8)	Route Optimization(Grooming) feature: days in a week when the grooming should take place on the interface
sched_groom_enable	smallint	Route Optimization(Grooming) feature: enable or disable the associated scheduled grooming configuration on the interface
reserved	integer	Reserved for future use.

User Authentication

Table 2-160 contains information about authentication rules and the stored password to compare with the password entered by the user during login. Each row in the table has data for each unique user.

Table 2-159 user_authentication

Column	Type	Comment
user_name	char(33)	Holds user name, primary key, foreign key (with user_info table).
password0	char(64)	Current password.
password1	char(64)	Saves previous passwords in order to compare the current password should be a different one.
password2	char(64)	Saves previous passwords in order to compare the current password should be a different one.
password3	char(64)	Saves previous passwords in order to compare the current password should be a different one.
password4	char(64)	Saves previous passwords in order to compare the current password should be a different one.
password5	char(64)	Saves previous passwords in order to compare the current password should be a different one.
pwd_set_date	date	Date when current passwor was set.

Table 2-159 user_authentication (continued)

Column	Type	Comment
pw_mgmt	smallint	• Bit 0 – 0 = Prevents login to the CWM system. – 1 = Permits login. • Bit 1 – 0 = Prevents user from changing their password. – 1 = Permits user to change their password. • Bit 2 – 0 = User is not required to change their password upon next login. – 1 = User is required to change their password upon next login.
reserved	smallint	Reserved for future use.

User Connection Descriptors

Table 2-160 contains information about user connection descriptors.

Table 2-160 user_conn_desc

Column	Type	Comment
l_node_id	integer	Local end CWM node ID.
l_slot	smallint	Local end slot number.
l_line	smallint	Local end line number (FRSM and CESM connections).
l_port	smallint	Local end port number (logical port except for FRSM). • logical port = physical port (ASI/BXM/FRP) • logical port = physical line (AUSM4/CESM) • logical port (UFM/AUSM8) • Physical port (FRSM/CESM)
l_logical_port	smallint	Logical port number for FRSM, AUSM, and CESM cards. Value of 1 indicates endpoints on MGX 8850 (PXM1) RPM.
l_subchnl_1	smallint	First local end subchannel number. • For Frame Relay endpoints, this value is set to DLCI. • For ATM endpoints, this value is set to VPI. • For voice and data endpoints, this value is set to -1.

Table 2-160 user_conn_desc (continued)

Column	Type	Comment
l_subchnl_2	integer	Second local end subchannel number. • For Frame Relay, voice, and data endpoints, this value is set to -1. • For ATM endpoints, this value is set to VCI.
descriptor	char (64)	Connection descriptor.
timestamp	char (64)	Time of last connection descriptor modification in unix time.
deleted	smallint	Flags whether or not the user connection description has been deleted. • 1 = Yes • 2 = No

User Connections

Table 2-161 contains end-to-end information about connections.

Table 2-161 user_connection

Column	Data Type	Description
l_node_id	integer	Local end CWM node ID.
num_segs	smallint	Number of segments.

Table 2-161 user_connection (continued)

Column	Data Type	Description
conn_model	smallint	Type of endpoint connection. Use the following legend: e1 - e2 ---- e3 -Y ---- Y - e4 ---- e5 - e6 S = SPVC, H = Hybrid, I = Incomplete • 0 = PVCs (default) • 1 = S-1—Single ended complete SPVC • 2 = S-2—Double ended complete SPVC • 3 = H-1—2 segment hybrid with SPVC part as single ended • 4 = H-2—2 segment hybrid with feeder on local end • 5 = H-3—2 segment hybrid with feeder on remote end • 6 = H-4—3 segment hybrid • 7 = I-1—(e1-e2) feeder incomplete • 8 = I-2—(e3 -y) with e3 terminated/non-terminated master • 9 = I-2—(e3-y) with e3 non-term single ended master • 128: I-1—(e1-e2) feeder incomplete • 129: I-2—(e3 -y) with e3 terminated/non-terminated master • 130: I-2—(e3-y) with e3 non-term single ended master • 131: I-3—(e4-y) with e4 as terminated/non-terminated slave • 132: I-4—(e3-e4) with e3 terminated/non-terminated and e4 terminated/non-terminated (if both terminated then it is S2) • 133: I-5—(e1-y) where e1 is local and e3 is master • 134: I-6—(e6-y) where e6 is remote and e4 is slave • 135: I-7—(e1-e4) where e1 is local and e4 is non-term slave • 136: I-8—(e3-e6) where e3 is non-term master and e6 is remote end
owner	smallint	sDbroker child ID.

Table 2-161 user_connection (continued)

Column	Data Type	Description
termination	smallint	Location of termination. • Bit 0 – 0 = Local end is terminated. – 1 = Local end is not terminated. • Bit 1 – 0 = Remote end is terminated. – 1 = Remote end is not terminated. Bits 2 through 4: Local endpoint type • 0= RPM • 1 = FR • 2 = ATM • 3 = VOICE • 4 = DATA • 6 = CESM • 7 = VISM Bits (5-7): Remote endpoint type • 0 = RPM • 1 = FR • 2 = ATM • 3 = VOICE • 4 = DATA • 6 = CESM • 7 = VISM
persistent_slave	smallint	Value to determine if the slave is persistent. • 1 = Persistent • 2 = Non persistent • 3 = Point to multipoint
l_slot	smallint	Local end slot number.
l_line	smallint	Local end line number (FRSM and CESM connections).

Table 2-161 user_connection (continued)

Column	Data Type	Description
l_port	smallint	Local end port number (logical port except for FRSM). • logical port = physical port (ASI/BXM/FRP) • logical port = physical line (AUSM4/CESM) • logical port (UFM/AUSM8) • physical port (FRSM/CESM) For valid ranges of this field, refer to the MGX MIBs or Switch Software interface documentation.
l_logical_port	smallint	Logical port number for FRSM, AUSM, and CESM cards. Value of 1 indicates endpoints on MGX 8850 (PXM1) RPM.
l_subchnl_1	smallint	First local end subchannel number. For Frame Relay endpoints, this value is set to DLCI. For ATM endpoints, this value is set to VPI. For voice and data endpoints, this value is set to -1.
l_subchnl_2	integer	Second local end subchannel number. For Frame Relay, voice, and data endpoints, this value is set to -2. For ATM endpoints, this value is set to VCI.
l_parent_status	smallint	Status of the local parent. • 0 = OK • 1 = Fail
l_EndPointInfo	integer	Local endpoint information for primary secondary status, service type, and policing. • Bits 0 through 3 = Primary alarm • Bits 4 through 11 = Secondary alarm • Bits 16 through 23 = Service type • Bits 24 through 31 = Unused
lr_slot	smallint	Local slot number.
lr_port	smallint	Local port number.
lr_subchnl_1	smallint	First local subchannel number.
lr_subchnl_2	integer	Second local subchannel number.
lc_node_id	integer	Local hub CWM node ID. This value is the same as the local node ID for connections that originate in a routing node.
lc_slot	smallint	Local hub slot number. This value is the same as the local slot ID for connections that originate in a routing node.
lc_line	smallint	Local line number.

Table 2-161 user_connection (continued)

Column	Data Type	Description
lc_port	smallint	Local hub port number. This value is the same as the local port ID for connections that originate in a routing node.
lc_logical_port	smallint	Local logical port.
lc_subchnl_1	smallint	First local hub subchannel number. This value is the same as the first local subchannel number for connections that originate in a routing node.
lc_subchnl_2	integer	Second local hub subchannel number. This value is the same as the second local subchannel number for connections that originate in a routing node.
lc_parent_status	smallint	Status of the local hub parent. • 0 = OK • 1 = Fail
lc_endpt_info	integer	Local hub endpoint information for primary and secondary status, service type, and policing. • Bits 0 through 3 = Primary alarm • Bits 4 through 11 = Secondary alarm • Bits 16 through 23 = Service type • Bits 24 through 31 = Unused
rc_node_id	integer	Remote hub CWM node ID. This value is the same as the remote node ID for connections that originate in a routing node.
rc_slot	smallint	Remote hub slot number. This value is the same as the remote slot ID for connections that originate in a routing node.
rc_line	smallint	Remote line number.
rc_port	smallint	Remote hub port number. This value is the same as the remote port ID for connections that originate in a routing node.
rc_subchnl_1	smallint	First remote hub subchannel number. This value is the same as the first remote sub-channel number for connections that originate in a routing node.
rc_subchnl_2	integer	Second remote hub subchannel number. This value is the same as the second remote subchannel number for connections that originate in a routing node. For Frame relay, voice and data end-points this is set to -1. For ATM end-points this is set to VCI.For VP Conns in MGX1 this is set to -2.
rc_parent_status	smallint	Status of the remote hub parent. • 0 = OK • 1 = Fail

Table 2-161 user_connection (continued)

Column	Data Type	Description
rc_endpt_info	integer	Remote hub endpoint information for primary and secondary status, service type, and policing. • Bits 0 through 3 = Primary alarm • Bits 4 through 11 = Secondary alarm • Bits 16 through 23 = Service type • Bits 24 through 31 = Unused
y_node_id	integer	Node ID for SPVCs and Hybrid connections.
y_slot	smallint	Slot number for SPVCs and Hybrid connections.
y_port	smallint	Port for SPVCs and Hybrid connections.
y_subchnl_1	smallint	Subchannel 1 for SPVCs and Hybrid connections.
y_subchnl_2	integer	Subheading 2 for SPVCs and Hybrid connections.
rr_slot	smallint	Remote slot number. This value is the same as the remote slot ID for connections that originate in a routing node.
rr_port	smallint	Remote port number. This value is the same as the remote port ID for connections that originate in a routing node.
rr_subchnl_1	smallint	First remote subchannel number. This value is the same as the first remote subchannel number for connections that originate in a routing node.
rr_subchnl_2	integer	Second remote subchannel number. This value is the same as the second remote subchannel number for connections that originate in a routing node.
r_node_id	integer	Remote end CWM node ID.
r_slot	smallint	Remote end slot number.
r_line	smallint	Remote end line number (FRSM connections).
r_port	smallint	Remote end port number (logical port except for FRSM). • Logical port = physical port (ASI/FRP) • Logical port = physical line (AUSM4/CESM) • Logical port (UFM/AUSM8) • Physical port (FRSM/CESM)
r_logical_port	smallint	Remote end logical port. The default is -1
r_subchnl_1	smallint	First remote subchannel number.
r_subchnl_2	integer	Second remote subchannel number. For Frame Relay, voice, and data endpoints, this value is set to -1. For ATM endpoints, this value is set to VCI.
r_parent_status	smallint	Status of the remote parent. • 0 = OK • 1 = Fail

Table 2-161 user_connection (continued)

Column	Data Type	Description
r_EndPointInfo	integer	Remote endpoint information for primary secondary status, service type, and policing. • Bits 0 through 3 = Primary alarm • Bits 4 through 11 = Secondary alarm • Bits 16 through 23 = Service type • Bits 24 through 31 = Unused
parm_type	smallint	Flag to indicate the Frame Relay parameters used.(standard or proprietary).
state	smallint	Connection state. • 1 = Clear • 2 = Fail • 3 = Down • 4 = Incomplete • 5 = Error (for SPVCs and Hybrids)

Table 2-161 user_connection (continued)

Column	Data Type	Description
secondary_state	smallint	Secondary state consists of A-bit, AIS, and OAM. • Bits 1 through 2: Local A-bit – 0 = Unknown – 1 = OK – 2 = Fail • Bits 3 through 4: Local AIS – 0 = Unknown – 1 = OK – 2 = Fail • Bits 5 through 6: Local OAM – 0 = Unknown – 1 = OK – 2 = Fail • Bits 7 through 8: Local conditioned – 0 = Unknown – 1 = OK – 2 = Fail • Bits 9 through 10: Remote A-bit – 0 = Unknown – 1 = OK – 2 = Fail • Bits 11 through 12: Remote AIS – 0 = Unknown – 1 = OK – 2 = Fail • Bits 13 through 14: Remote OAM – 0 = Unknown – 1 = OK – 2 = Fail • Bits 15 through 16: Remote conditioned (not applicable for PVCs) – 0 = Unknown – 1 = OK – 2 = Fail • Bits 17 through 32: Not used

Table 2-161 user_connection (continued)

Column	Data Type	Description
proc_state	smallint	Processing state (used by data broker).
con_type	smallint	Connection type. • 1 = FR • 2 = ATM-FR • 3 = ATM • 4 = DATA • 5 = VOICE • 6 = CE • 7 = ATM-CE • 8 = RPM • 9 = ATM-RPM • 10 = RPM-FR • 11 = VISM-ATM • 12 = VISM-VISM • 13 = VISM-RPM • 14 = VISM-FR • 15 = ATM-UNKNOWN (for single ended SPVC only) • 16 = FR-UNKNOWN (for single ended SPVC only) • 17 = CE-UNKNOWN (for single ended SPVC only) • 18 = RPM-UNKNOWN (for single ended SPVC only) • 19 = VISM-UNKNOWN (for single ended SPVC only) • 20 = RPM-UNKNOWN (for single ended SPVC only) • 21 = VISM-UNKNOWN (for single ended SPVC only) For an incomplete connection, this field is set to 0. For the endpoint type, see the termination field.

Table 2-161 user_connection (continued)

Column	Data Type	Description
subtype	smallint	Service type. • 1 = FR • 2 = VBR • 3 = CBR • 4 = unknown • 5 = ABR • 6 = FRFS • 7 = CE • 8 = ATM-FR_VBR3 • 9 = ATM-FR_ABR_FS • 10 = UBR • 11 = VBR1 • 12 = VBR2 • 13 = VBR3 • 14 = ABR1 • 15 = ABR.FS • 16 = UBR1 • 17 = UBR2 • 18 = VOICE • 19 = DATA • 20 = ATM_RTVBR1 • 21 = ATM_RTVBR2 • 22 = ATM_RTVBR3 • 23 = ATMFR_CBR1 • 24 = ATMFR_VBR2 • 25 = ATMFR_RTVBR2 • 26 = ATMFR_RTVBR3 • 27 = ATMFR_UBR1 • 28 = ATMFR_UBR2 • 41 = ATM_ATFST • 42 = ATM_ATFTFST • 43 = ATM_ATFXFST • 44 = ATMFR_ATFST • 45 = ATMFR_ATFTFST

Table 2-161 user_connection (continued)

Column	Data Type	Description
subtype (continued)	smallint	• 46 = ATMFR_ATFXFST • 47 = ATMFR_ABR1 • 48 = ATM_CBR2 • 49 = ATM_CBR3 • 50 = ATMFR_CBR2 • 51 = ATMFR_CBR3 • 52 = ATM_VBR4 • 53 = ATM_VBR5 • 54 = ATM_RTVBR4 • 55 = ATM_RTVBR5 • 56 = ATMFR_VBR4 • 57 = ATMFR_VBR5 • 58 = ATMFR_RTVBR4 • 59 = ATMFR_RTVBR5 • 60 = ATM_RTVBR • 61 = ATMFR_VBR • 62 = ATMFR_RTVBR
l_endpt_obj_id	integer	Local endpoint object ID.
lc_endpt_obj_id	integer	Local hub endpoint object ID.
rc_endpt_obj_id	integer	Remote hub endpoint object ID.
r_endpt_obj_id	integer	Remote endpoint object ID.
l_per_util	smallint	Local end percent utilization. This parameter is taken from the routing segment.
r_per_util	smallint	Remote end percent utilization. This parameter is taken from the routing segment.
l_mc_type	smallint	Local multicast type flag (multicast connections). • 0 = Normal • 1 = Root • 2 = Leaf
r_mc_type	smallint	Remote multicast type flag (multicast connections). • 0 = Normal • 1 = Root • 2 = Leaf
l_vp_flag	smallint	Local virtual path (VP) flag. • 0 = VC connection • 1 = VP connection

Table 2-161 user_connection (continued)

Column	Data Type	Description
r_vp_flag	smallint	Remote VP flag. • 0 = VC connection • 1 = VP connection
l_end_nni	smallint	Local end port type. • -1 = Unknown port type • 0 = Non-nni port type • 1 = NNI port type • 2 = XLMI port type
r_end_nni	smallint	Remote end port type. • -1 = Unknown port type • 0 = Non-nni port type • 1 = NNI port type • 2 = XLMI port type For an incomplete PVC, this value is -1.
end_to_end_type	smallint	End-to-end type. • 0 = PVC • 1 = SPVC • 2 = HYBRID • 3 = Single ended SPVC • 4 = Single ended HYBRID • 5 = Point to Multipoint SPVC • 256 = XPVC–PVC • 257 = XPVC–SPVC • 258 = XPVC–HYBRID
pref_route_id	integer	Route ID of the associated preferred route. The range is 0 through 65535. The default is 0.
direct_route_flag	smallint	Directed route flag. • 1 = True • 2 = False (default)
network_prefix	char	Network prefix associated with a MGX 8850 (PXM45) node. This field is for an incomplete SPVC. The master channel remote node ID is not known to the CWM. A null value indicates that this information is not applicable.

Table 2-161 user_connection (continued)

Column	Data Type	Description
l_pnni_master	smallint	Local end is PNNI master. • 00 = Slave incomplete • 10 = Slave complete • 01 = Master incomplete • 11 = Master complete SPVC/Hybrid connections. • 0 = Local endpoint is slave • 1 = Local endpoint is master This value is used internally by the CWM.
inseg_tbl_1	smallint	Value to indicate that the first segment was received. • 0 = First segment notification not received from both endpoints. • 1 = First segment notification received from both local and remote endpoints. • 2 = First segment notification received from local endpoint. • 3 = First segment notification received from remote endpoint. The default is -1.
inseg_tbl_2	smallint	Value to indicate that the second segment was received. • 0 = Second segment notification not received from both endpoints. • 1 = Second segment notification received from both local and remote endpoints. • 2 = Second segment notification received from local endpoint. • 3 = Second segment notification received from remote endpoint. The default is -1. This value is only applicable if the num_segs object is greater than 1.

Table 2-161 user_connection (continued)

Column	Data Type	Description
inseg_tbl_3	smallint	Value to indicate that the third segment was received. • 0 = Third segment notification not received from both endpoints. • 1 = Third segment notification received from both local and remote endpoints. • 2 = Third segment notification received from local endpoint. • 3 = Third segment notification received from remote endpoint. The default is -1. This value is only applicable if the num_segs object is greater than 2.
snmp_index	integer	SNMP proxy index for user connections.

User Information

Table 2-162 contains information about CWM user names and the security profiles.

Table 2-162 user_info

Column	Type	Comment
user_name	char (33)	Unique CWM user name that consists of alphanumeric characters no more than 33 characters in length.
insync_primary	integer	Value to determine that this record is the same with the primary. • 0 = Same with primary (default) • 1 = Not the same
profile_name	char (33)	CWM user profile name.

User Preferences

Table 2-163 contains information about CWM user based preferences from GUI clients.

Table 2-163 user_preferences

Column	Data Type	Comment
user_name	char (33)	Unique CWM user name that consists of alphanumeric characters no more than 33 characters in length.
app_name	char(160)	CWM GUI application name that is using this set of preferences.

Table 2-163 user_preferences (continued)

category_name	char(160)	Specific category within an application.
is_explicit	smallint	0 if the preference is implicit, 1 if the preference is explicit.
preference_valueset	char(8192)	Set of preference values defined by client.

VSI Controller

Table 2-164 contains information about the virtual switch interface (VSI) controller.

Table 2-164 controller

Column	Data Type	Description
p_node_id	integer	Parent node ID.
ctrlr_id	integer	Controller ID.
ctrlr_loc	smallint	Location of the controller shelf. • 1 = Internal • 2 = External
ctrlr_type	smallint	Controller type. • 1 = PAR • 2 = PNNI • 3 = LSC
slot	smallint	Slot number.
port	integer	Port number.
attached_vpi	integer	Virtual path identifier (VPI), in the range 0 through 4095.
attached_vci	integer	Virtual channel identifier (VCI), in the range 32 through 65535.
ctrlr_name	char (40)	VSI controller name assigned by the user.
atm_ip_addr	integer	ATM IP address.
lan_ip_addr	integer	LAN IP address.
ctrlr_status	smallint	Administrative status of the controller. • 1 = Active • 2 = Standby • 3 = Quiescent
sw_rev	char (40)	PNNI network controller software revision number.
reserved	integer	Reserved for future use.

RPM and VISM Virtual Ports

Table 2-165 contains information about the ATM Virtual interface for the RPM and VISM cards.

Table 2-165 virtual_port

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Logical slot number of the card.
bay	smallint	Bay number. This value is always 1.
line	smallint	Line number. This value is always 1.
port	smallint	Logical port number. • 0 = VC connection. • 1 = VP connection. This value maps to the RSC_PART table.
if_index	integer	Unique value of each interface.
if_type	smallint	Interface type. For RPM-PR cards this value represents the ATM virtual interface (149). For RPM-XF cards this field specifies the link type of this interface. • 1 = Point-to-point • 2 = Multipoint • 3 = Label switching This table is not supported for VISM cards and thus returns a value of -1.
max_bandwidth	integer	The propATM interface's maximum cell rate The range is 0 through 4294967295 The default is 7000000
reserved	integer	Reserved for future use.

VISM Announce

Table 2-166 contains information about the announce files for VISM cards.

Table 2-166 vism_announce

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID

Table 2-166 vism_announce (continued)

Column	Data Type	Description
shelf	integer	Shelf number.
slot	smallint	Slot number.
ann_num	integer	Announce number in the range 0 through 2147483647.
file_status	smallint	Loading status of the file for VISM. • 1 = Loaded • 2 = Loading • 3 = Invalid file • 4 = Load failed Loading status of the file for VXSM. • 1 = File is cached • 2 = Loading • 3 = Invalid file • 4 = Load failed • 5 = File is not cached
file_name	char (255)	Name of a valid announcement file.
codec	smallint	CODEC to be used for playing announcements. • 1 = g711u • 2 = g711a • 3 = g726r32000 • 4 = g729a • 5 = g729ab • 7 = g726r16000 • 8 = g726r24000 • 9 = g726r40000 • 11 = g723h • 12 = g723ah • 13 = g723l • 14 = g723al
play_noc	integer	The number of cycles the announcement file is played The range is 0 through 2147483647. The default is 1.
file_duration	integer	For fixed announcement play, the duration to play the announcement for one cycle. The range is 0 through 4294967295. The default is 0.

Table 2-166 vism_announce (continued)

Column	Data Type	Description
file_type	smallint	Announcement file type. • 1 = dynamic • 2 = permanent The default is 1.
file_age	integer	For dynamic files, this field sets the age of the cached announcement file The range is 0 through 65535.
reserved	integer	Reserved for future use.

VISM Cards

Table 2-167 contains information about VISM cards managed by the CWM.

Table 2-167 vism_card

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
ipaddress	integer	VISM IP address.
subnetmask	integer	VISM subnet mask.
mg_name	char (64)	Media gateway name. This field corresponds to the mgName object.
mg_adminstate	smallint	Current administrative state of the media gateway. • 1 = adminStateUnlocked • 2 = adminStateLocked • 3 = adminStateShuttingDown This field corresponds to the mgAdministrativeState object.
mg_adminstate_ctrl	smallint	Administrative state control. • 1 = Unlock • 2 = Lock • 3 = Shutdown This field corresponds to the mgAdministrativeStateControl object.
xgcp_req_timeout	integer	Request timeout (milliseconds) determines the timeout value used for re-transmitting the unacknowledged message. This field corresponds to the xgcpRequestTimeOut object.

Table 2-167 vism_card (continued)

Column	Data Type	Description
xgcp_req_retries	smallint	Number of retries for a request that exceeds a timeout, in the range 0 through 10. This field corresponds to the xgcpRequestRetries object.
restart_inprogress	integer	Maximum waiting delay (MWD) timeout value used for the Media Gateway to send the Restart In Progress to the Media Gateway Controller. This field corresponds to the xgcpRestartInProgressMWD object.
ecan_encoding	smallint	Voice encoding type. • 1 = Mu-law • 2 = A-law This field corresponds to the vismEcanEncoding object.
avail_ds0count	smallint	Number of DS0s in the range 0 through 248 that are available for new connections on the VISM card. The range is 0 through 248. This field corresponds to the vismAvailableDs0Count object.
mode	smallint	Connection model of the VISM card. • 1 = VISM mode VoIP switching (default) • 2 = AAL2 trunking • 3 = AAL1 SVC • 4 = Switched VoIP CASBh • 5 = Switched VoIP PRIBh • 6 = Switched AAL2 CASBh • 7 = Switched AAL2 SVC • 8 = Switched AAL2 PVC • 99 = Super mode • 100 = Unknown mode This field corresponds to the vismMode object.
cacenable	smallint	Value to enable connection admission control (CAC) functionality on the VISM card. • 1 = Disable • 2 = Enable (default) This field corresponds to the vismCacEnable object.

Table 2-167 vism_card (continued)

Column	Data Type	Description
ecanidlepattern	smallint	Echo canceller pattern for idle code. • 1 = Pattern 1 • 2 = Pattern 2 • 3 = Pattern 3 • 4 = Pattern 4 This field corresponds to the vismEcanCnfIdlePattern object.
ecanidledir	smallint	Echo canceller idle direction. • 1 = Both (default) • 2 = Either • 3 = Send • 4 = Receive This field corresponds to the vismEcanCnfIdleDirection object.
vismerl	smallint	Value to provision the return echo lost. • 1 = Zero db • 2 = Three db • 3 = Six db (default) • 4 = Worst db This field corresponds to the vismERL object.
jitdelmode	smallint	Value to provision the jitter buffer mode to be applied to call connection. • 1 = Fixed (default) • 2 = Adaptive This field corresponds to the vismJitterDelayMode object.

Table 2-167 vism_card (continued)

Column	Data Type	Description
jitinitdelay	smallint	Jitter buffer size. • 1 = Zero • 5 = Five • 10 = Ten • 15 = Fifteen • 20 = Twenty • 25 = Twenty-five • 30 = Thirty • 35 = Thirty-five • 40 = Forty (default) • 45 = Forty-five • 50 = Fifty • 55 = Fifty-five • 60 = Sixty • 65 = Sixty-five • 70 = Seventy • 75 = Seventy-five • 80 = Eighty • 85 = Eighty-five • 90 = Ninety • 95 = Ninety-five • 100 = Hundred This field corresponds to the vismJitterInitialDelay object.
gainctrl	smallint	Value to adjust the gain of the call connection. • 1 = Off (default) • 2 = On This field corresponds to the vismAdaptiveGainControl object.
muxtype	smallint	Card level parameter for AAL2 adaptation that identifies the multiplexing function of the AAL2 Common Part Sublayer. This field corresponds to the vismAal2SubcellMuxing object.
contrl_tos	smallint	Object to provision the bitmask used for the type of service (TOS) octet for cells carrying the control (xGCP) traffic. This field corresponds to the vismControlTos object.
br_ipaddress	integer	Bearer IP address of the VISM card. This field corresponds to the vismBearerIpAddress object.

Table 2-167 vism_card (continued)

Column	Data Type	Description
br_subnetmask	integer	Bearer subnet mask of the VISM IP interface. This field corresponds to the vismBearerSubNetMask object.
br_tos	smallint	Object to provision the bitmask used for the TOS octet for cells carrying VoIP bearer (RTP) traffic. This field corresponds to the vismBearerTos object.
rtcp_rp_intval	integer	RTCP report interval (defined in RFC 1889). This field corresponds to the vismRtcpRepInterval object.
rtp_rcv_tmr	smallint	Object to define whether or not the RTP packets receive timer on the VISM needs to be enabled. This field corresponds to the vismRtpReceiveTimer object.
voip_dtmf_relay	smallint	Object to define whether or not the duel tone multifrequency (DTMF) digits need to be transported to the other endpoint via named signal event (NSE) packets. This field corresponds to the vismVoIpDtmfRelay object.
voip_cas_trspt	smallint	Object to define whether or not the CAS (ABCD bits) bits need to be transported to the other endpoint via NSE packets. This field corresponds to the vismVoIpCasTransport object.
voip_tri_red	smallint	Object to define whether or not triple redundancy is enabled. This field corresponds to the vismVoIpTripleRedundancy object.
voip_vad_tmr	integer	Hangover time for VAD in milliseconds. This field corresponds to the vismVoIpVADTimer object.
nte_capb_negot	smallint	Object to define whether or not the VISM card has the capability to negotiate the list of events either NSE or named telephony events (NTEs) using rtpmap and fmtpmap in the SDP. This field corresponds to the vismVoIpNTECapabilityNegotiate object.
sid_payload_type	smallint	Value to set the payload type of a RTP packet carrying SID, which is sent to the other end when silence is detected. This field corresponds to the vismVoIpSIDPayloadType object.
dpvc_oam_cell_ga p	integer	Inter cell gap for dual PVC OAM cells. This field corresponds to the vismVoIpDPvcOamCellGap object.
dpvc_retry_cnt	smallint	Threshold for failure of a PVC. This field corresponds to the vismVoIpDPvcRetryCnt object.
dpvc_recover_cnt	smallint	Threshold for recovery of a PVC. This field corresponds to the vismVoIpDPvcRecoverCnt object.
rtcp_rcv_multi	smallint	Value to define how many times the RTCP reports fail before an exception condition activity can occur. This field corresponds to the vismRtcpRecvMultiplier object.

Table 2-167 vism_card (continued)

Column	Data Type	Description
lapd_trunk_pvc	smallint	VoIP trunking applications. This object applies only if the signalling type is configured to be CCS. This field corresponds to the vismVoIpLapdTrunkPVC object.
event_neg_policy	smallint	Object to define whether or not the VISM should advertise the event Codecs, NSE, NTE, or RTP, in addition to the list of events specified by the call agent. This field corresponds to the vismVoIpEventNegotiationPolicy object.
upspeed_codec	smallint	Codec to be used when fax upspeed happens. This field corresponds to the vismUpspeedCodec object.
appl_template	smallint	Codec template configured on the VISM card. This field corresponds to the vismAppliedTemplate object.
tftp_server_dn	char 64	Domain name of the TFTP server from where the channel associated signaling (CAS) module downloads the CAS files. This field corresponds to the vismTftpServerDn object.
xgcp_br_nwtype	smallint	Network type to transport bearer traffic. This field corresponds to the vismXgcpBearerNetworkType object.
xgcp_br_vctype	smallint	VC type to transport bearer traffic. This field corresponds to the vismXgcpBearerVCType object.
xgcp_br_contype	smallint	Connection type used to transport bearer traffic. This field corresponds to the vismXgcpBearerConnectionType object.
br_continu_tmr	integer	Bearer continuity timer in milliseconds. This field corresponds to the vismBearerContinuityTimer object.
codec_neg_opt	smallint	Object to form an ordered intersection of lists. One of the lists must be used to determine the resulting order of Codecs. This field corresponds to the vismCodecNegotiationOption object.
prfile_neg_opt	smallint	Object to form an ordered intersection of lists. One of the lists must be used to determine the resulting order of profiles. This field corresponds to the vismProfileNegotiationOption object.
carr_loss_policy	smallint	Object to define the policy to be applied when a carrier loss is detected. This field corresponds to the vismCarrierLossPolicy object.

Table 2-167 vism_card (continued)

Column	Data Type	Description
cac_rej_policy	smallint	Object to define the policy to be applied once the connection admission control (CAC) function rejects the upspeeding of a connection. This rejection is due to a fax/modem switch-over request. This field corresponds to the vismCacRejectionPolicy object.
ext_dns_serv	char (65)	Domain name of the external DNS server which is used to resolve other domain names. This field corresponds to the vismExtDnsServerDn object.
feature_bitmap	integer	Bit map for VISM features. This field corresponds to the vismFeatureBitMap object.
vad_tolerance	integer	Customer accepted drop rate for voice connections when the bandwidth usage exceeds the allowed value. This field corresponds to the vismVADTolerance object.
vad_duty_cycle	smallint	Talk-spurts duty cycle. The unit is a percentage. This field corresponds to the vismVADDutyCycle object.
agg_traffic_clip	smallint	Aggregate traffic clipping policy which applies to all bearer traffic generated at the VISM card. This field corresponds to the vismAggregateTrafficClipping object.
agg_svc_bandwidth	integer	Aggregate SVC bandwidth used for AAL2 SVC aggregate, SVC connection admission control, and aggregate traffic clipping on the VISM card when vismAggregateTrafficClipping is enabled. This field corresponds to the vismAggregateSvcBandwidth object.
br_continu_test	smallint	Object to define whether or not the bearer continuity test for a connection is performed at the time of call setup. This field corresponds to the vismBearerContinuityTest object.
calea_enable	smallint	Object to define whether or not Communication Assistance for Law Enforcement Agency (CALEA) functionality should be enabled on the VISM card. This field corresponds to the vismCaleaEnable object.
aal2_dtmf_relay	smallint	Object to define whether or not the DTMF digits should be transported to the other endpoint. This field corresponds to the vismAal2DtmfRelay object.
aal2_cas_trspt	smallint	Object to define whether the CAS bits (ABCD bits) should be transported to the other endpoint. This field corresponds to the vismAal2CasTransport object.
aal2_type3_red	smallint	Object to define whether or not the triple redundancy is supported for type 3 packets in AAL2 SVC/PVC. This field corresponds to the vismAal2Type3Redundancy object.

Table 2-167 vism_card (continued)

Column	Data Type	Description
aal2_vad_tmr	integer	Hangover time for voice activity detection (VAD) in milliseconds. This field corresponds to the vismAal2VADTimer object.
aal2_cid_fill_tmr	smallint	Time (in milliseconds) to wait before filling up the cell when the next packet is not ready. This field corresponds to the vismAal2CidFillTimer object.
xgcp_sdp_ost	smallint	Value to enable or disable building of s=,t=,o= lines in an SDP message. This field corresponds to the vismXgcpSdpOst object.
srcp_req_tmout	integer	Minimum timeout value. This field corresponds to the srcpRequestTimeOut object.
srcp_req_retries	smallint	Number of retries for a SRCP request that exceeds the timeout. This field corresponds to the srcpRequestRetries object.
srcp_req_max_tmout	integer	Maximum timeout value. This field corresponds to the srcpRequestMaxTimeout object.
xgcp_req_max_tmout	integer	Maximum timeout value. This field corresponds to the vismXgcpRequestMaxTimeout object.
tone_plan_cur_size	smallint	Total size of the Tone Plan table. This field corresponds to the tonePlanCurrentSize object.
restart_delay	smallint	Restart delay timeout for the restart process.
ann_max_size	integer	Maximum size of the announcement table in the range 0 through 2147483647.
ann_server_name	char 255	Name of the announcement file server.
ann_age_time	integer	Time for a dynamic announcement file in the cache to age. The range is 0 through 2147483647 minutes.

Table 2-167 vism_card (continued)

Column	Data Type	Description
ann_pre_codec	smallint	CODEC used for playing announcements. • 1 = g711u • 2 = g711a • 3 = g726r32000 • 4 = g729a • 5 = g729ab • 7 = g726r16000 • 8 = g726r24000 • 9 = g726r40000 • 11 = g723h • 12 = g723ah • 13 = g723l • 14 = g723al
ann_pref_path	char (255)	Directory path under the default TFTP directory in the Announcement file server for announcement files.
ann_req_timeout	integer	Time for a dynamic play announcement request to be serviced. The range is 0 through 2147483647.
svc_qos_cdv	smallint	End-to-end cell delay variation used in voice SVC establishment. The range is 500 through 20000.
svc_qos_ctd	integer	End-to-end maximum cell transfer delay used in voice SVC establishment. The range is 20000 through 150000.
svc_qos_clr	smallint	Maximum cell loss ratio used in voice SVC establishment. The range is 4 through 8.
svc_trf_scale	smallint	Traffic scaling factor. The range is 50 through 200.
svc_aal2_cid	smallint	Default AAL2 channel ID (CID) used for AAL2 SVCs. The range is 8 through 255.
xgcp_tdinit	smallint	Initial waiting delay (Tdinit) timeout value. Range 1 through 100.
xgcp_tdmin	smallint	Minimum waiting delay (Tdmin) timeout value used by the Media Gateway to send the Restart In Progress with the restart method as RM:disconnected to the Media Gateway Controller. The range is 0 through 100.
xgcp_tdmax	smallint	Maximum waiting delay (Tdmax) timeout value used by the Media Gateway. The range is 1 through 5000.

Table 2-167 vism_card (continued)

Column	Data Type	Description
dynamic_pt	smallint	This object is used to enable / disable dynamic payload type configuration on the VISM Card. • 1 = enable • 2 = disable
payload_type	smallint	This object specifies the payload type to be used when fax upspeed happens. IANA values (0 through 95) are static payload and (96 through 127) are dynamic payload type. This object is applicable only in the case of VOIP applications, for AAL2 the upspeedCodec is obtained from profile table and this object will have no affect.
dsp_heart_beat	integer	This object will specify the timer, DSP send a regular heartbeat messages from the DSP to the HOST at the interval specified. Interval between messages is in 100 millisec units. The range is 0 through 65535.
ds0_thresh	smallint	This attribute holds the threshold value of free ds0 counts on the VISM card. A trap is sent out if the number of free ds0s fall below this threshold. The range is 0 through 248.
max_conf_num	smallint	Identify how many conference will be supported on a VISM card The range is 0 through 50.
long_dur_timer	smallint	The long duration time is detected when a connection has been established for more than certain period of time. The default time is one hour. The range is from 0 to 24 hours.
cont_co1_timer	smallint	A 2010Hz tone is applied, if the co1 is specify as a signal the range is 2010Hz +/- 8Hz and if it is specify as an event the range is 2010Hz +/- 30Hz. The continuity tone is applied for the specified duration of time. The default is 3 seconds. The range is 0 through 60.
cont_co2_timer	smallint	A 1780Hz tone is applied, if the co2 is specify as a signal the range is 1780Hz +/- 20Hz and if it is specify as an event the range is 1780Hz +/- 30Hz. The continuity tone is applied for the specified duration of time. The default is 3 seconds. The range is 0 through 60.
rev_cot_tone	smallint	This attribute defines the direction of COT Tone that is sent in a 2w to 4w arrangement. The VISM responds to a request from the call agent through the M:conttest mode, it returns a 1780 Hz tone in response to a 2010 Hz go tone and vice versa. • 1 = true • 2 = false

Table 2-167 vism_card (continued)

Column	Data Type	Description
dn_enable	smallint	This will allow VISM to send domain name as part of Audit Endpoint response to the call agent when it is configured as true • 1 = true • 2 = false
datagram_size	integer	Specify the size of datagram that should be sent when the vismSendDnEnable is set to “true”. Any value greater than the specified size will be rejected. The range is 0 through 20000.
oam_loop_thresh	smallint	Specify OAM loopback cell loss count before declaring a PVC alarm The range is 1 through 60.
mem_thresh	smallint	This attribute holds the threshold value of memory utilization on the VISM card. A trap is sent out if the memory utilization equals or exceeds this threshold. The range is 1 through 100.
cpu_thresh	smallint	This attribute holds the threshold value of CPU utilization on the VISM card. The range is 1 through 100.
tone_detect	smallint	This object is used to enable/disable dual tone configuration. When the dual tone is enable and detected, the Marconi Application will upspeed to VBD codec. • 1 = true • 2 = false
num_frequencies	smallint	The number of single frequencies which have to be detected by the Sequential Tone detector command on VISM. the frequencies should specified below (freq1 to freq10). This number should correspond to the non-zero Frequency values frequency1 to frequency10 below The range is 1 through 10.
event_id	smallint	The event ID corresponding to the sequential frequency. currently only supports Event 74 (SIT tone) The range is 0 through 255.
tone_duration	integer	Nominal tone duration of each single tone in counts of 10ms used with Sequential Tone detector on VISM DSP. The range is 1 through 65534.
tone_gap	integer	Nominal silence gap duration between each tone in 10ms used with Sequential Tone detector on VISM DSP. The range is 1 through 65534.

Table 2-167 vism_card (continued)

Column	Data Type	Description
deviation_duration	smallint	Tone duration deviation allowed in 10ms used with Sequential Tone detector on VISM DSP. The range is 1 through 4095.
max_gap_duration	smallint	Maximum Tone duration allowed in 10ms used with Sequential Tone detector on VISM DSP. The range is 1 through 4095.
gap_duration_deviation	smallint	Tone duration deviation allowed in 10ms used with Sequential Tone detector on VISM DSP. The range is 1 through 4095.
freq_deviation	smallint	Frequency deviation allowed (1 - 1000 Hz) used with Sequential Tone detector on VISM DSP.
level_ceiling	smallint	Maximum ceiling Power Level of the sequential frequency tone (absolute value in dBm) used with Sequential Tone detector on VISM DSP. The range is 0 through 40 (0 to -40dB).
level_floor	smallint	Lowest (Floor) Power Level of the sequential frequency tone (absolute value in dBm) used with Sequential Tone detector on VISM DSP. The range is 0 through 40 (0 to -40dB).
frequency1	smallint	1st Frequency in the Sequential Tone to detect (280 - 3800), n=0 through 10 used with Sequential Tone detector on VISM DSP.
frequency2	smallint	2nd Frequency in the Sequential Tone to detect (280 - 3800), n=0 through 10 used with Sequential Tone detector on VISM DSP.
frequency3	smallint	3rd Frequency in the Sequential Tone to detect (280 - 3800), n=0 through 10 used with Sequential Tone detector on VISM DSP.
frequency4	smallint	4th Frequency in the Sequential Tone to detect (280 - 3800), n=0 through 10 used with Sequential Tone detector on VISM DSP.
frequency5	smallint	5th Frequency in the Sequential Tone to detect (280 - 3800), n=0 through 10 used with Sequential Tone detector on VISM DSP.
frequency6	smallint	6th Frequency in the Sequential Tone to detect (280 - 3800), n=0 through 10 used with Sequential Tone detector on VISM DSP.
frequency7	smallint	7th Frequency in the Sequential Tone to detect (280 - 3800), n=0 through 10 used with Sequential Tone detector on VISM DSP.
frequency8	smallint	8th Frequency in the Sequential Tone to detect (280 - 3800), n=0 through 10 used with Sequential Tone detector on VISM DSP.
frequency9	smallint	9th Frequency in the Sequential Tone to detect (280 - 3800), n=0 through 10 used with Sequential Tone detector on VISM DSP.
frequency10	smallint	10th Frequency in the Sequential Tone to detect (280 - 3800), n=0 through 10 used with Sequential Tone detector on VISM DSP.

Table 2-167 vism_card (continued)

Column	Data Type	Description
ip_ping_enable	smallint	Object to enable or disable the IP ping feature on the VISM card. • 1 = true • 2 = false The default value is true (1)
trap_filter_enable	smallint	Object to enable or disable the trap filtering feature on the VISM-PR card. The trap filter feature is for VISM-PR only. • 1 = true • 2 = false The default value is false (2).
trap_filter_profile	char(33)	The Trap Filter Profile name used when generating notifications. The trap filter feature is for VISM-PR only.
sp_modem_tone_bitmap	smallint	Bitmap for special modem tone detection on the card. This feature applies to the VISM-PR card.
ssrc_enable	smallint	Enables SSRC per RTP session. This feature applies to VISM and VISM-PR cards. • 0 = disable • 1 = enable The default is disable (0).
oam_set_CLP	smallint	History statistics enhancements (OAM). This feature applies to VISM and VISM-PR cards. • 1 = true • 2 = false The default value is true (1).
pvc_log_enable	smallint	Enables or disables information of pvc_log. This feature applies to VISM and VISM-PR cards. • 1 = true • 2 = false The default value is false (2).
pvc_log_admin_timer	smallint	Timer for pvc_log. This feature applies to VISM and VISM-PR cards. The default value is 60.
fax_jitt_mode	smallint	Fax de-jitter mode. This feature applies to VISM and VISM-PR cards.
fax_jitt_initdelay	smallint	Fax de-jitter initial delay. This feature applies to VISM and VISM-PR cards. The default value is 70.

Table 2-167 vism_card (continued)

Column	Data Type	Description
cont_check_enable	smallint	Enables or disables the continuity check cell for all PVCs. This feature applies to VISM and VISM-PR cards. • 1 = true • 2 = false The default value is true (1).
reserved	integer	Reserved for future use.

VISM CAS Bits

Table 2-169 contains information about VISM channel associated signaling (CAS) bits (ABCD bits).

Table 2-168 vism_cas_bit

Column	Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number
cas_tmpl_idx	integer	The index for the template configured with this table.
abcd_pattern_idx	integer	Channel associated signaling (CAS) bits (ABCD bits) pattern index for this table. Since there are only 4 signaling bits (A, B, C, D), there can only be (2^4) or 16 patterns per template.
mod_phy_idx	integer	This object represents the entPhysicalIndex of the module where this table is being configured. If the entPhysicalTable is not supported on the SNMP agent, then the value of this object will be zero.
cas_tmpl_name	char(64)	This object cvcmCasTemplateName identifies template name describing a user define CAS ABCD bit information created by a user. Each cvcmCasTemplateName identifies a separate CAS translation configuration template.
abcd_in_pattern	byte	This object identifies the ABCD signaling bits that are received by the module. The actions specified in ‘cvcmCasABitAction’, ‘cvcmCasBBitAction’, ‘cvcmCasCBitAction’ and ‘cvcmCasDBitAction’ are applied to this object.

Table 2-168 vism_cas_bit (continued)

Column	Type	Description
abcd_out_pattern	byte	This object identifies the ABCD signaling bits defined by user, and downloaded to DSP signaling channel. This pattern is derived from the actions specified in 'cvcmCasABitAction', 'cvcmCasBBitAction', 'cvcmCasCBitAction' and 'cvcmCasDBitAction'. The same pattern can map to different cvcmABCDIncomingPattern depending on the set of actions. This pattern is mapped to input ABCD bit pattern received and reported to the TDM or network side.
abcd_abit_act	integer	This object identifies the action on the "A" bit of an ABCD bit pattern.
abcd_bbit_act	integer	This object identifies the action on the "B" bit of an ABCD bit pattern.
abcd_cbit_act	integer	This object identifies the action on the "C" bit of an ABCD bit pattern.
abcd_dbit_act	integer	This object identifies the action on the "D" bit of an ABCD bit pattern.
reserved	integer	Reserved for future use.

VISM CID

Table 2-169 contains information about VISM channel IDs.

Table 2-169 vism_cid

Column	Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number
cid_lcn	integer	Part of the index for this table. Since CID is unique to a PVC, a combination of LCN and CID uniquely identifies a voice connection. This field refers to the vismChanNum defined in vismChanCnfGrp. This object corresponds to the vismAal2CidLcn object.
cid_num	smallint	CID number which is part of the index for this table. This object corresponds to the vismAal2CidNum object.

Table 2-169 vism_cid (continued)

Column	Type	Description
endpt_num	smallint	Endpoint number to which this CID is associated. This object corresponds to the vismAal2EndptNum object.
type3_red	smallint	Object to define whether or not the triple redundancy is supported for type 3 packets in AAL2 for this channel. This object corresponds to the vismAal2CidType3Redundancy object.
cid_vad	smallint	Object to define whether or not the voice activity detection (VAD) should be applied on this channel, upon detection of silence. This object corresponds to the vismAal2CidVad object.
profile_type	smallint	Profile type. This object corresponds to the vismAal2CidProfileType object.
profile_num	smallint	Profile number. This object corresponds to the vismAal2CidProfileNum object.
codec_type	smallint	Codec type used for the connection. This object corresponds to the vismAal2CidCodecTyp object.
dtmf_trspt	smallint	Object to define whether or not the dual tone multifrequency (DTMF) digits should be transported to the other endpoint. This object corresponds to the vismAal2CidDtmfTransport object.
cas_trspt	smallint	Object to define whether or not the channel associated signaling (CAS) bits (ABCD bits) should be transported to the other endpoint. This object corresponds to the vismAal2CidCasTransport object.
ecan_enable	smallint	Object to define whether or not echo cancellation should be enabled on this connection. This object corresponds to the vismAal2CidEcanEnable object.
init_vad_tmr	integer	Hangover time for VAD in milliseconds. This object corresponds to the vismAal2InitVadTimer object.
pkt_period	smallint	Object to configure the packetization period for a given Codec. This object corresponds to the vismAal2CnfPktPeriod object.

Table 2-169 vism_cid (continued)

Column	Type	Description
ics_enable	smallint	Object to enable or disable the idle channel suppression for a CID. This object corresponds to the vismAal2CidICSEnable object.
cid_state	smallint	State of the CID. This object corresponds to the vismAal2CidState object.
upper_lev_alm	smallint	CID failure reason. This object corresponds to the vismAal2CidFailReason object.
oper_admin_state	smallint	This attribute defines the operational administrative state of the bearer connection. This attribute will map to operational states defined on the media gateway. You can place the bearer connection into an CidInService state or an CidCommandedOutOfService state. The Pending states are transient and the Unknown state is an error state. • 1 = CidPendingInService • 2 = CidInService • 3 = CidCommandedOutOfService • 4 = CidPendingOutOfService • 5 = CidUnknownState The default is 2 (CidInService)
reserved	integer	Reserved for future use.

VISM Codec

Table 2-170 contains information about VISM coder decoder (Codec) parameters.

Table 2-170 vism_codec

Column	Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number

Table 2-170 vism_codec (continued)

Column	Type	Description
index	smallint	Index to this table. This object corresponds to the vismCodecCnfIndex object. For VXSM, the following values apply: • 1 = g729r8000 • 2 = g729Ar8000 • 3 = g726r16000 • 4 = g726r24000 • 5 = g726r32000 • 6 = g711ulawr64000 • 7 = g711Alawr64000 • 8 = g728r16000 • 9 = g723r6300 • 10 = g723r5300 • 11 = gsmr13200 • 12 = g729Br8000 • 13 = g729ABr8000 • 14 = g723Ar6300 • 15 = g723Ar5300 • 16 = g729IETFr8000 • 17 = gsmeEr12200 • 18 = clearChannel • 19 = g726r40000 • 99 = upspeed
name	char 64	Name of the codec. This object corresponds to the vismCodecName object.

Table 2-170 vism_codec (continued)

Column	Type	Description
pkt_period	smallint	Packetization period (in milliseconds) for a particular codec. This object corresponds to the vismCodecPktPeriod object. For the VXSM card, the following values apply: • 1 = 5000us • 2 = 5500us • 3 = 5705us • 4 = 10000us • 5 = 15000us • 6 = 20000us • 7 = 25000us • 8 = 30000us • 9 = 35000us • 10 = 40000us • 11 = 45000us • 12 = 50000us • 13 = 55000us • 14 = 60000us • 15 = 65000us • 16 = 70000us • 17 = 75000us • 18 = 80000us • 19 = 85000us • 20 = 90000us • 21 = 95000us The default is 4 (10000us)
preference	smallint	User configured preference for each codec. This object corresponds to the vismCodecPreference object.
codec_string	char 64	Local connection option or SDP descriptor string that VISM obtains from the call agent for the codec to be used. This string is in the following form: PCMU, PCMA, G726 at rate 32 kbps, G729a, CCD. This object corresponds to the vismCodecString object.

Table 2-170 vism_codec (continued)

Column	Type	Description
alt_codec_string1	char 65	Alternate codec strings configuration. This feature applies to VISM and VISM-PR cards.
alt_codec_string2	char 65	Alternate codec strings configuration. This feature applies to VISM and VISM-PR cards.
alt_codec_string3	char 65	Alternate codec strings configuration. This feature applies to VISM and VISM-PR cards.
iana_type	smallint	Assigned types (numbers) to the codecs by IANA. This object corresponds to the vismCodecIanaType object.
jitter_delay_mode	smallint	Object to provision the jitter buffer mode to a call connection. This object corresponds to the vismCodecJitterDelayMode object.
jitter_init_delay	smallint	Jitter buffer size (in milliseconds). This object corresponds to the vismCodecJitterInitialDelay object.
adapt_type	smallint	An unique index identifying for the adaptation layers supported for voice application in the media gateway • 1 = other • 2 = aal5 • 3 = aal1 • 4 = aal2
jitter_max_delay	smallint	The maximum jitter buffer size The range is 20 through 500
jitter_nom_delay	smallint	The nominal jitter buffer size The range is 5 through 500
jitter_min_delay	smallint	The minimum jitter buffer size The range is 0 through 500
dtmf_relay	smallint	DTMF relay • 1 = true • 2 = false
vdb_pkt_period	smallint	This object gives the packetization period for a particular codec in Voice Band Data measured in milliseconds.
payload_type	smallint	Payload Type of CODEC in Voice Applications The range is 0 through 127
reserved	integer	Reserved for future use.

VISM Connections

Table 2-171 contains information about VISM connections.

Table 2-171 voice_conn

Column	Type	Description
con_obj_id	integer	Connection object ID.
l_network_id	smallint	Network ID.
l_node_id	integer	Node ID.
shelf	integer	Shelf number.
l_slot	smallint	Slot number.
l_port	smallint	Port number (zero based). This field corresponds to the vismChanPortNum object.
l_vpi	smallint	Local virtual path identifier (VPI), in the range 0 through 255.
l_vci	integer	Local virtual channel identifier (VCI), in the range 0 through 65535.
l_nsap_addr	byte	Local network service access point (NSAP). NSAP is a 20-byte address divided into the following bytes: • 13 bytes—Prefix • 2 bytes—Cisco ID • 1 byte—Reserved • 3 bytes—Logical interface: slot (1 byte) and port number (2 bytes) • 1 byte (last)—SEL
r_network_id	smallint	Remote network ID.
r_node_id	integer	Remote node ID.
r_slot	smallint	Remote slot number.
r_port	smallint	Remote port number.
r_vpi	smallint	Remote VPI, in the range 0 through 255.
r_vci	integer	Remote VCI, in the range 0 through 65535.

Table 2-171 voice_conn (continued)

Column	Type	Description
r_nsap_addr	byte	Remote NSAP. NSAP is a 20-byte address divided into the following bytes: • 13 bytes—Prefix • 2 bytes—Cisco ID • 1 byte—Reserved • 3 bytes—Logical interface: slot (1 byte) and port number (2 bytes) • 1 byte (last)—SEL
lcn	integer	Logical channel number (LCN) of the permanent virtual circuit (PVC), in the range 131 through 510.
master_flag	smallint	Value on the PXM to determine if the end is a master or slave. • 1 = Master • 2 = Slave • 3 = Unknown
termination	smallint	Type of local and remote endpoints.
con_type	smallint	Connection type. The default is PVC, a value of 1.
sub_type	smallint	Connection service type. VISM Connection types: • 1 = Constant bit rate (CBR1) • 2 = non-real-time variable bit rate 1 (VBR1-nrt) • 13 = real-time variable bit rate 1 (VBR1-rt) • 50 = real-time variable bit rate 2 (VBR2-rt) • 51 = real-time variable bit rate 3 (VBR3-rt) • 52 = non-real-time variable bit rate 2 (VBR2-nrt) • 53 = non-real-time variable bit rate 3 (VBR3-nrt) VXSM Connection types: • 1 = Constant bit rate (CBR1) • 2 = real-time variable bit rate 1 (VBR1-rt) • 5 = non-real-time variable bit rate 1 (VBR1-nrt) • 8 = unspecified bit rate 1 (UBR1)
pvcType	smallint	Type of PVC. • 1 = AAL-5 • 2 = AAL-2 (default) • 3 = AAL-1

Table 2-171 voice_conn (continued)

Column	Type	Description
vpcflag	smallint	Virtual path connection (VPC) flag.
active	smallint	Value to indicate an active connection.
status	smallint	VISM connection status. • 1 = OK • 2 = Failed • 3 = Down or not configured VXSM endpoint operational status. • 1 = Operation OK • 2 = Operation failed • 3 = Endpoint is administratively downed
l_pcr	integer	Local peak cell rate (PCR) of the connection. For VISM, the range is 1 through 100000. For AAL2 PVCs, the maximum value is 60,000 cps on E1 cards and 50,000 cps on T1 cards. For a signaling PVC, the maximum value is 400 cps. For VXSM, the range is 0 through 100000000 and the default is 7000000.
lper_util	smallint	Percent utilization on the connection. This value indicates the expected long-term utilization at the local end of channel. The range is 0 through 100. The default is 100.
r_pcr	integer	Remote PCR of the connection. For VISM, the range is 1 through 100000. For VXSM, the range is 0 through 100000000 and the default is 7000000.
rper_util	smallint	Percent utilization on the connection. This value indicates the expected long-term utilization at the remote end of channel. The range is 0 through 100. The default is 100.
protect	smallint	Channel protection. • 1 = Protected • 2 = Unprotected
prefer	smallint	Identify a PVC as primary or secondary. • 1 = Primary • 2 = Secondary

Table 2-171 voice_conn (continued)

Column	Type	Description

actstate	smallint	Channel activity state. For VISM, the range is:
		• 1 = Active
		• 2 = Standby
		• 3 = Failed
		• 4 = Unknown
		For VXSM, the range is:
		VXSM:
		The relationship with object cwaChanOperStatus as:
		`ActivityState           OperStatus`
		`------------------------------------------`
		`PVC in Protection Group`
		`active                  operOk(1)`
		`standby                 operOk`
		`Failed                  operFail(2)`
		`PVC not in Protection Group`
		`unknown                 operOk`
		`unknown                 adminDown(3)`
		`failed                  operFail`

lockstate	smallint	Channel locking state. • 1 = Unlock • 2 = Lock
ingrscr	integer	Sustained cell rate (SCR) in the ingress direction of the PVC. For VISM, the range is 1 through 100000. For VXSM, the range is 0 through 100000000 and the default is 7000000.
ingrmbs	integer	Channel maximum burst size (MBS) in the ingress direction of the PVC, measured in cells per second (cps). For VISM, the range is 1 through 100000. For VXSM, the range is 0 through 100000000 and the default is 7000000.
ingrclr	integer	Cell loss ratio (CLR) in the ingress direction of the PVC.
egrscr	integer	SCR in the egress direction of the PVC. RFor VISM, the range is 1 through 100000. For VXSM, the range is 0 through 100000000 and the default is 7000000.
egrmbs	integer	Channel maximum burst size (MBS) in the egress direction of the PVC, measured in cells per second (cps). For VISM, the range is 1 through 100000. For VXSM, the range is 0 through 100000000 and the default is 7000000.

Table 2-171 voice_conn (continued)

Column	Type	Description
egrclr	integer	CLR in the egress direction of the PVC.
application	smallint	Channel application. • 1 = Control • 2 = Bearer (default) • 3 = Signaling
fallbacklcn	integer	Fall-back LCN used if the primary PVC fails. The range is 131 through 510.
rmtlpbkstate	smallint	Loopback on the cell bus in the egress direction. • 1 = Enable • 2 = Disable
cacmaster	smallint	Value to determine whether the PVC is the master end or slave end. • 1 = Master • 2 = Slave
cacrejpolicy	smallint	Connection admission control (CAC) rejection policy. • 1 = Delete • 2 = Maintain • 3 = Unspecified
rout_pri	smallint	Value to determine the importance of this connection when selecting connections to route. The rout_pri is used by the PXM card. This object corresponds with the vismRoutingPriority object.
max_cost	integer	Maximum allowed cost, which is related to cost based routing. This object corresponds with the vismMaxCost object.
farend_addrtype	smallint	Address type of the far end. • NSAP • E164 • GWID • Not applicable • Unspecified This object corresponds with the vismFarEndAddressType object.

Table 2-171 voice_conn (continued)

Column	Type	Description
farend_e164addr	char 15	E.164 address of the far end peer. The address is expressed as decimal numbers with up to 15 digits. This object corresponds with the vismFarEndE164Address object.
farend_gwidaddr	char 64	Gateway ID of the far end peer. The address is expressed as ASCII characters. This object corresponds with the vismFarEndGWIDAddress object.
farend_nsapaddr	char 40	NSAP address (20 bytes) of the far end peer. This object corresponds with the vismFarEndNSAPAddress object.
vcci	integer	Virtual circuit connection identifier (VCCI) is a variable that identifies a virtual circuit connection between two nodes. This object corresponds with the vismVCCI object.
carrier_los_policy	smallint	Policy that should be applied when a carrier loss is detected. This object corresponds with the vismChanCarrierLossPolicy object.
vad_tolerance	integer	Customer accepted drop rate for voice connections when the bandwidth usage exceeds the allowed value. This object corresponds with the vismChanVADTolerance object.
vad_duty_cycle	smallint	Talk-spurts duty cycle. The unit is a percentage. This object corresponds with the vismChanVADDutyCycle object.
nwcac_config_state	smallint	Object to define whether or not the originating and terminating VISMs are configured correctly. This object corresponds with the networkCacConfigState object.
alarm_status	smallint	Consolidated bit map of the channel alarm state. This object corresponds with the vismChanStatusBitMap object.
if_index	integer	if_index of the connection
stats	smallint	Field for enabling/disabling statistics collection on a per connection basis. • 1 = true • 2 = false

Table 2-171 voice_conn (continued)

Column	Type	Description
cc	smallint	Field for enabling/disabling continuity check (CC) on a connection endpoint • 1 = true • 2 = false
upd_counter	integer	This counter tracks the number of configuration changes that happen on a specific endpoint. The range is 0 through 4294967295.
crtlr_id	smallint	Field used to associate an endpoint with a specific controller. (2 through 2) • 2 = PNNI
frame_dis	smallint	When set to true(1), enables the frame discard feature for the connection • 1 = true • 2 = false
cdv	integer	Maximum tolerable cell delay variation in the direction local -> remote The range is 0 through 16777215. The default value is 'FFFFFF'h.
ctd	integer	Maximum tolerable network transfer delay in the direction local -> remote. The range is 0 through 65535. The default value is 'FFFF'h.
cdvt	integer	Cell delay variation tolerance (CDVT) used in the direction local -> remote The range is 0 through 4294967295. The default value is 'FFFFFFFF'h.
r_cdv	integer	Maximum tolerable cell delay variation for the direction remote -> local The range is 0 through 16777215. The default value is 'FFFFFF'h.
r_ctd	integer	Maximum tolerable network transfer delay in the direction remote -> local The range is 0 through 65535. The default value is 'FFFF'h.

Table 2-171 voice_conn (continued)

Column	Type	Description
abr_vsvd_en	smallint	When set to true(1), enables the Virtual Source/Virtual Destination feature for the connection • 1 = true • 2 = false The default value is false.
oam_seg_en	smallint	Toggles the setting / resetting of the OAM segment endpoint. • 1 = oamSegEp • 2 = nonOamSegEp
slave_type	smallint	Indicates whether a master endpoint has a persistent slave or not. • 1 = persistentSlave • 2 = nonPersistentSlave The default value is persistentSlave.
pref_route	integer	Number of the preferred route to associate with a connection. The range is 0 through 65535. The default value is 0.
direct_route	smallint	When set to true(1), enables associating a prefer route as directed route. • 1 = true • 2 = false The default value is false.
fallbk_port	integer	Port of the PVC to be used as a fallback mechanism, in case the primary PVC fails. The range is 0 through 2147483647. The default value is 0.
fallbk_vpi	smallint	VPI of the PVC to be used as a fallback mechanism, in case the primary PVC fails The range is 0 through 4095. The default value is 0.
fallbk_vci	integer	VCI of the PVC to be used as a fallback mechanism, in case the primary PVC fails The range is 0 through 65535. The default value is 0.
lif_num	smallint	Logical Interface (LIF) number for the channel. The range is 0 through 64. The default value is 0

Table 2-171 voice_conn (continued)

Column	Type	Description
cu_timer	smallint	The aal2 timeout value in msec. The range is 0 through 50l255. The default value is 30.
aal2cid_ftimer	smallint	the time in milliseconds to wait for cell filling up when the next packet is not ready. The range is 0 through 255. The default value is 5.
pref_route_id	integer	This object serves to associate a preferred route with a connection. The value '0' means no preferred route is associated with this connection. Usage: If the value of this object is set to 0, the object vismChanDirectRoute is automatically set to FALSE by the switch. Range = 0 through 65535 Default = 0
direct_route_flag	smallint	This object serves to associate a preferred route as directed route (correspond to the preferred route object vismChanPrefRouteId). A directed route specifies that the associated preferred route is the only permission route for the connection to take. Should the associated preferred route be unavailable, the connection is failed. The object is not applicable if there is no associated preferred route with the connection or in other words if the object vismChanPrefRouteId has a value of 0. • 1 = true • 2 = false The default is 2 (false)

Table 2-171 voice_conn (continued)

Column	Type	Description
ais_suppression	smallint	AIS suppression can be enabled (true) or disabled (false). When AIS suppression is disabled on a PVC, ATM network alarms on that PVC will immediately propagate to the TDM side and cause T1/E1 line alarms. When AIS suppression is enabled on a PVC, ATM network alarms will not propagate to the TDM side and cause T1/E1 line alarms for the duration of the AIS delay time setting. However, if the ATM network alarms persist causing the AIS delay timer to expire, the ATM network alarms will be allowed to propagate onto the TDM side and cause T1/E1 line alarms. • 1 = true • 2 = false The default is 2 (false)
ais_delay	smallint	This object defines the duration for which ATM network alarms on this PVC will be prevented from propagating onto the TDM side when AIS suppression is enabled. The range is 1 through 60) The default is 30
serv_state_enable	smallint	This object stores the active status of a channel to indicate if it is locally down on the VISM. If a connection is down, it will indicate that OAM end-to-end loopback has been disabled for the PVC and also CIDs are directed not to generate traffic. The actual PVC administrative status will not be reflected by this object. • 1 = true • 2 = false The default is 1 (true)
user_min_pcr_bw	integer	This indicates a user configured minimum number of cells that will be required to keep the connection up. The range is 1 through 100000)

Table 2-171 voice_conn (continued)

Column	Type	Description
user_max_pcr_bw	integer	This indicates a user configured bandwidth (Peak Cell Rate) in cells per second from the local end i.e in the ingress direction of the PVC. For a VoIP bearer PVC, the max value is 75600 cps. For a VoIP control PVC, the max value is 24400 cps. For AAL2 PVCs, the PCR to be specified has to be computed based on: a) The no. of channels multiplexed on an AAL2 PVC b) The Codec (Compression Algorithm) used. c) The VAD factor d) Partial fill factor. For a AAL2 bearer PVC, the max value is 60,000 cps on E1 card and 50,000 cps on T1 card. For a signaling PVC, the max value is 400 cps. This is a mandatory parameter when adding a PVC. Hence a default value is not applicable. This parameter can not be changed when there are calls active on the PVC. For a VOIP bearer PVC the max allowed value is 80000 For a VOIP control PVC the max allowed value is 20000 increased as we will allow 248 endpoints. For Aal2 the values remain the same 50000/60000. For vbr connections the minimum value of PCR is 15. The range is 1 through 100000)

Table 2-171 voice_conn (continued)

Column	Type	Description
user_max_ingr_scr	integer	This object defines a user configured SCR (Sustained Cell Rate) for the PVC. SCR is used for vbr connection types only. Although, based on the value of SCR, any kind of traffic shaping is not done on the VISM card, this value is useful for setting up the parameters for the end-to-end PVC. This value is expressed in units of cells per second. This object defines the SCR value for the ingress direction of the PVC. For a VOIP bearer PVC the max value is 80000 For a VOIP control PVC the max value is 20000 increased as we will allow 248 endpoints. For Aal2 the values remain the same (50000/60000). If the user provides a value that is greater than vismConnPCR then the SET request will be rejected. For vbr connections the allowed range of values of SCR is from 15 - PCR. The range is 1 through 100000)
user_max_ingr_mbs	integer	This object defines the user configured MBS (Max. Burst Size). This object is meaningful for VBR connections only. This object defines the MBS value for the ingress direction of the PVC. The MBS value cannot be greater than 10 times vismChanScrIngress value. The range is 1 through 2147483647)
user_pcr_number	smallint	This indicates which bandwidth value the user has chosen. If it has a value of 1, it indicates that the bandwidth configured at the time of adding the connection will be used and vismChanUserMaxPCRBandwidth, vismChanUserMaxMbsIngress, vismChanUserMaxScrIngress, vismChanUserMinPCRBandwidth are not used. If it takes a value of 2 then the User configured Minimum bandwidth will be in applied as the current PCR, SCR and MBS values. If a value of 3 is chosen then the User configured Maximum bandwidth values will be applied. The range is 1 through 3) The default is 1
reserved	integer	Reserved for future use.

VISM DS0s

Table 2-172 contains information about DS0s on the VISM card.

Table 2-172 vism_ds0

Column	Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
line	smallint	Line number.
ds0_ifIndex	smallint	Logical index of the table, in the range 1 through 248. This field corresponds to the ds0IfIndex object.
rb_signal	smallint	DS0 robbed bit signal is either turned on or off. This field corresponds to the ds0RobbedBitSignalling object.
idle_code	smallint	Code that is transmitted in the ABCD bits when the DS0 is not connected and ds0TransmitCodesEnable is enabled. The range is 0 through 15. The default value is 0. This field corresponds to the ds0IdleCode object.
seized_code	smallint	Code that is transmitted in the ABCD bits when the DS0 is connected and ds0TransmitCodesEnable is enabled. • Bit 0 = value 1 (D bit) • Bit 1 = value 2 (C bit) • Bit 2 = value 4 (B bit) • Bit 3 = value 8 (A bit) The range is 0 through 15. The default value is 15. This field corresponds to the ds0SeizedCode object.
rcvd_code	smallint	Code that is received in the ABCD bits. • Bit 0 = value 1 (D bit) • Bit 1 = value 2 (C bit) • Bit 2 = value 4 (B bit) • Bit 3 = value 8 (A bit) The range is 0 through 15. The default value is 15. This field corresponds to the ds0ReceivedCode object.

Table 2-172 vism_ds0 (continued)

Column	Type	Description
codes_enable	smallint	Transmission status of the idle and seized codes. Default = 6. This field corresponds to the ds0TransmitCodesEnable object.
bundle_map	smallint	Endpoint number specified by mgEndpointNumber of the endpoint table. This field corresponds to the ds0BundleMapped object.
ds0_iftype	smallint	DS0 interface type. • 1 = Unknown • 63 = CCS signaling • 81 = Bearer This field corresponds to the ds0IfType object.
variant_name	char (64)	Index of the channel associated signaling (CAS) variant table. This field corresponds to the ds0CasVariantName object.
cadence_ontime	smallint	Duration (milliseconds) of the generated digit tone. The range is 2 through 9999. The default value is 75. This field corresponds to the ds0CasCadenceOnTime object.
cadence_offtime	smallint	Duration (milliseconds) of silence between the digit tones. The range is 2 through 9999. The default value is 75. This field corresponds to the ds0CasCadenceOffTime object.
inst_local_cas	smallint	Object to indicate whether or not to force the CAS bits to a value defined by the ds0LocalCasPattern object. This field corresponds to the ds0InsertLocalCas object.
local_cas_patn	smallint	Pattern of the CAS bits (ABCD) when the ds0InsertLocalCas object is enabled. This field corresponds to the ds0LocalCasPattern object.
lpbk_command	smallint	Loopback type at the ds0 level. The ds0 configuration overrides the line level configuration. This field corresponds to the ds0LoopbackCommand object.
input_gain	smallint	Amount of gain inserted at the receiver side of a ds0 channel, defined in dB (decibel) units. The default value is 0 dB. This field corresponds to the ds0InputGain object.
output_attenu	smallint	Amount of attenuation inserted at the transmit side of a ds0 channel, defined in dB (decibel) units. This field corresponds to the ds0OutputAttenuation object.

Table 2-172 vism_ds0 (continued)

Column	Type	Description
music_thresh	smallint	Music on hold threshold, defined in decibels per milliwatt (dBm). This field corresponds to the ds0MusicThreshold object.
sid_packet	smallint	Object to specify whether or not the silence indication detection (SID) packet should be generated when silence suppression is in active mode. This field corresponds to the ds0SidPacket object.
exec_diag	smallint	This object indicates the status of DSP channel level RAS on the VISM. When it is enabled VISM will configure the DSP through HOST-DSP message on the individual channel. • 1 = true (DSP Channel level RAS enabled) • 2 = false (DSP Channel level RAS disabled)
rx_cas_table_name	char(64)	This object identifies the CAS bit template name associated with the receive signaling channel on a DS0.
tx_cas_table_name	char(64)	This object identifies the CAS bit template name associated with the transmit signaling channel on a DS0.
tx_rx_cas_config	smallint	This object indicates configuration on a DS0. • 1 = transmit – Configure transmit signaling channel with user defined CAS pattern. • 2 = receive – Configure receive signaling channel with user defined CAS pattern. • 3 = bidirectional - Configure transmit and receive signaling channel with user defined CAS pattern. • 4 = none - Signaling channel is using default ABCD CAS pattern specified by DSP.
companding	smallint	This object indicates whether input-from / output-to the TDM side of DS0 is u-law or a-law stream. The setting of this object will not take effect unless the corresponding DSP channel is closed and re-opened.
reserved	integer	Reserved for future use.

VISM Endpoints

Table 2-173 contains information about VISM endpoints.

Table 2-173 vism_endpt

Column	Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.

Table 2-173 vism_endpt (continued)

Column	Type	Description
slot	smallint	Slot number.
endpoint	smallint	Endpoint ID known by the network element, in the range 1 through 240. This field corresponds to the mgEndpointNumber object.
line	smallint	Line ID. This field corresponds to the mgEndointLineNumber object.
name	char (64)	Endpoint known by the media gateway controller (MGC). This field corresponds to the mgEndpointName object.
state	smallint	State of the endpoint. • 1 = End point active • 2 = End point failed • 3 = End point degraded • 15 = Upper level alarm
channel_map	integer	Channel map. Positions of 1-bits indicate channels used by the endpoint. This field corresponds to the mgEndpointChannelMap object. For an E1 line, where ds0 equals 31, a value of 1 will be used.
speed	integer	Bandwidth of the endpoint' in Kbps. The range is 0 through 65535 kbps.
reserved	integer	Reserved for future use.

VISM Media Gateway Domain Name

Table 2-174 contains information about the VISM domain name.

Table 2-174 mg_dname

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
index	smallint	Index to this table. Only 11 entries are used. This object corresponds to the mgDomainNameIndex object.

Table 2-174 mg_dname (continued)

Column	Data Type	Description
name	char 64	Domain name of MGCs, TFTP server, external DNS server, or Announcement server. This object corresponds to the mgDomainName object.
dns_res_type	smallint	DNS resolution to be applied for a particular domain name. This object corresponds to the mgDnsResolutionType object.
reserved	integer	Reserved for future use.
dname_type	smallint	Domain name type: • 1 = Gateway • 2 = dnsServer • 3 = mgc

VISM HDLC

Table 2-175 contains information about high level data link control (HDLC) on the VISM card.

Table 2-175 vism_hdlc

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
hdlc_num	smallint	Logical index of the table, in the range 1 through 248. This field corresponds to the vismHdlcChanNum object.
max_frame_size	smallint	Maximum frame size that is allowed on the HDLC channel. The default value is 264. This field corresponds to the vismHdlcMaxFrameSize object.
reserved	integer	Reserved for future use.

VISM LAPD

Table 2-176 contains information about the link access procedure on the D channel (LAPD) of the VISM card.

Table 2-176 vism_lapd

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.

Table 2-176 vism_lapd (continued)

Column	Data Type	Description
slot	smallint	Slot number.
lapd_num	smallint	Logical index of the table, in the range 1 through 248. This field corresponds to the vismLapdIndex object.
app_type	smallint	Type of LAPD interface. • 1 = pri (default) • 2 = gr-303 This field corresponds to the vismLapdAppType object.
win_size	smallint	Maximum number of sequential I-frames that are outstanding. The range is 1 through 127. This field corresponds to the vismLapdWinSize object.
n200_retrans	smallint	Maximum number of frame retransmissions. The range is 1 through 10. The default value is 3. This field corresponds to the vismLapdN200 object.
t200_timeout	integer	Maximum time (milliseconds) to wait for acknowledgement for a transmit frame. The range is 100 through 1023000ms. The default for PRI is 10000 ms. This field corresponds to the vismLapdT200 object.
t203_timeout	integer	Maximum time (milliseconds) allowed without frames being exchanged. The range is 1000 through 1023000ms. The default for PRI is 10000 ms. This field corresponds to the vismLapdT203 object.

Table 2-176 vism_lapd (continued)

Column	Data Type	Description
lapd_type	smallint	Type of LAPD interface. • 1 = ccit • 3 = att5EssPRA • 4 = att4Ess • 6 = ntDMS100PRA • 7 = vn2or3 • 8 = insNet • 9 = tr6MPC • 10 = tr6PBX • 12 = ausp • 13 = ni1 • 14 = etsi • 15 = bc303TMC • 16 = bc303CSC • 17 = ntDMS250 • 18 = Bellcore • 19 = ni2 (default) This field corresponds to the vismLapdType object.
lapd_side	smallint	Object to specify whether or not LAPD stack is on the user side or the network side. This field corresponds to the vismLapdSide object.
lapd_trunk_type	smallint	Object to indicate whether or not the line is configured for trunking or PRI backhaul. This field corresponds to the vismLapdTrunkType object.
if_index	integer	Interface index
bay	smallint	Bay Number
line	smallint	Line Number
ds0_format	smallint	DS0 Format • 1 = ds056k (1) - DS0 line speed is 56000 bps • 2 = ds064k (2) - DS0 line speed is 64000 bps
hdlc_profile	integer	The HDLC profile for the PRI backhaul connection The range is 1 through 65535 The default is 1
as_name	char(255)	LAPD AS Name

Table 2-176 vism_lapd (continued)

Column	Data Type	Description
oper_status	smallint	Operational Status of Interface • 1 = inactive • 2 = l1Active • 3 = l2Active
reserved	integer	Reserved for future use.

VISM LAPD Trunks

Table 2-177 contains attributes of an LAPD trunk connection between two VISM cards used to transport PRI D channel information.

Table 2-177 lapd_trunk

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
line	smallint	Line number.
lapd_trk_state	smallint	LAPD trunk state. This object corresponds to the vismLapdTrunkState object.
rudp_index	smallint	Index to the vismRudpSessionCnfTable. This object corresponds to the vismLapdTrunkRudpIndex object.
reserved	integer	Reserved for future use.

VISM Lines

Table 2-178 contains information about the VISM line configurations.

Table 2-178 vism_line

Column	Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
line	smallint	Line number.

Table 2-178 vism_line (continued)

Column	Type	Description
ecan_enable	smallint	Value to enable or disable the echo cancellation feature. This object corresponds to the vismEcanEnabled object.
ecan_tail	smallint	Maximum echo cancellation tail in milliseconds (ms). This object corresponds to the vismEcanTail object.
ecan_rec	smallint	Residual echo control (REC) which instructs the canceller how to treat any echo that remains after cancellation. This object corresponds to the vismEcanREC object.
comprs_vad	smallint	Value to enable or disable voice activity detection (VAD) on the compression digital signal processors (DSPs). This object corresponds to the vismCompCnfVAD object.
signal_type	smallint	Type of signaling used for the line. This object corresponds to the vismSignalingType object.
dchan_bitmap	integer	CCS signaling channels or DS0s (also referred to as D-channel). This object corresponds to the vismCcsChannels object.
trk_cond_enable	smallint	Object to determine whether or not trunk conditioning should be enabled or disabled on the line. This object corresponds to the vismTrunkConditionEnable object.
circuit_id_desp	char 64	Identifier of a T1/E1 line. This object corresponds to the vismDsx1CircuitIdentifier object.
tx_digit_order	smallint	Order in which ANI and DNIs are dialed out from the (outgoing) interface. This object corresponds to the vismDsx1TxDigitOrder object.
tone_plan_region	char 64	Tone plan region for the DS1 line. This object corresponds to the vismDsx1TonePlanRegion object.
tone_plan_version	smallint	Tone plan version for DS1 line. This object corresponds to the vismDsx1TonePlanVersion object.
ring_to	smallint	Time in seconds for which the ringing cadence is generated toward the PBX unless interrupted. This object corresponds to the vismDsx1RingingTO object.
ring_back_to	smallint	Time in seconds for which the local ring back tone (towards the TDM) is generated unless interrupted. This object corresponds to the vismDsx1RingBackTO object.

Table 2-178 vism_line (continued)

Column	Type	Description
busy_to	smallint	Time in seconds for which the busy tone is generated unless interrupted. This object corresponds to the vismDsx1BusyTO object.
reorder_to	smallint	Time in seconds for which the reorder/fast busy tone is generated unless interrupted. This object corresponds to the vismDsx1ReorderTO object.
dial_to	smallint	Time in seconds for which the dial tone is generated unless interrupted. This object corresponds to the vismDsx1DialTO object.
stutter_dial_to	smallint	Time in seconds for which the stutter dial tone/confirmation dial tone is generated unless interrupted. This object corresponds to the vismDsx1StutterDialTO object.
off_hook_alert_to	smallint	Time in seconds for which the off-hook alert tone is generated unless interrupted. This object corresponds to the vismDsx1OffHookAlertTO object.
remote_ringback	integer	Remote ring back method on endpoints on this DS1. This object corresponds to the vismDsx1RemoteRingback object.
midcall_tpart	integer	Partial dial timing in seconds. The object is used along with a digit map as the inter-digit timer. This object corresponds to the vismDsx1MidcallTpart object.
midcall_tcrit	integer	Critical timing in seconds. This object corresponds to the vismDsx1MidcallTcrit object.
sa4_byte	smallint	This is a spare bit on T1/E1 Framer reserved for international standardization The range is 0 through 255.
sa5_byte	smallint	This is a spare bit on T1/E1 Framer reserved for international standardization. The range is 0 through 255.
sa6_byte	smallint	This is a spare bit on T1/E1 Framer reserved for international standardization. The range is 0 through 255.

Table 2-178 vism_line (continued)

Column	Type	Description
sa7_byte	smallint	This is a spare bit on T1/E1 Framer reserved for international standardization The range is 0 through 255
sa8_byte	smallint	This is a spare bit on T1/E1 Framer reserved for international standardization. The range is 0 through 255.
serv_state	smallint	This object will allow the line administrative state (in service and out of service) to be persistent. • 1 = invalid • 2 = IS: in service • 3 = OOS: out of service • 4 = POOS: pending out of service • 5 = COOS: command out of service • 6 = inactive
bearer_busy_code	smallint	This object is used when TrunkConditionEnable is enabled on a line. It is a configurable Busy pattern sent out on the Bearer on the channels, which are receiving remote ATM CID alarms. If this object is not set, it assumes a default value of 255 for E1 and 127 for T1. Range: (0..255)
v110_enable	smallint	V.110 detection on the line. This feature applies to VISM and VISM-PR cards. • 0 = disable • 1 = enable The default value is disable (0).
log_enable	smallint	VISM alarm log enable. This feature applies to VISM and VISM-PR cards. • 1 = true • 2 = false The default is false (2).
log_admin_timer	smallint	Timer for VISM logs. This feature applies to VISM and VISM-PR cards. The default value is 60.
reserved	integer	Reserved for future use.

VISM Logical Interfaces

Table 2-179 contains information about the VISM logical interfaces (LIFs).

Table 2-179 lif

Column	Type	Comment
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
lif_num	smallint	An index that uniquely identifies a LIF (Logical Interface) in the media gateway. The range is 1 through 255.
pvc_in_lif	smallint	the total number of PVC within this LIF. The range is 0 through 10000. Zero means there is no PVC associated with the LIF.
ds1_in_lif	smallint	the total number of DSx1 interface within this LIF. The range is 0 through 10000. Zero means there is no DS1 associated with the LIF.
reserved	integer	Reserved for future use.

VISM MGC Group

Table 2-180 contains information about the VISM media gateway controller group.

Table 2-180 mgc_grp

Column	Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
mgcg_num	smallint	Media gateway controller (MGC) group number. A group can contain more than one MGC. This object corresponds to the mgcRedundancyGrpNum object.
mgc_num	smallint	Individual media gateway controller index. This object corresponds to the mgcNumber object.

Table 2-180 mgc_grp (continued)

Column	Type	Description
mgcg_pref	smallint	Object to configure primary and secondary groups. This object corresponds to the mgcRedundancyGrpPref object. VXSM: The preference of the MGC on the MGC group. The lower the number the higher the preference. (1..12) Default = 1
mgcg_act_state	smallint	MGC within an MGC redundancy group that is currently active or controlling the gateway. This object corresponds to the mgcRedundancyGrpActState object.
udp_port	integer	UDP port of the MGC on the MGC group. (0..65535) Default = 0
reserved	integer	Reserved for future use.

VISM Media Gateway Protocol

Table 2-181 contains information about the VISM media gateway supported protocol table.

Table 2-181 mg_sup_prtcl

Column	Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
protocol	smallint	Protocol index. This field maps to mgProtocolNumber.
name	char (64)	Name of the control protocol and its revision supported by the call gateway. This field maps to mgProtocolName.
type	smallint	The protocol type: • 1 = other • 2 mgcp • 3 = megaco

Table 2-181 mg_sup_prtcl (continued)

Column	Type	Description

udp_port	integer	The UDP port is associated with the protocol.
		If name = '1.0' {
		if (type = mgcp(2))
		default value = 2727
		else if (type == megaco(3))
		default value = 2944
		(0..65535)

reserved	integer	Reserved for future use.

VISM MGC IP

Table 2-182 contains information about the IP address for the VISM media gateway controllers (MGCs).

Table 2-182 mgc_ip

Column	Type	Comment
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
mgc_num	smallint	Individual media gateway controller index. This field corresponds to the mgcNumber object. The range for VXSM is 1 through 32.
mgc_ip_idx	smallint	A unique index to identify the address of a specific MGC. The range is 1 through 8.
ip_addr	integer	resolved MGC IP address
ip_addr_type	smallint	IP address type • 0 = unknown • 1 = ipv4 • 2 = ipv6 • 16 = dns The default is 1 (ipv4)
ip_resolution	smallint	The kind of resolution to be applied for this MGC. • 1 = internal resolution only • 2 = external resolution only The default is 1.

Table 2-182 mgc_ip (continued)

Column	Type	Comment
ip_pref	smallint	represents preference of the cMgcIpAddress in the given MGC. The lower the number the higher the preference The range is 1 through 8. The default is 1.
reserved	integer	Reserved for future use.

VISM MGCG Parameters

Table 2-184 contains information about VISM media gateway controller (MGC) redundancy group parameters.

Table 2-183 mgcg_param

Column	Type	Comment
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
mgcg_num	smallint	MGC group number. A group can contain more than one MGC. This object corresponds to the mgcRedundancyGrpNum object.
assoc_state_ctrl	smallint	Control of the association state, as represented by mgcAssociationState object. The mgcAssociationStateControl is deprecated.
assoc_state	smallint	State of the association between the Media Gateway and the Media Gateway Controller. The mgcAssociationState object is deprecated.
mgcg_priority	smallint	Priority of the MGC group. This object corresponds to the mgcRedundancyGrpPriority object.
total_mgc	smallint	The total number of MGCs to be associated with this MGC group. The range is 0 through 128. The default value is 0.

Table 2-183 mgcg_param (continued)

Column	Type	Comment
assoc_info	integer	MGC redundant group (with multi call agent) should be associated with Profile or MGCPAPP, then voice gateway can use multi call agent related to the MGC group. This is a bit map to store association information: bit 0-30: profile 1 - profile 31 bit 31: for voice gateway The value 0 means this MGC Group is not associated with any profile or gateway. The range is 0 through 2147483647.
protocol	smallint	The total number of protocols associated with this MGC group. The range is 0 through 128.
reserved	integer	Reserved for future use.

VISM MGCG Parameters

Table 2-184 contains information about VISM media gateway controller (MGC) redundancy group parameters.

Table 2-184 mgcg_param

Column	Type	Comment
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
mgcg_num	smallint	MGC group number. A group can contain more than one MGC. This object corresponds to the mgcRedundancyGrpNum object.
assoc_state_ctrl	smallint	Control of the association state, as represented by mgcAssociationState object. The mgcAssociationStateControl is deprecated.
assoc_state	smallint	State of the association between the Media Gateway and the Media Gateway Controller. The mgcAssociationState object is deprecated.
mgcg_priority	smallint	Priority of the MGC group. This object corresponds to the mgcRedundancyGrpPriority object.

Table 2-184 mgcg_param (continued)

Column	Type	Comment
total_mgc	smallint	The total number of MGCs to be associated with this MGC group. The range is 0 through 128. The default value is 0.
assoc_info	integer	MGC redundant group (with multi call agent) should be associated with Profile or MGCPAPP, then voice gateway can use multi call agent related to the MGC group. This is a bit map to store association information: bit 0-30: profile 1 - profile 31 bit 31: for voice gateway The value 0 means this MGC Group is not associated with any profile or gateway. The range is 0 through 2147483647.
protocol	smallint	The total number of protocols associated with this MGC group. The range is 0 through 128.
reserved	integer	Reserved for future use.

VISM MGCG Protocol

Table 2-185 contains information about VISM media gateway controller (MGC) redundancy group protocol.

Table 2-185 mgcg_protocol

Column	Type	Comment
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
mgcg_num	smallint	MGC redundancy group number. This object corresponds to the mgcRedundancyGrpNum object.
prtcl_num	smallint	Media Gateway Protocol number. This object corresponds to the mgProtocolNumber object.

Table 2-185 mgcg_protocol (continued)

Column	Type	Comment
persist_ev_policy	smallint	Value to determine how the persistent events are notified. • 1 = quarantinePersistEvts • 2 = notQuarantinePersistEvts
quar_policy	smallint	Quarantine policy. • 1 = Step process • 2 = Step discard • 3 = Loop process • 4 = Loop discard
on_off_policy	smallint	Value to provision the signaled events. • 1 = Delete event not present • 2 = Delete only negated event
prov_response	smallint	Value to enable or disable sending provisional response to the call agent. • 1 = Send provisional response • 2 = Not send provisional response
resp_ack_attr	smallint	Value to set the response acknowledgement attribute. • 1 = sendResponseAckAttr • 2 = notSendResponseAckAttr
discon_proc	smallint	Value to enable or disable the disconnected procedure for each protocol and each Media Gateway Controller (MGC) group. • 1 = doDisconnectProcedure • 2 = notDoDisconnectProcedure
cancel_graceful	smallint	Value to determine if notification of RSIP cancel graceful must be enabled or disabled for each protocol and each MGC group that is configured • 1 = sendCancelGraceful • 2 = notSendCancelGraceful
preference	smallint	VXSM: preference of the Protocol on the MGC group. The lower the number the higher the preference. The range is 1 through 8. The default value is 1.
reserved	integer	Reserved for future use.

VISM MGC Resolution

Table 2-186 contains information about VISM Media Gateway Controller resolution.

Table 2-186 mgc_res

Column	Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
index	smallint	Name assigned to the IP address for each of the MGCs. This field maps to mgcResolutionIndex.
name	char (64)	Entity name (MGC or Notified) of the address to be resolved. This field maps to mgcResolutionName.
ipaddr	integer	IP address of the entity. This field maps to mgcResolutionIpAddress.
comm_state	smallint	Value to indicate that the address is applied for communications with a system of the same name. • 1 = csActive • 2 = csInactive This field maps to mgcResolutionCommState.
preference	integer	Value to optionally configure primaries and secondaries. This field maps to mgcResolutionPreference.
dns_res_flag	smallint	Flag to indicate whether an entry is internal or external. This field maps to the mgcDnsResolutionFlag object.
dns_ip_type	smallint	domain name server IP type, only support IPv4 ipv4 (1), Default = ipv4
reserved	integer	Reserved for future use.

VISM MGC

Table 2-187 contains information about VISM Media Gateway Controller (MGC).

Table 2-187 vism_mgc

Column	Type	Description
network_id	smallint	Network ID
node_id	integer	Node ID
shelf	integer	Shelf number
slot	smallint	Slot number

Table 2-187 vism_mgc

Column	Type	Description
controller	smallint	Individual media gateway controller index mgcNumber VXSM: (1..32)
name	char(64)	name of the media gateway controller mgcName VXSM: MGC Domain name on the domain name table
assoc_state	smallint	state of the association between the Media Gateway and the Media Gateway Controller: mStateationState is deprecated mgcRedundancyGrpCommState is introduced in mgcRedundancyGrpParamTable.
assoc_state_ctrl	smallint	control the association state, as represented by mgcAssociationStateControl is deprecated. mgcRedundancyGrpStateChangeNtfy is introduced in mgcRedundancyGrpParamTable.
total_mgcg	integer	indicate total number of MGC group with which this MGC associated. (0..65535)
total_ip	integer	indicate total number of IP addresses are associated with this MGC. (0..65535)
resolution	smallint	the kind of resolution to be applied for this MGC • 1 = internalOnly. • 2 = externalOnly. Default = internalOnly
reserved	integer	Reserve field.

VISM MGCP

Table 2-188 contains information about VISM Media Gateway Controller Protocol (MGCP).

Table 2-188 vism_mgcp

Column	Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.

Table 2-188 vism_mgcp

Column	Type	Description
controller	smallint	Media Gateway Controller (MGC) number. This field corresponds to the mgcNumber object.
protocol	smallint	Protocol, reflecting the mgProtocolNumber from the mgSupported table. This field corresponds to the mgProtocolNumber object.
reserved	integer	Reserved for future use.

VISM Profiles

Table 2-189 contains information about VISM AAL2 configurations.

Table 2-189 vism_profile

Column	Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
prf_type	smallint	First index into this table. This object corresponds to the aal2ProfileType object.
prf_num	smallint	Second index into this table. This object corresponds to the aal2ProfileNumber object.
preference	smallint	Object to configure the preferences the profiles. This object corresponds to the aal2ProfilePreference object.
voice_codec	smallint	Codes to be used in this profile. This object corresponds to the aal2ProfileVoiceCodec object.
voice_pkt_period	smallint	Packetization period (in milliseconds) for a given codec. This object corresponds to the aal2ProfileVoicePktPeriod object.
voice_vad	smallint	Object to define whether or not the voice activity detection (VAD) should be applied when the current profile is chosen. This object corresponds to the aal2ProfileVoiceVAD object.

Table 2-189 vism_profile (continued)

Column	Type	Description
vbd_codec	smallint	Voice band data (VBD) codecs to be used when upspeed occurs. This object corresponds to the aal2ProfileVBDCodec object.
vbd_pkt_period	smallint	Object to configure the packetization period in milliseconds for a given VBD codec. The period is measured in milliseconds. This object corresponds to the aal2ProfileVBDPktPeriod object.
reserved	integer	Reserved for future use.

VISM SCTP Addressing

Table 2-190 contains information about VISM SCTP addressing configurations.

Table 2-190 sctp_addr

Column	Data Type	Description
network_id	smallint	Network ID
node_id	integer	Node ID
shelf	integer	Shelf number
slot	smallint	Slot number
sctp_id	integer	sctp_id
sctp_addr_type	smallint	Internet type of primary destination IP address • 0 = unknown • 1 = ipv4 • 2 = ipv6
sctp_addr	integer	IP Address
is_local	smallint	Falg Indicating address type i.e Local or Remote (1) SCTP Association address is Local (2) SCTP Association Address is Remote
start_time	integer	SCTP Association Address startup time
rem_addr_status	smallint	The current status of the remote transport address • 0 = active • 1 = inactive

Table 2-190 sctp_addr

Column	Data Type	Description
rem_addr_hb	smallint	Heartbeat Flag for Remote Address • 0 = active • 1 = inactive Applicable only to Remote SCTP Address
rem_addr_rto	integer	The current Retransmission Timeout for Remote SCTP Address in milliseconds Applicable only to Remote SCTP Address
rem_addr_max_path	integer	Maximum number of DATA retransmissions allowed to a remote IP address before it is considered inactive Applicable only to Remote SCTP Address
addr_srtt	integer	The Smoothed Round Trip Time (SRTT) is obtained by averaging the measured Round trip times (RTT) between the local and remote systems on an IP Network in milliseconds. Applicable only to Remote SCTP Address
reserved	integer	Reserved for future use.

VISM SCTP Association

Table 2-191 contains information about VISM SCTP association configurations.

Table 2-191 sctp_assoc

Column	Data Type	Description
network_id	smallint	Network ID
node_id	integer	Node ID
shelf	integer	Shelf number
slot	smallint	Slot number
sctp_id	integer	SCTP Association ID
sctp_loc_port	integer	Local SCTP port number
sctp_rem_port	integer	Remote SCTP port number
sctp_rem_addr_type	smallint	Internet type of primary destination IP address • 0 = unknown • 1 = ipv4 • 2 = ipv6
sctp_rem_addr	integer	Primary destination IP address
sctp_hb_timer	integer	Heartbeat time-out in milliseconds

Table 2-191 sctp_assoc (continued)

Column	Data Type	Description
sctp_state	smallint	SCTP association State • 1 = closed • 2 = cookieWait • 3 = cookieEchoed • 4 = established • 5 = shutdownPending • 6 = shutdownSent • 7 = shutdownReceived • 8 = shutdownAckSent • 9 = deleteTCB
sctp_in_stream	integer	Inbound Streams negotiated at association startup
sctp_out_stream	integer	Outbound streams negotiated at association startup
sctp_max_retry	integer	The maximum number of data retransmissions in the association context
sctp_rto_min	integer	The minimum value permitted by a SCTP implementation for the retransmission timeout, measured in milliseconds
sctp_rto_max	integer	The maximum value permitted by a SCTP implementation for the retransmission timeout, measured in milliseconds.
sctp_rto_initial	integer	Initial value for the Retransmission time-out in milliseconds.
sctp_val_ck_life	integer	Valid cookie life in the 4-way start-up handshake procedure in milliseconds.
sctp_max_init_rty	integer	The maximum number of retransmissions at the start-up phase
sctp_mtu	integer	The Maximum Transmission Size to be used by this association in Bytes The range is 37 through 65535
sctp_l_rec_wnd	integer	The current local receive window size for association in Bytes The range is 1 through 65535
sctp_l_rec_wnd_low	integer	Low water mark for Local Receive Window Size in bytes The range is 0 through 65535
sctp_r_rec_wnd	integer	The current Remote receive window size for association in Bytes The range is 0 through 65535
sctp_r_rec_wnd_low	integer	Low water mark for Remote Receive Window Size in bytes The range is 0 through 65535

Table 2-191 sctp_assoc (continued)

Column	Data Type	Description
sctp_ulp_q_hw	integer	High water mark for data grams waiting to be sent. The range is 0 through 65535
sctp_ulp_q_rt	integer	The time when cSctpAssocUlpQueuedHW was set to 0
sctp_eff_addr_type	smallint	Internet type of effective destination IP address • 0 = unknown • 1 = ipv4 • 2 = ipv6
sctp_eff_addr	integer	Effective destination IP address. This is the IP address to which traffic is currently sent for this association
sctp_bndl_flag	smallint	Specifies whether or not SCTP chunks will be bundled. • 1 = true Indicates that chunks will be bundled. • 2 = false Indicates that chunks will not be bundled.
sctp_bndl_timeout	integer	The amount time to wait to allow data chunks to accumulate so that they can be transmitted in the same datagram in milliseconds The range is 1 through 60000
reserved	integer	Reserved for future use.

VISM Session Group

Table 2-192 contains information about the VISM session group.

Table 2-192 session_group

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
group_num	smallint	Index for vismSessionGrpEntry table, in the range 1 through 16. This field corresponds to the vismSessionGrpNum object.
set_num	smallint	Session set number for which this session group belongs. This field maps to the vismSessionGrpSetNum object.

Table 2-192 session_group (continued)

Column	Data Type	Description
group_state	smallint	State of the session group. • 1 = Idle • 2 = OOS • 3 = IS This field maps to the vismSessionGrpState object.
curr_session	smallint	Current session that is active from MGC in this session group. This field maps to the vismSessionGrpCurrSession object.
total_sessions	smallint	Total number of sessions that are added to this group. This field maps to the vismSessionGrpTotalSessions object.
switch_fail	smallint	Count of failed attempts to switch between sessions in this group. This field maps to the vismSessionGrpSwitchFails object.
switch_success	smallint	Count of successful attempts to switch between sessions in this group. This field maps to the vismSessionGrpSwitchSuccesses object.
mgc_name	char (64)	Name of the media gateway controller. This field maps to the vismSessionGrpMgcName object.
reserved	integer	Reserved for future use.

VISM Session Set

Table 2-193 contains information about the VISM session set.

Table 2-193 session_set

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
set_num	smallint	Logical index of this table, in the range 1 through 8. This field maps to the vismSessionSetNum object.

Table 2-193 session_set (continued)

Column	Data Type	Description
set_state	smallint	State of the session set. • 1 = Idle (default) • 2 = OOS • 3 = Active-is • 4 = Standby-is • 5 = Full-is This field maps to the vismSessionSetState object.
total_groups	smallint	Number of session groups that are added to a session set. This field maps to the vismSessionSetTotalGrps object.
active_group	smallint	Current active group number. This field maps to the vismSessionSetActiveGrp object.
switch_fail	smallint	Count of failed attempts to switch between session groups in this set. This field maps to the vismSessionSetSwitchFails object.
switch_success	smallint	Count of successful attempts to switch between session groups in this set. This field maps to the vismSessionSetSwitchSuccesses object.
fault_tolerant	smallint	Value to indicate whether or not the set configuration is fault tolerant. This field maps to the vismSessionSetFaultTolerant object.
reserved	integer	Reserved for future use.

VISM SRCP PEER

Table 2-194 contains information about VISM Simple Resource Coordination Protocol (SRCP) peer table.

Table 2-194 srcp_peer

Column	Type	Comment
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
peerid	smallint	SRCP peer index ID.
name	char (64)	Name of the SRCP peer.

Table 2-194 srcp_peer (continued)

Column	Type	Comment
peerport	integer	Value to configure the UDP port of the SRCP peer. The default is 2048.
hb_interval	integer	Length of the heartbeat interval, measured in milliseconds. If the value is 0, heartbeat for this peer is not monitored.
time_since_hb	integer	Time (in milliseconds) since the last heartbeat was received.
max_pdu_size	integer	Maximum PDU size in octets.
reserved	integer	Reserved for future use.

VISM SRCP PEER Parameters

Table 2-195 contains information about VISM Simple Resource Coordination Protocol (SRCP) peer parameters.

Table 2-195 srcp_param

Column	Type	Comment
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
mgcg_num	smallint	Media gateway controller (MGC) redundancy group number. This object corresponds to the mgcRedundancyGrpNum object.
hb_interval	integer	Object to configure the length of the heartbeat interval, in milliseconds. This object corresponds to the srcpPeerGrpHeartbeatInterval object.
time_since_hb	integer	Time since the last heartbeat was received, in milliseconds. This object corresponds to the rcpPeerGrpTimeSinceHeartbeat object.
max_pdu_size	integer	Object to configure the maximum UDP PDU size, in octets. This object corresponds to the srcpPeerGrpMaxPduSize object.
reserved	integer	Reserved for future use.

VISM Tone Plan

Table 2-196 contains information about different tone plans.

Table 2-196 tone_plan

Column	Type	Comment
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
index	smallint	Index to this table. This object corresponds to the tonePlanIndex object. For VXSM the range is 1 through 65535.
entry_status	smallint	Status of this entry. This object corresponds to the tonePlanEntryStatus object.
provision_flag	smallint	Provisioning flag for this entry. The object is set to builtIn if this entry contains predefined tone plan configuration information from internal firmware code. The object is set to unused if this entry has been configured with tone plan configuration information that has been downloaded from the PXM. This object corresponds to the tonePlanProvisionFlag object. For VXSM this object specifies whether or not the tone plan is a built-in system tone plan: • 1 = true • 2 = false
region_name	char 64	Region (or country) for which this tone plan is defined. This object corresponds to the tonePlanRegionName object.
version_num	integer	Version number for a tone plan in a region. This object corresponds to the tonePlanVersionNumber object. For VXSM the range is 0 through 100.

Table 2-196 tone_plan (continued)

Column	Type	Comment
file_name	char 32 (VISM) char 65 (VXSM)	Name of a valid file stored on the TFTP server which contains the tone definitions. This object corresponds to the tonePlanFileName object. For VXSM this field contains the valid file name stored on the TFTP or FTP server which contains the programmable tones definitions.
vif_count	smallint	The number of voice interfaces using the tone plan.
reserved	integer	Reserved for future use.

VISM Templates

Table 2-197 contains information about VISM Codec template configurations.

Table 2-197 vism_template

Column	Type	Comment
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
template_num	smallint	Index for the CodecTemplate table. This object corresponds with the vismCodecTemplateNum object.
codec_supported	smallint	Bit map of Codecs supported in this template. This object corresponds with the vismCodecSupported object.
max_chan_cnt	smallint	Maximum number of channels supported for this template. This object corresponds with the vismCodecTemplateMaxChanCount object.
reserved	integer	Reserved for future use.

VISM Trap Filters

Table 2-198 contains information about VISM trap filter configurations. The trap filter feature is for VISM-PR only.

Table 2-198 trap_filter

Column	Type	Comment
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
trap_filter_profile	char(32)	The Trap Filter Profile name used when generating notifications
filter_subtree	integer	The MIB subtree which, when combined with the corresponding instance of snmpNotifyFilterMask, defines a family of subtrees which are included in or excluded from the filter profile. Only the trap number is saved in the database, not the entire OID.
filter_mask	char(16)	The bit mask which, in combination with the corresponding instance of snmpNotifyFilterSubtree, defines a family of subtrees which are included in or excluded from the filter profile.
filter_type	smallint	This object indicates whether the family of filter subtrees defined by this entry are included in or excluded from a filter. • 1 = included • 2 = excluded The default is included (1)
storage_type	smallint	The storage type for this conceptual row. Conceptual rows having the value 'permanent' need not allow write-access to any columnar objects in the row. • 1 = Other • 2 = Volatile • 3 = nonVolatile (default) • 4 = Permanent • 5 = readOnly

Table 2-198 trap_filter (continued)

Column	Type	Comment
admin_timer	integer	This object specifies the time in units specified in csneFilterTimerUnit for which the notification specified in snmpNotifyFilterSubtree will remain active with the corresponding snmpNotifyFilterProfileName. This value can be set when the snmpNotifyFilterRowStatus is active. If this is done, the csneFilterOperTimer will be refreshed to take the new value set in this object. The range is 0 through 65535. If the admin timer set to 0, the notification will remain active forever. The default is 15
timer_unit	integer	This object specifies the unit of time that is used for the csneFilterAdminTimer and csneFilerOperTimer objects. • 1 = seconds • 2 = minutes • 3 = hours The default is minutes (2)
reserved	integer	Reserved for future use.

VISM XGCP Peers

Table 2-199 contains information about VISM Extended Gateway Control Protocol (XGCP) peers.

Table 2-199 xgcp_peer

Column	Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
controller	smallint	Media gateway controller (MGC) number. The range is 1 through 65535.
protocol	smallint	MGC protocol number. The range is 1 through 65535.
port	integer	UDP port of the peer used by the XGCP. The range is 1025 through 65535. The default is 2427.
reserved	integer	Reserved for future use.

Virtual Path Ranges

Table 2-200 contains information about virtual path (VP) ranges on MGX 8220, MGX 8230, MGX 8250, or MGX 8850 (PXM1).

Table 2-200 vprange

Column	Data Type	Description
network_id	smallint	CWM network ID.
node_id	integer	CWM node ID.
slot	smallint	Slot number.
rangenum	smallint	Range number.
port	smallint	Port number.
min_vpi	integer	Minimum virtual path indicator (VPI) value.
max_vpi	integer	Maximum VPI value.

Voice Channels

Table 2-201 contains information about the voice channels.

Table 2-201 voice_channel

Column	Data Type	Description
chnl_obj_id	integer	Voice channel object ID.
l_node_id	integer	CWM node ID.
l_slot	smallint	Slot number.
l_line	smallint	Port number.
l_channel	smallint	Channel number.
per_util	smallint	Percent utilization, in the range 0 through 100.
cos	smallint	Class of Service.
eia	smallint	EIA rate, in the range 0 through 20.
dfm_len	smallint	DFM length. Values are 0, 1, 7, 8, and 16.

Table 2-201 voice_channel (continued)

Column	Data Type	Description
chnl_info	smallint	Data channel information. • Bit 0: DFM flag – 0 = Off – 1 = On • Bits 1 through 2: Clocking – 0 = Normal – 1 = Split – 2 = Looped • Bit 3: DTE – 0 = DCE – 1 = DTE • Bit 4: DS0A, UCS – 0 = Reset – 1 = Set • Bit 5: OCU – 0 = Reset – 1 = Set • Bits 6 through 7: Spares
input_loss	smallint	Input loss.
output_loss	smallint	Output loss.

Table 2-201 voice_channel (continued)

Column	Data Type	Description
onhook_ab	smallint	Onhook AB: • Bits 0 and 1: Dial type – 0 = Inband – 1 = Pulse – 2 = User dial • Bits 2 through 4: Onhook B – 0 = 0 – 1 = 1 – 2 = Do not care – 3 = Unknown – 4 = Not used • Bits 5 through 7: Onhook A – 0 = 0 – 1 = 1 – 2 = Do not care – 3 = Unknown – 4 = Not used
onhook_cd	smallint	Onhook CD. • Bit 0: Signal extracted • Bit 1: Signal injected • Bits 2 through 4: Onhook D – 0 = 0 – 1 = 1 – 2 = Do not care – 3 = Unknown – 4 = Not used • Bits 5 through 7: Onhook C – 0 = 0 – 1 = 1 – 2 = Do not care – 3 = Unknown – 4 = Not used
chnl_type	smallint	Channel type.
cndt_crtr_indx	smallint	Conditioning criterion index.

Table 2-201 voice_channel (continued)

Column	Data Type	Description
tx_ab_sgnl	smallint	Transmit AB signaling. This field applies to transmit and receive XY signals. • Bits 0 through 1: Spares. • Bits 2 through 4: Transmit/receive Y signaling. – 0 = Signal bit is 0. – 1 = Signal bit is 1. – 2 = Transmits signal bit transparently. – 3 = Does not transmit signal bit. – 4 = Reverse/inverse signal bit. • Bits 5 through 7: Transmit/receive X signaling.
tx_cd_sgnl	smallint	Transmit CD signaling. This field applies to transmit and receive XY signals. • Bits 0 through 1: Spares. • Bits 2 through 4: Transmit/receive Y signaling. – 0 = Signal bit is 0. – 1 = Signal bit is 1. – 2 = Transmits signal bit transparently. – 3 = Does not transmit signal bit. – 4 = Reverse/inverse signal bit. • Bits 5 through 7: Transmit/receive X signaling.
rcv_ab_sgnl	smallint	Receive AB signaling. This field applies to transmit and receive XY signals. • Bits 0 through 1: Spares. • Bits 2 through 4: Transmit/receive Y signaling. – 0 = Signal bit is 0. – 1 = Signal bit is 1. – 2 = Transmits signal bit transparently. – 3 = Does not transmit signal bit. – 4 = Reverse/inverse signal bit. • Bits 5 through 7: Transmit/receive X signaling.

Table 2-201 voice_channel (continued)

Column	Data Type	Description
rcv_cd_sgnl	smallint	Receive CB signaling. This field applies to transmit and receive XY signals. • Bits 0 through 1: Spares • Bits 2 through 4: Transmit/receive Y signaling – 0 = Signal bit is 0. – 1 = Signal bit is 1. – 2 = Transmits signal bit transparently. – 3 = Does not transmit signal bit. – 4 = Reverse/inverse signal bit. • Bits 5 through 7: Transmit/receive X signaling.
sgnl_intgr_time	smallint	Signaling integration time (ms).
min_wink	integer	Minimum wink, in the range 100 through 300 ms.
playout_delay	smallint	Playout delay, in the range 120 through 200.

Table 2-201 voice_channel (continued)

Column	Data Type	Description
chnl_info	smallint	Data channel information. • Bit 0: DFM flag – 0 = Off – 1 = On • Bits 1 through 2: Clocking – 0 = Normal – 1 = Split – 2 = Looped • Bit 3: DTE – 0 = DCE – 1 = DTE • Bit 4: DS0A, UCS – 0 = Reset – 1 = Set • Bit 5: OCU – 0 = Reset – 1 = Set • Bits 6 through 7: Spares
input_loss	smallint	Input loss.
output_loss	smallint	Output loss.

Table 2-201 voice_channel (continued)

Column	Data Type	Description
onhook_ab	smallint	Onhook AB: • Bits 0 and 1: Dial type – 0 = Inband – 1 = Pulse – 2 = User dial • Bits 2 through 4: Onhook B – 0 = 0 – 1 = 1 – 2 = Do not care – 3 = Unknown – 4 = Not used • Bits 5 through 7: Onhook A – 0 = 0 – 1 = 1 – 2 = Do not care – 3 = Unknown – 4 = Not used
onhook_cd	smallint	Onhook CD. • Bit 0: Signal extracted • Bit 1: Signal injected • Bits 2 through 4: Onhook D – 0 = 0 – 1 = 1 – 2 = Do not care – 3 = Unknown – 4 = Not used • Bits 5 through 7: Onhook C – 0 = 0 – 1 = 1 – 2 = Do not care – 3 = Unknown – 4 = Not used
chnl_type	smallint	Channel type.
cndt_crtr_indx	smallint	Conditioning criterion index.

Table 2-201 voice_channel (continued)

Column	Data Type	Description
tx_ab_sgnl	smallint	Transmit AB signaling. This field applies to transmit and receive XY signals. • Bits 0 through 1: Spares. • Bits 2 through 4: Transmit/receive Y signaling. – 0 = Signal bit is 0. – 1 = Signal bit is 1. – 2 = Transmits signal bit transparently. – 3 = Does not transmit signal bit. – 4 = Reverse/inverse signal bit. • Bits 5 through 7: Transmit/receive X signaling.
tx_cd_sgnl	smallint	Transmit CD signaling. This field applies to transmit and receive XY signals. • Bits 0 through 1: Spares. • Bits 2 through 4: Transmit/receive Y signaling. – 0 = Signal bit is 0. – 1 = Signal bit is 1. – 2 = Transmits signal bit transparently. – 3 = Does not transmit signal bit. – 4 = Reverse/inverse signal bit. • Bits 5 through 7: Transmit/receive X signaling.
rcv_ab_sgnl	smallint	Receive AB signaling. This field applies to transmit and receive XY signals. • Bits 0 through 1: Spares. • Bits 2 through 4: Transmit/receive Y signaling. – 0 = Signal bit is 0. – 1 = Signal bit is 1. – 2 = Transmits signal bit transparently. – 3 = Does not transmit signal bit. – 4 = Reverse/inverse signal bit. • Bits 5 through 7: Transmit/receive X signaling.

Table 2-201 voice_channel (continued)

Column	Data Type	Description
rcv_cd_sgnl	smallint	Receive CB signaling. This field applies to transmit and receive XY signals. • Bits 0 through 1: Spares • Bits 2 through 4: Transmit/receive Y signaling – 0 = Signal bit is 0. – 1 = Signal bit is 1. – 2 = Transmits signal bit transparently. – 3 = Does not transmit signal bit. – 4 = Reverse/inverse signal bit. • Bits 5 through 7: Transmit/receive X signaling.
sgnl_intgr_time	smallint	Signaling integration time (ms).
min_wink	integer	Minimum wink, in the range 100 through 300 ms.
playout_delay	smallint	Playout delay, in the range 120 through 200.

Table 2-201 voice_channel (continued)

Column	Data Type	Description
iec	smallint	IEC parameters. • Bit 0: Spare • Bit 1: Background filter – 0 = Disabled – 1 = Enabled • Bit 2: Backcard prefer – 0 = Disabled – 1 = Enabled • Bit 3: Tone disabler – 0 = Disabled – 1 = Enabled • Bit 4: Echo return loss – 0 = Low – 1 = High • Bit 5: Conv. – 0 = Disabled – 1 = Enabled • Bit 6: Non-linear process – 0 = Disabled – 1 = Enabled • Bit 7: Echo cancel – 0 = Disabled – 1 =1 Enabled

Voice Tone Detection

Table 2-210 contains information about the tone detection feature as implemented in the voice cards managed by the CWM.

Table 2-202 tone_detect

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.

Table 2-202 tone_detect (continued)

Column	Data Type	Description
tone_detect_index	smallint	This is the logical index of this table. Currently only Tones 1 to 10 are used and Call agent can request up to ten tones to be detected on different endpoints at any point in time.
max_deviation	smallint	Specifies the Frequency Max deviation parameter to be used when sending the request to detect a tone to the DSP. Please refer to the VISM configuration guide for standard values to be used for this field. The range is 10 to 125.
max_power	smallint	Specifies the Frequency Max Power parameter to be used when sending the request to detect a tone to the DSP. The range is 0 through 30.
min_power	smallint	Specifies the Frequency Min Power parameter to be used when sending the request to detect a tone to the DSP. The range is 10 through 35.
power_twist	smallint	Specifies the Frequency Power Twist parameter to be used when sending the request to detect a tone to the DSP. The range is 0 through 15.
max_delay	smallint	Specifies the Frequency Max Delay parameter to be used when sending the request to detect a tone to the DSP. The range is 0 through 100.
min_on_cadence	smallint	Specifies the Minimum On time parameter to be used for the Frequencies to be detected when detecting the supervision tone by the DSP. The range is 3 through 100.
max_off_cadence	smallint	Specifies the Frequency Max deviation parameter to be used when sending the request to detect atone to the DSP. The range is 5 to 5000.
num_cadence	smallint	Specifies the number of pairs of the Dual Frequency that needs to be detected. Currently up to ten pairs of frequency can be detected. The range is 0 to 6.

Table 2-202 tone_detect (continued)

Column	Data Type	Description
event_code	smallint	Call agent can request supervision tone detection indexed by this field. The values of Event code are mapped from the Subscriber line event codes defined in RFC2833. Currently VISM supports detection of only a handful of supervision tones like Ringing, Busy, Dial-Tone and SIT tones The range is 0 to 255.
frequency1	smallint	Specifies the first Frequency component of the Dual Freq to be detected by the DSP. The range is 280 to 3800.
frequency2	smallint	Specifies the 2nd Frequency component of the Dual Freq to be detected by the DSP. The range is 280 to 3800. Setting this value to 0 means this is a single frequency.
on_cadence	smallint	The On time in each cycle of the dual frequency to be detected by the DSP. The range is 3 to 5000 (in units of 10ms).
off_cadence	smallint	The Off time in each cycle of the dual frequency to be detected by the DSP. The range is 3 to 5000 (in units of 10ms).
reserved	integer	Reserved for future use.

Voice Tone ID

Table 2-203 contains information about tone IDs for the voice cards (VISM or VXSM cards).

Table 2-203 tone_id

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
tone_id	integer	Identifies the programmable tone in a tone plan. The range is 1 through 65535.
name	char (64)	The name of the programmable tone.

Table 2-203 tone_id (continued)

Column	Data Type	Description
reserved	integer	Reserved for future use.

VXSM Program Tones

Table 2-204 contains information about programmable tones for the VXSM card. status.

Table 2-204 program_tone

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
plan_id	integer	Identifies the tone plan in the table. The range is 1 through 65535.
tone_id	integer	Identifies the programmable tone in a tone plan. The range is 1 through 65535.
tone_freq	char (64)	The frequency of the tone will be played or how to be detected.
tone_amp	char(64)	The power level of the tone will be played or how to be detected.
tone_cad	char (64)	The cadence of the tone will be played or how to be detected.
duration	integer	The duration of the tone will be played. The range is 0 through 4294967295.
storage_type	smallint	Identifies the storage type. • 1 = other • 2 = volatile -- e.g., in RAM • 3 = nonVolatile -- e.g., in NVRAM • 4 = permanent -- e.g., partially in ROM • 5 = readOnly -- e.g., completely in ROM
reserved	integer	Reserved for future use.

VXSM AAL2 Cross Connect

Table 2-205 contains information about AAL2 Cross Connects for the VXSM card.

Table 2-205 aal2_cross_conn

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
bay	smallint	Bay number.
line	smallint	Line number.
port	smallint	Port number.
if_index	integer	ifIndex of the port
vpi	smallint	This object is the VPI value of an ATM PVC connection.
vci	integer	This object is the VCI value of an ATM PVC connection.
cid	smallint	This object is the CID of an ATM AAL2 connection, it is unique within a PVC or SVC connection. The CID number at both sides of an AAL2 connection must be the same. Value of 0 is not used, and values of 1 to 7 are reserved for layer management by ITU-T I.366.2 standard. The range is 8 through 255.
ds1_ifindex	integer	The value of this object equals to the 'ifIndex' of the DS1 interface. This object is mandatory when adding a CID entry. Once a CID entry is added, this object can not be modified.
ds0_grp_idx	integer	An arbitrary index that uniquely iden.This object is mandatory when adding a CID entry. Once a CID entry is added, this object can not be modified. The range is 0 through 30.
profile_type	smallint	This object specifies the type of the AAL2 CODEC profile. The combination of the profile type and profile number defines an AAL2 CODEC profile. It is used for voice trunking applications only. • 1 = itu • 2 = custom

Table 2-205 aal2_cross_conn (continued)

Column	Data Type	Description
profile_num	smallint	This object specifies the AAL2 CODEC profile number. The combination of profile type and profile number defines an AAL2 CODEC profile. A profile contains one or more entries, with each entry specifying an encoding algorithm and information regarding how the TDM data is to be packed into a packet. is used for voice trunking applications only. • 1 = profileITU1 • 2 = profileITU2 • 3 = profileITU3 • 4 = profileITU7 • 8 = profileITU8 • 12 = profileITU12 • 100 = profileCustom100 • 101 = profileCustom101 • 110 = profileCustom110 • 200 = profileCustom200

Table 2-205 aal2_cross_conn (continued)

Column	Data Type	Description
codec_type	smallint	This object specifies the CODEC type used for the AAL2 trunking connection. • 1 = g729r8000 • 2 = g729Ar8000 • 3 = g726r16000 • 4 = g726r24000 • 5 = g726r32000 • 6 = g711ulawr64000 • 7 = g711Alawr64000 • 8 = g728r16000 • 9 = g723r6300 • 10 = g723r5300 • 11 = gsmr13200 • 12 = g729Br8000 • 13 = g729ABr8000 • 14 = g723Ar6300 • 15 = g723Ar5300 • 16 = g729IETFr8000 • 17 = gsmeEr12200 • 18 = clearChannel • 19 = g726r40000

Table 2-205 aal2_cross_conn (continued)

Column	Data Type	Description
vbd_codec	smallint	This object specifies the CODEC type to be used for Voice Band Data (VBD) upspeed. Upspeed is to change the transmission rate of a voice interface to a higher rate of CODEC type for fax/modem transportation. • 1=1other • 2 = fax2400 • 3 = fax4800 • 4 = fax7200 • 5 = fax9600 • 6 = fax14400 • 7 = fax12000 • 10 = g729r8000 • 11 = g729Ar8000 • 12 = g726r16000 • 13 = g726r24000 • 14 = g726r32000 • 15 = g711ulawr64000 • 16 = g711Alawr64000 • 17 = g728r16000 • 18 = g723r6300 • 19 = g723r5300 • 20 = gsmr13200 • 21 = g729Br8000 • 22 = g729ABr8000 • 23 = g723Ar6300 • 24 = g723Ar5300 • 25 = ietfg729r8000 • 26 = gsmeEr12200 • 27 = clearChannel • 28 = g726r40000

Table 2-205 aal2_cross_conn (continued)

Column	Data Type	Description
nx64_en	smallint	This object specifies whether a CID entry is in the Nx64packet stream mode. When this object is set to 'false', the CID connection is for voice trunking applications only. when it is set to 'true', the CID connection is for data trunking using Nx64 packet stream (N>=1). • 1 = True • 2 = False
nx64_profile	integer	This object specifies the Nx64 data profile for an AAL2data trunking connection. The value of this object is a valid index of into aal2_5_data_profile table. This object is only applicable when nx64_en is set to 'true'. Range: (1..65535)
state_bitmap	integer	This object is used to indicate the state of the CID. All bits setting to 0 which means status 'okay'.
reserved	integer	Reserved for future use.

VXSM AAL2 AAL5 Data Profiles

Table 2-206 contains information about AAL2 AAL5 Data profiles for the VXSM card.

Table 2-206 aal2_5_data_profile

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
profile_idx	integer	An arbitrary index that uniquely identifies a Nx64 profile entry in the cdapNx64ProfileTable. The first entry (i.e., the value of this object is one) is used for default profile, it can not be modified or deleted.
transport_mode	smallint	This object specifies the Nx64 packet stream transport mode. • 1 = hdlc - the Nx64 data the gateway receives are HDLC frames; • 2 = transparent - the Nx64 data the gateway receives are unstructured bit stream and they will be transmitted to the network transparently.

Table 2-206 aal2_5_data_profile (continued)

Column	Data Type	Description
fill_pattern	smallint	This object specifies the Nx64 HDLC frame start/end fill pattern. • 1 = hdlcPattern - 0x7E HDLC frame start/end bit pattern • 2 = iDlePattern - 0xFF IDLE bit pattern This object is only applicable when cdapNx64TransportMode is set to 'hdlc'.
frame_gap	smallint	This object specifies the HDLC inter-frame gap flag count. The value of '0' means that only one flag is transmitted between a pair of frames and it is shared by them. In this case, the inter-frame flag is the start flag for frame (m) and the end flag for frame (m+1). This object is only applicable when cdapNx64TransportMode is configured as 'hdlc', otherwise, the value of this object is ignored.
bit_inverse	smallint	This object indicates whether bit inversion is turned on to support inverted HDLC functionality. When this object is set to 'true', all the data stream on the Nx64 link is bit inverted.
reserved	integer	Reserved for future use.

VXSM AS

Table 2-207 contains information about AS for the VXSM card. status.

Table 2-207 vxsm_as

Column	Data Type	Description
network_id	smallint	Network ID
node_id	integer	Node ID
shelf	integer	Shelf number
slot	smallint	Slot number
as_id	integer	AS Index
as_name	char(255)	Name of AS
asp_no	smallint	Number of ASP's associated with AS The range is 0 through 16
as_pri_addr_type	smallint	Primary IP address type of AS • 0 = unknown • 1 = ipv4 • 2 = ipv6

Table 2-207 vxsm_as (continued)

Column	Data Type	Description
as_pri_addr	integer	primary IP address of AS
as_sec_addr_type	smallint	Secondary IP address type of AS • 0 = unknown • 1 = ipv4 • 2 = ipv6
as_sec_addr	integer	Secondary IP address of AS
as_sctp_port	integer	SCTP port number of AS
as_sctp_stream	integer	Number of streams associated with AS
as_failover_timer	integer	AS Failover Time-out in milliseconds. The range is 1000 through 10000 ms. The default is 4000
as_sctp_init_rto	integer	Retransmission interval for initialization and cookie chunks in milliseconds. The range is 2000 through 20000 ms. The default is 8000 ms.
as_max_init_rt	integer	The maximum number of times SCTP initialization and cookie chunks to be retransmitted before reporting failure for association request in milliseconds. The range is 1 through 10 ms. The default is 8 ms.
as_restart_timer	integer	When Signaling gateway failover happens, timer for this duration will be started before trying to restart SCTP association with all the ASPs. The range is 1000 through 6000 ms. The default is 5000 ms.
as_state	smallint	State of AS • 1 = down • 2 = inActive • 3 = active • 4 = pending
reserved	integer	Reserved for future use.

VXSM ASP

Table 2-208 contains information about ASP for the VXSM card. status.

Table 2-208 vxsm_asp

Column	Data Type	Description
network_id	smallint	Network ID
node_id	integer	Node ID
shelf	integer	Shelf number
slot	smallint	Slot number
asp_id	integer	ASP ID

Table 2-208 vxsm_asp (continued)

Column	Data Type	Description
asp_name	char(255)	ASP Name
asp_as_id	integer	The index of the AS which this ASP is associated with
asp_as_name	char(255)	The name of the AS which this ASP is associated with
asp_assoc_id	integer	The index of the SCTP association which this ASP is associated with
asp_pri_addr_type	smallint	Primary IP address type of ASP • 0 = unknown • 1 = ipv4 • 2 = ipv6
asp_pri_addr	integer	Primary IP address of ASP
asp_sec_addr_type	smallint	Secondary IP address type of ASP • 0 = unknown • 1 = ipv4 • 2 = ipv6
asp_sec_addr	integer	Secondary IP address of ASP
asp_sctp_port	integer	SCTP port number of ASP
asp_sctp_max_rt	smallint	Maximum number of association retransmissions for this ASP The range is 2 through 20 The default is 5
asp_sctp_max_rto	integer	Upper bound for retransmission time out doubling operation in milliseconds The range is 300 through 60000 The default is 900
asp_state	smallint	ASP State • 1 = down • 2 = inActive • 3 = active
reserved	integer	Reserved for future use.

VXSM ASP IP

Table 2-209 contains information about ASP IP addresses for the VXSM card. status.

Table 2-209 VXSM_ASP_IP

Column	Data Type	Description
network_id	smallint	Network ID
node_id	integer	Node ID

Table 2-209 VXSM_ASP_IP (continued)

Column	Data Type	Description
shelf	integer	Shelf number
slot	smallint	Slot number
asp_id	integer	ASP ID
asp_addr_type	smallint	IP address type of ASP • 0 = unknown • 1 = ipv4 • 2 = ipv6
asp_addr	integer	IP address of ASP
asp_name	char(255)	ASP Name
sctp_precedence	integer	IP precedence level for the PDUs The range is -1 through 7 The default is 0
sctp_keep_alive	integer	Heartbeat timeout interval for the IP in milliseconds The range is 500 through 60000 The default is 500
sctp_path_rt	smallint	SCTP path retransmissions for this remote IP The range is 2 through 10 The default is 3
sctp_hb	smallint	Heartbeat associated to this destination transport IP address When this object is set to 'on', the IP address is considered available by a peer endpoint for receiving SCTP packets • 1 = on • 2 = off The default is 1 (on)
reserved	integer	Reserved for future use.

VXSM Card

Table 2-210 contains information about VXSM cards managed by the CWM.

Table 2-210 vxsm_card

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.

Table 2-210 vxsm_card (continued)

Column	Data Type	Description
dname	char (64)	A domain name under which the Media Gateway could also be registered in a DNS.
ctrl_tos	smallint	Type Of Service (TOS) field of IP header for the control packet in VoIP application. The range is 0 through 255. The default is 96.
bearer_tos	smallint	Type Of Service (TOS) field of IP header for the voice payload packet in VoIP application. The range is 0 through 255. The default is 160.
nte_payload	smallint	NTE (Named Telephony Events) payload type. The range is 96 through 127. The default is 101.
nse_payload	smallint	NSE (Network Signaling Events) payload type. The range is 98 through 117. The default is 100.
nse_resp_timer	smallint	Network Signaling Event (NSE) timeout value The range is 250 through 10000. The default is 1000.
def_tone_plan_id	integer	The default tone plan index (the value of cvtcTonePlanId) for the media gateway. The range is 1 through 65535. The default is 1.
info_enable	smallint	Specifies whether the media gateway supports descriptive suffix of the name schema for terminations. • 1 = true • 2 = false The default is false.
dsname_prefix	char (64)	The prefix of the name schema for DS (Digital Subscriber) terminations.
rtpname_prefix	char (64)	The prefix of the name schema for RTP (Real-Time Transport Protocol) terminations.
aal1_svc1_prefix	char (64)	The prefix of the name schema for voice over AAL1 SVC (Switched Virtual Circuit).
aal2_svc1_prefix	char (64)	The prefix of the name schema for voice over AAL2 SVC (Switched Virtual Circuit).

Table 2-210 vxsm_card (continued)

Column	Data Type	Description
cc_enable	smallint	Indicates whether the H.248 congestion package (H.248.10) and the related functionality is enabled on Media Gateway or not. • 1 = true • 2 = false The default is false
renotify_intvl	integer	interval in milliseconds for the re-notification timer configured on MGC. The timer factors in the network delay. The range is 0 through 100000
current_crr	smallint	Indicates the current percentage reduction in the rate of calls that MGC is attempting towards MG. The range is 0 through 100
cac_enable	smallint	The CAC (Call Admission Control) function is enabled or not in the media gateway. • 1 = true • 2 = false The default is true.
pred_oam_cgap	smallint	The inter cell gap for dual PVC OAM cells The range is 10 through 5000 The default is 500
pred_retry_thrhd	smallint	The threshold for failure of a PVC. The range is 1 through 20 The default is 3
pred_recov_thrhd	smallint	The threshold for recovery of a PVC. The range is 1 through 20 The default is 5
total_dsp	integer	The total number of DSPs in the card.
num_dsp_fail	integer	The number of DSPs that have failed.
dsp_swov_thrld	smallint	The threshold of DSP failures that can occur before the voice gateway is switched over. The range is 1 through 2048
congest_dsp	smallint	The number of DSPs in the congested state. The range is 0 through 1024.
normal_dsp	smallint	The number of DSPs in the normal state. The range is 0 through 1024

Table 2-210 vxsm_card (continued)

Column	Data Type	Description
nx64_dsp	smallint	The number of DSPs that need to be set aside for making Nx64 calls. The range is 0 through 2048.
rtp_sid_pl_type	smallint	The RTP payload type of the SID packet that is sent to the remote endpoint at the onset of silence suppression. • 19 = hexadecimal • 13 = decimal The default is 13.
rtcp_control	smallint	The control for enabling or disabling RTCP (Real Time Control Protocol). • 1 = enable • 2 = disable The default is 1.
rtcp_trans_intrv	integer	The RTCP report interval. The range is 5000 through 65535. The default is 5000.
rcv_multi	smallint	An approximate RTCP report interval in milliseconds. The range is 1 through 60. The default is 5.
vad_adaptive	smallint	Enable or disable the Adaptive VAD knob of the VAD algorithm. • 1 = enable • 2 = disable
power_level	smallint	The power level of the low frequency component. The range is -250 through 30. The default is -120.
power_twist	smallint	The relative power level of the high frequency component of DTMF. The range is -100 through 100. The default is 0.
dn_ann_srv	char (64)	The domain name of an announcement file server that resides in an IP network and is reachable from the media gateway

Table 2-210 vxsm_card (continued)

Column	Data Type	Description
dn_resolution	smallint	The domain name resolution for the domain name of the Announcement File server which is specified by the cannoAudioFileServerName object • 1 = internalOnly • 2 = externalOnly The default is 1.
ipaddr_type	smallint	The IP address type. The default is ipv4.
ip_addr	integer	The IP address associated with the cannoAudioFileServerName. The default is '00000000'h.
age_time	integer	The maximum life-span (in minutes) of the dynamic announcement files in the cache. The range is 0 through 65535. The default is 10080.
prefix_path	char (255)	The directory path under the default TFTP directory in the Announcement File server for announcement files.
reg_timeout	smallint	The time for a play announcement request to be serviced (in seconds). The range is 0 through 50. The default is 5.
max_perm_ann	smallint	The maximum number of permanent announcement files that can be added to the media gateway. The range is 0 through 500. The default is 41.
jitter_delay_mode	smallint	Jitter buffer mode for VDB call connections • 1 = Adaptive • 2 = Fixed The default is 2
jitter_max_delay	smallint	Maximum Jitter Buffer Size in milli seconds The range is 20 through 135 The default is 135
jitter_nom_delay	smallint	Nominal jitter Buffer Size in milli seconds The range is 5 through 135 The default is 70

Table 2-210 vxsm_card (continued)

Column	Data Type	Description
jitter_min_delay	smallint	Minimum jitter Buffer Size in milli seconds Range 0 through 135 The default is 0
cluster_enabled	smallint	This object specifies the condition of cluster generation in call control • 1 = Disabled • 2 = Enabled • 3 = conditionalEnabled
ent_phy_idx	integer	entPhysicalIndex
reserved	integer	Reserved for future use.

VXSM DS0 Connections

Table 2-211 contains information about ds0 connections implemented on VXSM cards managed by the CWM.

Table 2-211 ds0_connect

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
bay	smallint	Bay number.
line	smallint	Line number.
endp1_ds1	integer	The value of this object equals to the “ifIndex” of a Ds1 interface.
endp1_ds0_grp	smallint	A DS0 group that contains one of more DS0s within the Ds1 interface represented by “cDs0Endpt1Ds1.” The range is 0 through 30.
endp2_ds1	integer	The 'ifIndex' of a Ds1 interface. This Ds1 interface is used as the second end point of the DS0 connection.
endp2_ds0_grp	smallint	A DS0 group which contains one of more DS0s within the Ds1 interface represented by “cDs0Endpt2Ds1.” This DS0 group is used as the second end point of the DS0 connection. The range is 0 through 30.
reserved	integer	Reserved for future use.

VXSM DSP Status

Table 2-212 contains information about VXSM DSP status.

Table 2-212 dsp_status

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
dsp_id	integer	The ID of the DSP in this VXSM card.
oper_status	smallint	The current operational state of the DSP. • 1 = normal • 2 = shutdown • 3 = congested • 4 = failed
total_chan	integer	The total number of channels in the DSP.
bear_split	smallint	Indicates if the DSP channels are split into signaling call and bearer call. • 1 = true • 2 = false
cong_occur	integer	The number of congestion occurrences on the DSP.
reserved	integer	Reserved for future use.
ent_phy_idx	integer	Entity Physical index for DSP.

VXSM Event Mapping

Table 2-213 contains information about mapping VXSM voice data events.

Table 2-213 vxsm_event_map

Column	Data Type	Description
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
map_index	integer	This object uniquely identifies a set of voice data events supported and how they will be handled in the media gateway. The entry with 1 in this index is the default means of handling voice data events in the media gateway.
event_index	smallint	This object uniquely identifies the voice band data event.

Table 2-213 vxsm_event_map (continued)

Column	Data Type	Description
handle_type	smallint	This object specifies the type of the handle function in response to this event detection.
profile_index	integer	This object specifies the handle profile in response to the event detection.
handle_mode	smallint	This object specifies the handling mode of the event.
reserved	integer	Reserved for future use.
network_id	smallint	ID of the network.

VXSM Fax Relay

Table 2-213 contains information about configuring VXSM fax relay profiles.

Table 2-214 vxsm_fax_relay

Column	Data Type	Description
network_id	smallint	Network ID
node_id	integer	Node ID
shelf	integer	Shelf number
slot	smallint	Slot number
profile_index	integer	This object uniquely identifies the FAX relay profile. The entry with the value of this object set to 1 is the default fax relay profile for the media gateway. The default fax relay profile is automatically created by the system and cannot be added or deleted, but can be modified by user.
mode	smallint	
t38_variant	integer	This object specifies the variant of ITU-T T.38 standards.
bearer_tx_protocol	smallint	This object specifies the transport protocol in bearer path.
tcf_method	smallint	Specifies whether the TCF (Training Check) is sent through the higher-speed T.4 modulation system versus the 300 kbps V.21 modulation used for the previous T.30 signaling. The TCF verifies training and indicates the acceptability of sending fax pages at this transmission rate.
max_tx_rate	smallint	This object specifies the maximum fax transmission rate.
hs_packet_rate	smallint	This object specifies the packet rate of primary high-speed (HS) data packet.

Table 2-214 vxsm_fax_relay (continued)

Column	Data Type	Description
ls_data_red	smallint	This object specifies the extent of IFP (Internet Fax Protocol) packet transmission redundancy for the low-speed control information exchanged during the first phase of a T.38 FAX relay connection.
hs_data_red	smallint	This object specifies the extent of the IFP packet transmission redundancy for the high-speed control and image information exchanged following the initial low-speed phase of a T.38 FAX relay connection.
nsf_override_enable	smallint	This object specifies whether or not the Non Standard Facilities (NSF) feature is used during fax negotiation. When you override the NSF only standard fax transactions will occur.
nsf_country_code	smallint	This object specifies the country code for identifying the country where the media gateway with non-standard capabilities was manufactured. This object is applicable only if cvbdpFrProfNsfOverrideEnable is set to 'true'.
nsf_vendor_code	smallint	Per its definition (ITU T.35), the Vendor Code (also called the Terminal Provider Code) in the Non-Standard Facilities (NSF) code is a two-byte field identifying the manufacturer of the media gateway with non-standard capabilities. This object is applicable only if cvbdpFrProfNsfOverrideEnable is set to 'true'.
nse_ack_timeout	integer	This object specifies a timeout value before teardown the call if there is no acknowledgement in the FAX relay. The value of 0 is to disable the acknowledgement timeout.
inactivity_timeout	integer	This object specifies a timeout value before teardown the call if there is no activity in the FAX relay. The value of 0 is to disable the inactivity detection.
nominal_delay	integer	This object specifies the nominal delay in the FAX relay.
t30_ecm_enable	smallint	Specifies whether or not fax-relay Error Correction Mode (ECM) is enabled on the FAX relay.
reserved	integer	Reserved for future use.

VXSM Megaco Configuration

Table 2-215 contains information about VXSM megaco (media gateway controller) configuration status.

Table 2-215 megaco_config

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.

Table 2-215 megaco_config (continued)

Column	Data Type	Description
shelf	integer	Shelf number.
slot	smallint	Slot number.
link_id	integer	A unique link ID which identifies the signaling link that this gateway uses to communicate with the Gateway Controllers to form an H.248 association. The range is 1 through 2147483647.
ip_addr	integer	The IP address that the Media Gateway Controller will use to communicate with the Media Gateway.
gw_port	integer	The TCP/UDP port number that the Media Gateway Controller will use to communicate with the Media Gateway. The range is 0 through 65535. The default value is 2944.
encode_schema	smallint	The encoding scheme that would be used to encode the H.248 messages that are sent/received to/from the gateway controller. • 1 = text • 2 = binary The default value is 1.
gw_prtcl	smallint	Type of the control protocol in use. • 1 = notApplicable • 2 = other • 3 = dss1Ip • 4 = ipdc • 5 = megacov1 • 6 = megacov2 • 7 = mgcp
sig_tran_prtcl	smallint	Type of the transport protocol that is being used to transport the H.248 signaling traffic. • 1 = tcp • 2 = udp • 3 = sctp • 4 = other
admin_status	smallint	The desired state of the gateway. • 1 = up • 2 = down • 3 = testing

Table 2-215 megaco_config (continued)

Column	Data Type	Description
oper_status	smallint	The current operational state of the gateway. • 1 = up • 2 = down • 3 = testing • 4 = unknown
mgcg_num	smallint	The MGC group parameters associated with MGC group index. The range is 1 through 12.
ipaddr_idx	smallint	The index of the entry in cMediaGwIpConfigTable which defines the media gateway address over control type PVC. The range is 1 through 64.
assoc_id	integer	Indicates the unique identification of the H.248 association assigned by the H.248 stack. The range is 1 through 65535.
max_context	integer	Maximum number of contexts is allowed in this media gateway link. The range is 1 through 4294967295. The default value is 100.
max_t_context	smallint	Maximum number of terminations per context in this media gateway link. The range is 1 through 100. The default value is 10.
mg_time	integer	The interval within which the MGC expects a response to any transaction from the MG. The range is 0 through 65535. The default value is 5000.
mgc_time	integer	The interval within which the MG should expects a response to any transaction from the MGC. The range is 0 through 65535. The default value is 5000.
prov_r_time	integer	The time within which to expect a Pending response if a transaction cannot be completed. The range is 0 through 65535. The default value is 2000.

Table 2-215 megaco_config (continued)

Column	Data Type	Description
num_conn_retry	smallint	The number of times the media gateway retries to connect to MGC before it sends out a disconnect command. The range is 0 through 100. The default value is 11.
max_wait_delay	integer	Maximum waiting delay. The range is 0 through 600000. The default value is 3000.
restart_delay	smallint	The time delay before the media gateway accept any call from MGC after it sends the command 'ServiceChange' with a 'Restart'. The range is 0 through 600. The default value is 200.
resp_ret_time	integer	The time till which the responses should be retained before they are sent if they receive a repetition of a transaction that is still being processed. The range is 0 through 65535. The default value is 30.
initial_rtt	integer	Initial round-trip time for the H.248 transaction to be responded. The range is 0 through 65535. The default value is 1000.
inactive_time	integer	The period of silence between messages from MGC The range is 0 through 65535. The default value is 1000.
h_addr_type	smallint	The address type in the H.248 message header. The default value is ipv4.
dservice_delay	integer	The grace period before the media gateway link to be taken out of service. The range is -1 through 65535. The default value is 0.
act_mgc_addr	integer	The address of the currently active MGC in this media gateway link.
act_mgc_domain	char (64)	The domain name of the currently active MGC in this media gateway link.
act_mgc_port	integer	The transport layer port number of the currently active MGC in this media gateway link. The range is 0 through 65535.

Table 2-215 megaco_config (continued)

Column	Data Type	Description
st_chg_reason	smallint	The reason for the operational state change. • 1 = mgcDirected • 2 = mgDirected • 3 = mgcNotReachable • 4 = numRetriesExpired
st_chg_method	smallint	The method for the operational state change. • 1 = graceful • 2 = forced • 3 = handoff • 4 = failover • 5 = restart • 6 = disconnect
reserved	integer	Reserved for future use.

VXSM Megaco Profile

Table 2-216 contains information about VXSM megaco (media gateway controller) profile configurations.

Table 2-216 megaco_profile

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
profile_idx	integer	The index of H.248 profile. The range is 1 through 65535.
cp_inter_dur	integer	The duration between playing two call progressing signals for a list of call progressing tones. The range is 0 through 4294967295. The default value is 60.
dig_on_dur	integer	The signal duration for all signals in DTMF generator package (DG). The range is 0 through 4294967295.

Table 2-216 megaco_profile (continued)

Column	Data Type	Description
pause_dur	integer	The duration between playing two digit signals for a list of digits. The range is 0 through 4294967295. The default value is 60.
cot1_freq	smallint	The first frequency tone to be sent between the originating and the terminating gateways in the continuity test. The range is 1 to 4000.
cot2_freq	smallint	The second frequency tone to be sent between the originating and the terminating gateways in the continuity test. The range is 1 to 4000. The default value is 1780.
init_cot_dur	integer	The duration for the continuity test tone to be played when the gateway initiates a COT. The range is 0 through 4294967295. The default value is 500.
resp_cot_met	smallint	The method for responding to COT (Continuity Test Tone) when the gateway detects a the continuity test signal. • 1 = loopback • 2 = transponder
dl_cp_dur	integer	The duration for detecting a long call progressing tone. The range is 0 through 4294967295. The default value is 7000.
dl_dig_dur	integer	The duration for detecting a long digit tone signal. The range is 0 through 4294967295. The default value is 7000.
ec_enable	smallint	Indicates whether or not the Echo Cancellation is enabled. • 1 = enable • 2 = disable

Table 2-216 megaco_profile (continued)

Column	Data Type	Description
ec_trail	smallint	This object is valid if the cmedxProfileEchoCancelEnabled object is 'true'. • 1 = echoCanceller8ms • 2 = echoCanceller16ms • 3 = echoCanceller24ms • 4 = echoCanceller32ms • 5 = echoCanceller64ms • 6 = echoCanceller128ms The default value is 1.
gain_ctrl	smallint	The amount of gain inserted at the receiver side of the interface The range is -6 through 14. The default value is 0.
outattn_ctrl	smallint	The amount of attenuation inserted at the transmit side of the interface. The range is 0 through 14. The default value is 0.
voip_vad	smallint	VAD (Voice Activity Detection) is enabled for the compression DSPs of this interface when the application is VoIP. • 1 = enable • 2 = disable The default value is 1.
voip_vad_t	integer	The hangover time for VAD in the VoIP application. The range is 0 through 4294967295. The default value is 100.
voaal2_vad_t	integer	The hangover time for VAD in the VoATM over AAL2 application. The range is 0 through 4294967295. The default value is 100.
atm_bearer_type	smallint	ATM bearer type. • 1 = bearerSvc • 2 = bearerPvc The default value is 1.
atm_aal_part_fil	smallint	The fill level of cells in case of AAL adaptation. The range is 1 through 48. The default value is 47.

Table 2-216 megaco_profile (continued)

Column	Data Type	Description
atm_aal_type	smallint	The adaptation layer of ATM • 1 = other • 2 = aal1 • 3 = aal1Sdt • 4 = aal1Udt • 5 = aal2 The default value is 3.
supr_bearer_dig	smallint	Indicates whether or not to suppress bearer digits. • 1 = true • 2 = false The default value is 2.
orig_cot_tx	smallint	cmedxProfileOriginatingCotTx
orig_cot_rx	smallint	cmedxProfileOriginatingCotRx
term_cot_tx	smallint	cmedxProfileTerminatingCotTx
term_cot_rx	smallint	cmedxProfileTerminatingCotRx
reserved	integer	Reserved for future use.

VXSM Megaco Terminations

Table 2-217 contains information about VXSM megaco (media gateway controller) terminations.

Table 2-217 megaco_term

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
term_type_id	integer	The identification number that is assigned to the termination type by the manager. The range is 1 through 65535.
term_type	smallint	The type of a group of ephemeral terminations. • 1 = unknown • 2 = pdnRtp • 3 = pdnAtmAal1 • 4 = pdnAtmAal2

Table 2-217 megaco_term (continued)

Column	Data Type	Description
profile_id	integer	The property profile identifier with which the terminations within this termination type will be associated. The range is 0 through 65535.

Table 2-217 megaco_term (continued)

Column	Data Type	Description
pkg_id	char(10)	The H.248 packages applied to this termination type • 0 = pkgG -- Generic • 1 = pkgRoot -- Base root • 2 = pkgToneGen -- Tone generator • 3 = pkgToneDet -- Tone detection • 4 = pkgDG -- Basic DTMF generator • 5 = pkgDD -- DTMF detection • 6 = pkgCG -- Call progress tones generator • 7 = pkgCD -- Call progress tones detection • 8 = pkgAL -- Analog line supervision • 9 = pkgCT -- Basic continuity • 10 = pkgNT -- Network • 11 = pkgRTP -- RTP • 12 = pkgTDMC -- TDM circuit • 13 = pkgFTMD -- FAX/Textphone/Modem tones -detection • 14 = pkgTXC -- Text conversation • 15 = pkgTXP -- Text telephone • 16 = pkgCtyp -- Call type discrimination • 17 = pkgFax -- FAX • 18 = pkgIpFax -- IP FAX • 19 = pkgDis -- Display • 20 = pkgKey -- Key • 21 = pkgKp -- Keypad • 22 = pkgLkey -- Label key • 23 = pkgKF -- Function key • 24 = pkgInd -- Indicator • 25 = pkgKS -- Soft key • 26 = pkgAnci -- Ancillary input • 27 = pkgDTD -- Dynamic tone definition • 28 = pkgAN -- Generic announcement • 29 = pkgBCP -- Bearer characteristics • 30 = pkgBNCT -- Bearer network connection cut through • 31 = pkgRI -- Reuse idle • 32 = pkgGB -- Generic bearer connection

Table 2-217 megaco_term (continued)

Column	Data Type	Description
pkg_id (continued)	byte	• 33 = pkgBT -- Bearer control tunnelling • 34 = pkgBCG -- Basic call progress tones generator • 35 = pkgXCG -- Expanded call progress tones generator • 36 = pkgSrvTn -- Basic services tones generation • 37 = pkgXsrvTn -- Expanded service tones generation • 38 = pkgINT -- Intrusion tones generation • 39 = pkgBizTn -- Business tones generation • 40 = pkgChp -- Congestion • 41 = pkgH245 -- H.245 • 42 = pkgH323bc -- H.323 bearer control disable ECAN tone • 43 = pkgH324 -- H.324 • 44 = pkgH245Com -- H.245 Command • 45 = pkgH245Ind -- H.245 Indication • 46 = pkg3Gup -- 3G user plane • 47 = pkg3Gcsd -- 3G circuit switched data • 48 = pkg3Gtfoc -- 3G TFO • 49 = pkg3Gxcg -- 3G expanded call progress tones generator • 50 = pkgAASB -- Advanced audio server base • 51 = pkgAASdc -- AAS digit collection • 52 = pkgAASrec -- AAS recording • 53 = pkgAASsm -- AAS segment management • 54 = pkgQAC -- Quality alert ceasing • 55 = pkgConfTn -- Conferencing tones generation • 88 = pkgITUltDecd -- ITU 2100 Hz • 89 = pkgITUlt2804 -- ITU 2804 Hz tone • 90 = pkgITUltNtt -- ITU noise test tone • 91 = pkgITUltDprt -- ITU digital pseudo random test tone • 92 = pkgITUltATME2 -- ITU ATME2 test line response • 93 = pkgANSIlt1004 -- 1004 Hz test tone

Table 2-217 megaco_term (continued)

Column	Data Type	Description
pkg_id (continued...)	byte	• 94 = pkgANSIltTres -- Test responder • 95 = pkgANSIlt2225 -- 2225 Hz test progress tone • 96 = pkgANSIltDts -- Digital test signal • 97 = pkgANSIinvLltr -- Inverting loopback line test response • 98 = pkgH324Ext -- Extended H.324 • 99 = pkgH245ComExt -- Extended H.245 • 100 = pkgH245IndExt -- Extended H.245 indication • 101 = pkgEDD -- Enhanced DTMF detection • 102 = pkgXG -- Extended generic bearer connection • 103 = pkg3Gctm -- CTM text transport New enums have been added to PkgId MIBs (added 1 more byte) as part of VXSM 2.5 support. To accommodate new enums, the datatype has been changed from byte to char (10) in CWM 15.3.00.
reserved	integer	Reserved for future use.

VXSM Program Tones

Table 2-218 contains information about programmable tones for the VXSM card. status.

Table 2-218 program_tone

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
plan_id	integer	Identifies the tone plan in the table. The range is 1 through 65535.
tone_id	integer	Identifies the programmable tone in a tone plan. The range is 1 through 65535.
tone_freq	char (64)	The frequency of the tone will be played or how to be detected.
tone_amp	char(64)	The power level of the tone will be played or how to be detected.

Table 2-218 program_tone (continued)

Column	Data Type	Description
tone_cad	char (64)	The cadence of the tone will be played or how to be detected.
duration	integer	The duration of the tone will be played. The range is 0 through 4294967295.
storage_type	smallint	Identifies the storage type. • 1 = other • 2 = volatile -- e.g., in RAM • 3 = nonVolatile -- e.g., in NVRAM • 4 = permanent -- e.g., partially in ROM • 5 = readOnly -- e.g., completely in ROM
reserved	integer	Reserved for future use.

VXSM PVC IP Address

Table 2-219 contains information about the PVC IP addresses tied to the VXSM cards managed by the CWM.

Table 2-219 vxsm_pvc_ip

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
index	smallint	The index of cMediaGwIpConfigTable. The range is 1 through 64.
if_index	integer	ifIndex of the PVC.
vpi	smallint	VPI of the PVC which is associated to the IP address. The range is -1 through 4095.
vci	integer	Represents the VCI of the PVC which is associated to the IP address. The range is -1 through 65535.
ipaddr_type	smallint	The IP address type, either ipv4 or ipv6. • 1 = ipv4 • 2 = ipv6 The default is 1.

Table 2-219 vxsm_pvc_ip (continued)

Column	Data Type	Description
ip_addr	integer	The IP address of an existing PVC. Only one IP address can be configured for a given PVC connection. The VXSM handle InetAddress as InetAddressIPv4 which is OCTET STRING (SIZE (0 through 4).
subnet_mask	integer	The subnet mask of the IP address The VXSM handle InetAddress as InetAddressIPv4 which is OCTET STRING (SIZE (0 through 4).
def_gw_ip	smallint	• 1 = The IP Address indicated by "ip_addr" field is the Default Gateway • 2 = The IP Address indicated by "ip_addr" field is not the Default Gateway
reserved	integer	Reserved for future use.

VXSM Resource Policy

Table 2-220 contains information about the resource policies tied to the VXSM cards managed by the CWM.

Table 2-220 rsc_policy

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
rp_index	smallint	The index of the table. The range is 1 through 1000.

Table 2-220 rsc_policy (continued)

Column	Data Type	Description
rsc_type	smallint	The resource type of CAC resource utilization. • 1 = cpu5Sec • 2 = cpuAvg • 3 = ioMem • 4 = procMem • 5 = totMem • 6 = totCalls • 7 = staMem • 8 = dynMem • 9 = commBuf • 10 = msgQueue • 11 = dspQueue • 12 = svc • 13 = ds0 • 14 = dspChannel
tunable	smallint	The object indicates this CAC resource is an user tunable (can modify its thresholds) resource or not • 1 = true • 2 = false
avg_util	smallint	Indicates this CAC resource is an averaged utilization which is calculated by the average utilization of interval defined in ccacSysRpInterval • 1 = true • 2 = false
p_abs_num	smallint	indicates the unit of the utilization and the unit of the thresholds of this CAC resource is 'percent' or 'absolute number'. • 1 = unitPercent • 2 = unitAbsoluteNum
hi_threshold	integer	The maximum utilization in percentage or in absolute number allowed for this CAC resource. The range is 0 through 100000.
med_threshold	integer	The utilization in percentage or in absolute number of the resource reaches this value of the object. The range is 0 through 100000.

Table 2-220 rsc_policy (continued)

Column	Data Type	Description
low_threshold	integer	The utilization in percentage or in absolute number of an unavailable resource falls below this value of the object, the action will be removed, the resource will be marked as available. The range is 0 through 100000.
rp_interval	smallint	This variable sets the time interval over which the average utilization is computed. The range is 10 through 300. The default value is 60.
action	smallint	The action to be taken when ccacSysRpHighThreshold is exceeded. • 1 = none • 2 = busyout • 3 = treatment • 4 = busyoutAndTreatment
cur_read	integer	The current utilization/number reading of the CAC resource in percentage or in absolute number. The range is 1 through 100000. If p_abs_num is unitPercent(1), The range is 0 through 100. If p_abs_num is unitAbsoluteNum(2), The range is 0 through 100000.
available	smallint	The CAC resource is available or not • 1 = true • 2 = false
reserved	integer	Reserved for future use.

VXSM VBD (Voice Band Data) Profiles

Table 2-220 contains information about configuring VBD profiles tied to the VXSM cards managed by the CWM.

Table 2-221 vxsm_vbd_profile

Column	Data Type	Description
node_id	integer	Node ID.
network_id	smallint	Network ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.

Table 2-221 vxsm_vbd_profile (continued)

Column	Data Type	Description
profile_index	integer	This object uniquely identifies the VBD profile. The entry with the value of this object set to 1 is the default VBD profile for the media gateway. The default VBD profile is automatically created by the system and cannot be added or deleted, but can be modified.
upspeed_codec	smallint	This object specifies the CODEC type to use for upspeed. Upspeed is to change the transmission rate of the voice interface to a higher rate of CODEC type.
jitter_delay_mode	smallint	The object specifies the jitter buffer mode applied to a VBD (Voice Band Data) call connection. adaptive - means to use cvbdpVbdProfJitterNomDelay as the initial jitter buffers size and let the DSP pick the optimal value of the jitter buffer size between the range of jitter_max_delay and jitter_min_delay. fixed - means to use a constant jitter buffer size which is specified by cvbdpVbdProfJitterNomDelay.
jitter_max_delay	integer	This object specifies the maximum jitter buffer size in VBD (Voice Band Data).
jitter_nom_delay	integer	This object specifies the nominal jitter buffer size in VBD (Voice Band Data)
jitter_min_delay	integer	This object specifies the nominal jitter buffer size in VBD.
inactivity_timeout	integer	This object specifies a timeout value before teardown the call if there is no activity in the VBD connection. The value of 0 is to disable the inactivity detection.
reserved	integer	Reserved for future use.

VXSM Voice Interfaces

Table 2-222 contains information about the voice interfaces tied to the VXSM cards managed by the CWM.

Table 2-222 vxsm_vif

Column	Data Type	Description
network_id	smallint	Network ID.
node_id	integer	Node ID.
shelf	integer	Shelf number.
slot	smallint	Slot number.
bay	smallint	Bay number.
line	smallint	Line number.

Table 2-222 vxsm_vif (continued)

Column	Data Type	Description
if_index	integer	ifIndex.
vif_num	smallint	Uniquely identifies a VIF (voice interface or DS0 group). The range is 0 through 30.
ds0_chan	integer	The bit map of the selected DS0 channels to be added into this group. The default is '00000000'h.
service_type	smallint	The Service type of the CAS/DS0 group. • 1 = none • 2 = casServSw56 • 3 = casServModem • 4 = casServAuto • 5 = sgcp • 6 = mgcp • 7 = other • 8 = trunkingService The default is 1.
noise_reg_en	smallint	Indicates whether or not the background noise should be played to fill silence gaps if VAD is activated. • 1 = true • 2 = false
nln_proc_en	smallint	Indicates whether or not the Nonlinear Processing is enabled for the interface • 1 = true • 2 = false The default value is 1.
mus_hold_thrhd	smallint	The Music On Hold Threshold for the interface. The range is -70 through -30. The default value is -38.
in_gain	smallint	The amount of gain inserted at the receiver side of the interface. The range is -6 through 14. The default value is 0.

Table 2-222 vxsm_vif (continued)

Column	Data Type	Description
out_attn	smallint	The amount of attenuation inserted at the transmit side of the interface. The range is -6 through 14. The default value is 0.
ecan_enable	smallint	whether or not the Echo Cancellation is enabled for the interface • 1 = true • 2 = false The default value is 1.
ecan_cover	smallint	The Echo Canceller coverage for the interface • 1 = echoCanceller8ms • 2 = echoCanceller16ms • 3 = echoCanceller24ms • 4 = echoCanceller32ms • 5 = echoCanceller64ms • 6 = echoCanceller128ms The default value is 1.
lif_num	smallint	The LIF (Logical InterFace) number associated with this voice interface. The range is 0 through 255. The default value is 0.
cc_profile	smallint	The index of Call Control Profile Table indicates which call control profile the DSx1 interface is using. The range is 0 through 30. The default value is 0.
vad_enable	smallint	Indicates whether VAD (Voice Activity Detection) is enabled on the compression DSPs of this interface. • 1 = true • 2 = false The default value is 1.
cont_tone1	smallint	The first tone in frequency to be sent between terminating and originating gateway in the continuity test. The range is 1 to 4000. The default value is 2010.

Table 2-222 vxsm_vif (continued)

Column	Data Type	Description
cont_tone2	smallint	The second tone in frequency to be sent between terminating and originating gateway in the continuity test. The range is 1 to 4000. The default value is 1780.
modem_pass_thr	smallint	The modem pass through mode • 1 = passThruDisabled • 2 = passThruCisco • 3 = passThruNse • 4 = passThruNseAal2 • 5 = passThruCa • 6 = passThruTypeE • 7 = system • 8 = passThruNseCa The default value is 3.

Table 2-222 vxsm_vif (continued)

Column	Data Type	Description
upspeed_codec	smallint	The CODEC type to be used when fax upspeed occurs. • 1 = other • 2 = fax2400 • 3 = fax4800 • 4 = fax7200 • 5 = fax9600 • 6 = fax14400 • 7 = fax12000 • 10 = g729r8000 • 11 = g729Ar8000 • 12 = g726r16000 • 13 = g726r24000 • 14 = g726r32000 • 15 = g711ulawr64000 • 16 = g711Alawr64000 • 17 = g728r16000 • 18 = g723r6300 • 19 = g723r5300 • 20 = gsmr13200 • 21 = g729Br8000 • 22 = g729ABr8000 • 23 = g723Ar6300 • 24 = g723Ar5300 • 25 = ietfg729r8000 • 26 = gsmeEr12200 • 27 = clearChannel • 28 = g726r40000
tone_plan	integer	Specifies which tone plan the DS0 group is using for playing the tones. The range is 0 through 65535.
gw_lnk_id	integer	The Megaco media gateway link that this DS0 group belongs to. The range is 0 through 2147483647.

Table 2-222 vxsm_vif (continued)

Column	Data Type	Description
megaco_pkg_id	char (10)	New enums have been added to PkgId MIBs (added 1 more byte) as part of VXSM 2.5 support. To accommodate new enums, the datatype has been changed from byte to char (10) in the CWM.The Megaco packages supported in this DS0 group.
vad_timer	integer	the hangover time for VAD Default = 250
ics_enable	smallint	specifies whether the Idle Channel suppression (ICS) is enabled for an AAL2 connection.
ics_int_timer	integer	Timeout value for ICS integration timer
event_map_index	integer	Event map index
reserved	integer	Reserved for future use.

XLMI

Table 2-223 contains information about the Extended Local Management Interface (XLMI) signaling protocol. XLMI allows AutoRoute (AR) networks and Private Network-to-Network Interface (PNNI) networks to communicate.

This protocol exchanges the IP address and ifName of the peers across the AR and PNNI network. The CWM accesses the BPX to obtain the IP address of the MGX 8850(PXM45) peer for topology discovery.

Table 2-223 xlmi

Column	Type	Description
l_node_id	integer	Local end node ID assigned by the CWM.
l_slot	smallint	Local end slot number.
l_line	smallint	Local end line number.
l_port	smallint	Local end port number.
r_node_id	integer	Remote end node ID assigned by the CWM.
r_bay	smallint	Remote end bay number.
r_slot	smallint	Remote end slot number.
r_line	smallint	Remote end line number.
r_port	smallint	Remote end port number.
active	smallint	Connection status. • 1 = Active • 2 = Failed

Table 2-223 xlmi (continued)

Column	Type	Description
status	smallint	Alarm status. • 0 = Clear • 1 = Minor • 2 = Major

XPVC

Table 2-224 contains information about extended permanent virtual connections (XPVCs). These end-to-end connections span across multiple networks supporting AR and PNNI protocols. Unless otherwise noted, the information in the table also applies to extended permanent virtual paths (XPVPs).

Table 2-224 xpvc

Column	Type	Description
xpvc_id	serial	Unique XPVC ID that is generated by Informix when a new row is added to the table. The range is 1000000000 through 2000000000
num_segs	smallint	Number of segments. The maximum is 3, and the minimum is 2.
status	integer	Connection status. • 1 = Clear • 2 = Fail • 3 = Down • 4 = Incomplete • 5 = Unknown • 6 = Pending

Table 2-224 xpvc (continued)

Column	Type	Description
conn_type	smallint	End-to-end connection type. • 1 = FR • 2 = ATM-FR • 3 = ATM • 4 = Data—Not supported for XPVCs. • 5 = Voice—Not supported for XPVCs. • 6 = CE—Not supported for XPVCs. • 7 = ATM-CE—Not supported for XPVCs. • 8 = RPM • 9 = ATM-RPM • 10 = RPM-FR • 11 = VISM-ATM—Not supported for XPVCs. For an incomplete connection, this value is equal to 0. See the termination column for the exact endpoint type.

Table 2-224 xpvc (continued)

Column	Type	Description
service_type	smallint	Service type. • 1 = FR • 2 = VBR • 3 = CBR • 4 = Unknown • 5 = ABR • 6 = FR-FS • 7 = CE—Not supported for XPVCs. • 8 = ATM-FR–VBR3 • 9 = ATM-FR–ABR-FS • 10 = UBR • 11 = VBR1 • 12 = VBR2 • 13 = VBR3 • 14 = ABR1 • 15 = ABR-FS • 16 = UBR1 • 17 = UBR2 • 18 = VOICE—Not supported for XPVCs. • 19 = DATA—Not supported for XPVCs. • 20 = ATM-VBR1-rt • 21 = ATM-VBR2-rt • 22 = ATM-VBR3-rt • 23 = ATM-FR–CBR1 • 24 = ATM-FR_VBR2 • 25 = ATM-FR–VBR2-rt • 26 = ATM-FR–VBR3-rt • 27 = ATM-FR–UBR1

Table 2-224 xpvc (continued)

Column	Type	Description
service_type (cont.)	smallint	• 28 = ATM-FR–UBR2 • 41 = ATM–ATFST • 42 = ATM–ATFTFST • 43 = ATM–ATFXFST • 44 = ATM-FR–ATFST • 45 = ATM-FR–ATFTFST—Not supported for XPVCs. • 46 = ATM-FR–ATFXFST—Not supported for XPVCs. • 47 = ATM-FR–ABR1—Not supported for XPVCs.
vp_conn_flag	smallint	Type of virtual path (VP) connection. • 0 = Virtual channel (VC) connection • 1 = VP connection
l_node_id	integer	Local node ID.
l_slot	smallint	Local slot number.
l_line	smallint	Local line number.
l_port	smallint	Local port number.
l_logical_port	smallint	Local logical port number.
l_subchnl_1	smallint	Local subchannel 1.
l_subchnl_2	smallint	Local subchannel 2.
r_node_id	integer	Remote node ID.
r_slot	smallint	Remote slot number.
r_line	smallint	Remote line number.
r_port	smallint	Remote port number.
r_logical_port	smallint	Remote logical port number.
r_subchnl_1	smallint	Remote subchannel 1.
r_subchn1_2	smallint	Remote subchannel 2.

Table 2-224 xpvc (continued)

Column	Type	Description
secondary_state	integer	Local secondary state. • Bits 1 through 2: Local A-bit – 0 = Unknown – 1 = OK – 2 = Fail • Bits 3 through 4: Local AIS – 0 = Unknown – 1 = OK – 2 = Fail • Bits 5 through 6: Local OAM – 0 = Unknown – 1 = OK – 2 = Fail • Bits 7 through 8: Local conditioned – 0 = Unknown – 1 = OK – 2 = Fail • Bits 9 through 10: Remote A-bit – 0 = Unknown – 1 = OK – 2 = Fail • Bits 11 through 12: Remote AIS – 0 = Unknown – 1 = OK – 2 = Fail • Bits 13 through 14: Remote OAM – 0 = Unknown – 1 = OK – 2 = Fail • Bits 15 through 16: Remote conditioned – 0 = Unknown – 1 = OK – 2 = Fail These values are not all applicable on a PVC.

Table 2-224 xpvc (continued)

Column	Type	Description
l_end_nni	smallint	Local end NNI port indicator. • -1 = Unknown port type • 0 = Non-NNI port type • 1 = NNI port type • 2 = XLMI port
r_end_nni	smallint	Remote end NNI port indicator. • -1 = Unknown port type • 0 = Non-NNI port type • 1 = NNI port type • 2 = XLMI port
l1_parent_status	smallint	Copy of the xpvc_segment table column l_parent_status for the xpvc with the same xpvc_id and segment #1.
l2_parent_status	smallint	Copy of the xpvc_segment table column l_parent_status for the xpvc with the same xpvc_id and segment #2.
l3_parent_status	smallint	Copy of the xpvc_segment table column l_parent_status for the xpvc with the same xpvc_id and segment #3. If the l_parent_status is not valid, this value is set to 0.
r1_parent_status	smallint	Copy of the xpvc_segment table column r_parent_status for the xpvc with the same xpvc_id and segment #1.
r2_parent_status	smallint	Copy of the xpvc_segment table column r_parent_status for the xpvc with the same xpvc_id and segment #2.
r3_parent_status	smallint	Copy of the xpvc_segment table column r_parent_status for the xpvc with the same xpvc_id and segment #3. If the r_parent_status is not valid, this value is set to 0.
l_endpoint_type	smallint	Endpoint type of the xpvc local endpoint. This object is a copy of the xpvc_segment l_endpoint_type for segment #1.
r_endpoint_type	smallint	Endpoint type of the xpvc remote endpoint. This object is a copy of the xpvc_segment r_endpoint_type for segment #3.

XPVC Preferred Connections

Table 2-225 contains information about the XPVC preferred information.

Table 2-225 xpvc_preferred

Column	Type	Description
node_name	char (32)	Routing node name.
primary_nodename	char (32)	Primary XPVC preferred node name.
primary_slot	smallint	Slot number of the primary XPVC preferred node.

Table 2-225 xpvc_preferred (continued)

Column	Type	Description
primary_port	smallint	Port number of the primary XPVC preferred node.
secondary_nodename	char (32)	Secondary XPVC preferred node name. This field is reserved for future use.
secondary_slot	smallint	Slot number of the secondary XPVC preferred node. This field is reserved for future use.
secondary_port	smallint	Port number of the secondary XPVC preferred node. This field is reserved for future use.
preferred	smallint	Preferred status of the node. • 0 = Not preferred • 1 = Preferred Setting this object is the equivalent of checking the XPVC Preferred Flag check box within the XPVC Preferred Table Configuration application. The xpvc_preferred table is not used unless this field is set to 1.
active	smallint	State of the preferred node. • 0 = Inactive • 1 = Active

XPVC Segments

Table 2-226 contains information about the XPVC segments.

Table 2-226 xpvc_segment

Column	Type	Comment
xpvc_id	integer	XPVC ID.
segment_order	smallint	XPVC segment order. Starting at 0, this order uniquely identifies the segment in the XPVC. For example, three segments exists: PVC master end, SPVC, and PVC slave end. Beginning at the master end, the local PVC has segment order 0, SPVC has order 1, and the remote PVC has order 2.
in_network	smallint	Value to indicate whether or not the XPVC segment is added successfully to the network. This value is set when the corresponding entry in the user_connection table and all of its in_seg_tbl flags are set to 1.

Table 2-226 xpvc_segment (continued)

Column	Type	Comment
l_endpt_type	smallint	Local endpoint type. • 0 = RPM • 1 = FR • 2 = ATM • 3 = VOICE • 4 = DATA • 6 = CESM • 7 = VISM This value is the same as the l_endpt_type field in the user_connection table.
l_node_id	integer	XPVC segment local node ID.
l_slot	smallint	XPVC segment local slot number.
l_line	smallint	XPVC segment local line.
l_port	smallint	XPVC segment local port.
l_logical_port	smallint	XPVC segment local logical port number.
l_subchnl_1	smallint	XPVC segment local subchannel 1.
l_subchnl_2	smallint	XPVC segment local subchannel 2.
l_parent_status	smallint	Status of the local parent node. • 0 = OK • 1 = Fail This object is the same as the l_parent_status field in the user_connection table.
r_endpt_type	smallint	Remote endpoint type. • 0 = RPM • 1 = FR • 2 = ATM • 3 = VOICE • 4 = DATA • 6 = CESM • 7 = VISM This value is the same as r_endpt_type field in the user_connection table.
r_node_id	integer	XPVC segment remote node ID.
r_slot	smallint	XPVC segment remote slot number.
r_line	smallint	XPVC segment remote line.
r_port	smallint	XPVC segment remote port.

Table 2-226 xpvc_segment (continued)

Column	Type	Comment
r_logical_port	smallint	XPVC segment remote logical port number.
r_subchnl_1	smallint	XPVC segment remote subchannel 1.
r_subchnl_2	smallint	XPVC segment remote subchannel 2.
r_parent_status	smallint	Status of the remote parent node. • 0 = OK • 1 = Fail This object is the same as the r_parent_status in the user_connection table.
status	integer	Connection status. • 1 = Clear • 2 = Fail • 3 = Down • 4 = Incomplete • 5 = Error (for SPVC and Hybrid only)

Table 2-226 xpvc_segment (continued)

Column	Type	Comment
secondary_state	integer	Secondary state consists of A-bit, AIS, and OAM. • Bits 1 through 2: Local A-bit – 0 = Unknown – 1 = OK – 2 = Fail • Bits 3 through 4: Local AIS – 0 = Unknown – 1 = OK – 2 = Fail • Bits 5 through 6: Local OAM – 0 = Unknown – 1 = OK – 2 = Fail • Bits 7 through 8: Local conditioned – 0 = Unknown – 1 = Ok – 2 = Fail • Bits 9 through 10: Remote A-bit – 0 = Unknown – 1 = OK – 2 = Fail • Bits 11 through 12: Remote AIS – 0 = Unknown – 1 = OK – 2 = Fail • Bits 13 through 14: Remote OAM – 0 = Unknown – 1 = OK – 2 = Fail • Bits 15 through 16: Remote conditioned (not applicable for PVCs) – 0 = Unknown – 1 = OK – 2 = Fail • Bits 17 through 32: Not used

Table 2-226 xpvc_segment (continued)

Column	Type	Comment
service_type	smallint	Service type. • 1 = FR • 2 = VBR • 3 = CBR • 4 = unknown • 5 = ABR • 6 = FRFS • 7 = CE • 8 = ATM-FR_VBR3 • 9 = ATM-FR_ABR_FS • 10 = UBR • 11 = VBR1 • 12 = VBR2 • 13 = VBR3 • 14 = ABR1 • 15 = ABR.FS • 16 = UBR1 • 17 = UBR2 • 18 = VOICE • 19 = DATA • 20 = ATM_RTVBR1 • 21 = ATM_RTVBR2 • 22 = ATM_RTVBR3 • 23 = ATMFR_CBR1 • 24 = ATMFR_VBR2 • 25 = ATMFR_RTVBR2 • 26 = ATMFR_RTVBR3 • 27 = ATMFR_UBR1 • 28 = ATMFR_UBR2 • 41 = ATM_ATFST • 42 = ATM_ATFTFST • 43 = ATM_ATFXFST • 44 = ATMFR_ATFST • 45 = ATMFR_ATFTFST

Table 2-226 xpvc_segment (continued)

Column	Type	Comment
service_type (continued)	smallint	• 46 = ATMFR_ATFXFST • 47 = ATMFR_ABR1 • 48 = ATM_CBR2 • 49 = ATM_CBR3 • 50 = ATMFR_CBR2 • 51 = ATMFR_CBR3 • 52 = ATM_VBR4 • 53 = ATM_VBR5 • 54 = ATM_RTVBR4 • 55 = ATM_RTVBR5 • 56 = ATMFR_VBR4 • 57 = ATMFR_VBR5 • 58 = ATMFR_RTVBR4 • 59 = ATMFR_RTVBR5 • 60 = ATM_RTVBR • 61 = ATMFR_VBR • 62 = ATMFR_RTVBR
l_end_nni	smallint	Local end NNI port indicator. • -1 = Unknown port type • 0 = Non NNI port type • 1 = NNI port type • 2 = XLMI port
r_end_nni	smallint	Remote end NNI port indicator. • -1 = Unknown port type • 0 = Non NNI port type • 1 = NNI port type • 2 = XLMI port For an incomplete PVC, this field is always -1 (unknown).
p_xlmi_l_node_id	integer	Primary XLMI link local node ID.
p_xlmi_l_slot	smallint	Primary XLMI link local slot number.
p_xlmi_l_port	smallint	Primary XLMI link local port.
p_xlmi_r_node_id	integer	Primary XLMI link remote node ID.
p_xlmi_r_slot	smallint	Primary XLMI link remote slot number.
p_xlmi_r_port	smallint	Primary XLMI link remote port.
s_xlmi_l_node_id	integer	Secondary XLMI link local node ID.

Table 2-226 xpvc_segment (continued)

Column	Type	Comment
s_xlmi_l_slot	smallint	Secondary XLMI link local slot number.
s_xlmi_l_port	smallint	Secondary XLMI link local port.
s_xlmi_r_node_id	integer	Secondary XLMI link remote node ID.
s_xlmi_r_slot	smallint	Secondary XLMI link remote slot number.
s_xlmi_r_port	smallint	Secondary XLMI link remote port.
vp_conn_flag	smallint	VP Connection Flag • 0 for VC connections • 1 for VP connections
pnni_flag	smallint	PNNI Segment Flag • 0 for AutoRoute segment • 1 for PNNI segment

Statistics Overview

This chapter provides an overview of the Statistics Collection Manager (SCM). Its role is to collect CWM statistics. See these sections.

Statistics Collection Modules

These modules comprise the SCM:

- Integrated SCM—Resides and operates within the same workstation as the CWM server. When CWM is installed, the Integrated SCM is always installed automatically.
- Standalone Stats Manager (SSM)—Resides on a separate workstation and not on the CWM workstation. The CWM and the SSM communicate through WANDEST. A WANDEST server resides on the CWM machine and a WANDEST client resides on the SSM machine.
  - The statistics database resides on the SSM and has only the statsdb format and features. The SSM always points to a primary CWM.
  - For a list of the statsdb data tables that correspond with the statistics object and subobject types, see Mapping Statistics to the Data Tables, page F-1.
- Standalone Stats Collector (SSC)—Resides on a separate workstation and not on the SSM. With this configuration, the statistic collection functions are spread across two workstations and do not use the resources of the CWM host. The maximum number of network nodes and connections that can be supported is increased.

An integrated SCM, SSM, and SSC can be combined to accommodate various performance network needs, such as maximum nodes and connections supported, database storage, and redundancy.

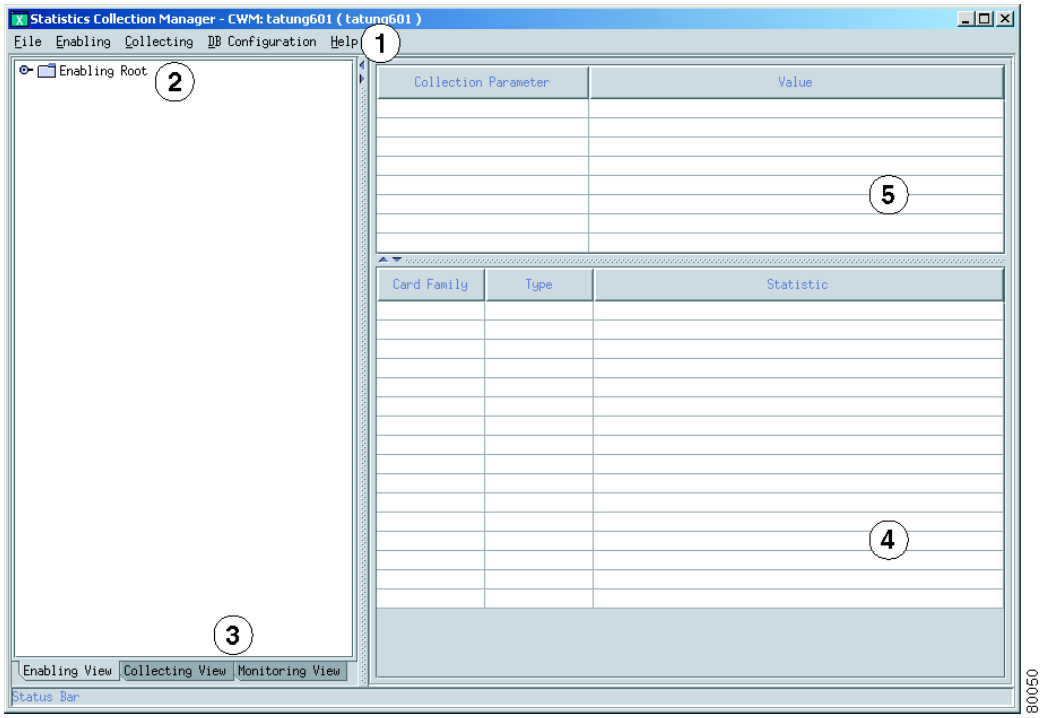
For more information about configuring the Integrated SCM, SSM, and SSC, see the CWM installation guide. You can access all CWM documentation at this website:

http://www.cisco.com/en/US/products/sw/netmgtsw/ps2340/tsd_products_support_series_home.html

SCM GUI

Use the SCM GUI to control the statistics data collection and monitor the collection status. The SCM GUI, along with the other CWM applications, is launched from the CWM Launch Center.
See Figure 3-1.

Figure 3-1 SCM GUI Main Menu Window



1	Menu bar	**2**	Browse window
3	View selection tabs	**4**	Statistics list pane
5	Collection parameters pane	—	—

The SCM GUI can function on any workstation capable of running the CWM GUI and connects to the SCM control server in the CWM that the GUI specifies. The SCM GUI is generic. It collects statistics independently of the node hardware. The SCM control server lists statistical data that applies for various types of cards and nodes.

For more information on the SCM GUI, see the CWM user guide. You can access all CWM documentation at this website:

http://www.cisco.com/en/US/products/sw/netmgtsw/ps2340/tsd_products_support_series_home.html

SCM Gateway Support

Statistics are populated from the primary SCM to the secondary SCM. Primary gateways save enabling information and forward data to the secondary host through the Stats Master. The SCM provides a gateway and domain different from the CWM Gateway.

By configuring the SCM Gateway, statistics collection is started only on a primary SCM. The secondary SCM is redundant to the primary SCM. If a gateway switchover is done or if the Secondary machine becomes the Primary SCM, the new Primary machine takes over the statistics collection for all the nodes and cards managed by the previous Primary machine. The statistics data, which is collected by the new Primary machine, is parsed into its own database and is located in both the previous and new Primary machines. The Stats Reporting Tool queries the database in both machines to get the statistic data.

For the following information, see the CWM installation guide:

- The SCM configuration and the SCM gateway configuration
- Database synchronization in a CWM gateway configuration

You can access all CWM documentation at this website:

http://www.cisco.com/en/US/products/sw/netmgtsw/ps2340/tsd_products_support_series_home.html

SCM Control Server

The SCM control server controls the data collection based on input through the SCM GUI. For example, use the GUI to tell the SCM control server to enable or disable collection of various statistics and to start or stop statistical data collection.

The SCM control server runs off the CWM and uses the CWM database for storing SCM metadata and the list of enabled statistics for all nodes. The SCM metadata provides the list of enabled statistics for various types of cards and nodes.

The SCM control server does not run in a primary or secondary role like the CWM workstation architecture. The SCM GUI can connect to any SCM control server. The primary or secondary status of the CWM workstation, however, is used during a coldstart to initialize data control. For more information on coldstart, see Appendix A, "Coldstart Script."

SCM Collection Server

The SCM collection server collects data from the nodes. The SCM collection server is distributed to the hosts and receives requests from the SCM control server to start and stop data collection from a node. After an SCM collection server begins collecting data, the collection server is independent of the SCM control server.

An SCM collection server acts as a primary, secondary, or tertiary data collector for a given node. The SCM collection server automatically provides a default primary, secondary, or tertiary SCM collection server when statistics collection is enabled on a node. The secondary and tertiary data collectors are optional, and the collection servers can be changed.

If statistics collection has been enabled and started, the SCM collection server begins operation during the initialization phase of workstation startup. The SCM collection server forwards the files to the SCM statistics database hosts via FTP.

If the SCM collection server and the SCM statistics parser are on the same CWM workstation, select the no-FTP option. The SCM statistics parser processes the files directly from the incoming directory of the SCM collection server.

Statistics Collection Intervals

Use these guidelines when configuring the peak interval through the CWM. The peak interval has these qualifications:

- Cannot be zero
- Must be a multiple of the polling interval
- Must be a factor of the polling interval
- Can be the same as the bucket interval

The switch requires processing time to parse the stats.enable file. Depending on the number of statistics and the number of objects, this time can be long. The SCM has a finite value (maximum 420 seconds) for time-out to wait for the switch response and may time out while waiting for the switch to finish parsing the stats.enable file. If excessive time-outs occur, perform one of these actions:

1. Reduce the number of enabled statistics and be able to get the status of stats-enabling from the SCM.
2. To ensure that the desired statistics are enabled, use CLI commands such as **dspstatparms**, **dspchstatcnf**, **dsptrkstatcnf**, **dspportstatcnf**, and **dsplnstatcnf**.

Use the following formula to calculate the time to enable statistics on the switch:

time = (stats / cnt) * delay

where:

- Stats are calculated using the formula:

  *(conns * stats_per_co*n) + *(CLNs * stats_per_cl*n) + *(trks * stats_per_tr*k) + *(ports * stats_per_por*t)
- cnt—Number of statistics configured in one group before giving up CPU. This parameter is configurable on the switch.
- delay—Delay between enabling each statistics group. This parameter can be configured on the switch.

Statistics Summary

This chapter describes the statistics from the data tables listed in Chapter 2, "Database Tables." These statistics are collected from these nodes:

- Cisco BPX 8600 and Cisco IGX 8400
- Cisco MGX 8220
- Cisco MGX 8230, 8250, and 8850 PXM1-based
- Cisco MGX 8830 and 8850 PXM1E-based
- Cisco MGX 8850, 8880, and 8950 PXM45-based

The statistics are categorized under a major grouping known by an object type name and organized by the subobject type number. Within the subtype, each statistic contains a statistic type number.

The following sections provide the reporting parameters for the various statistic types:

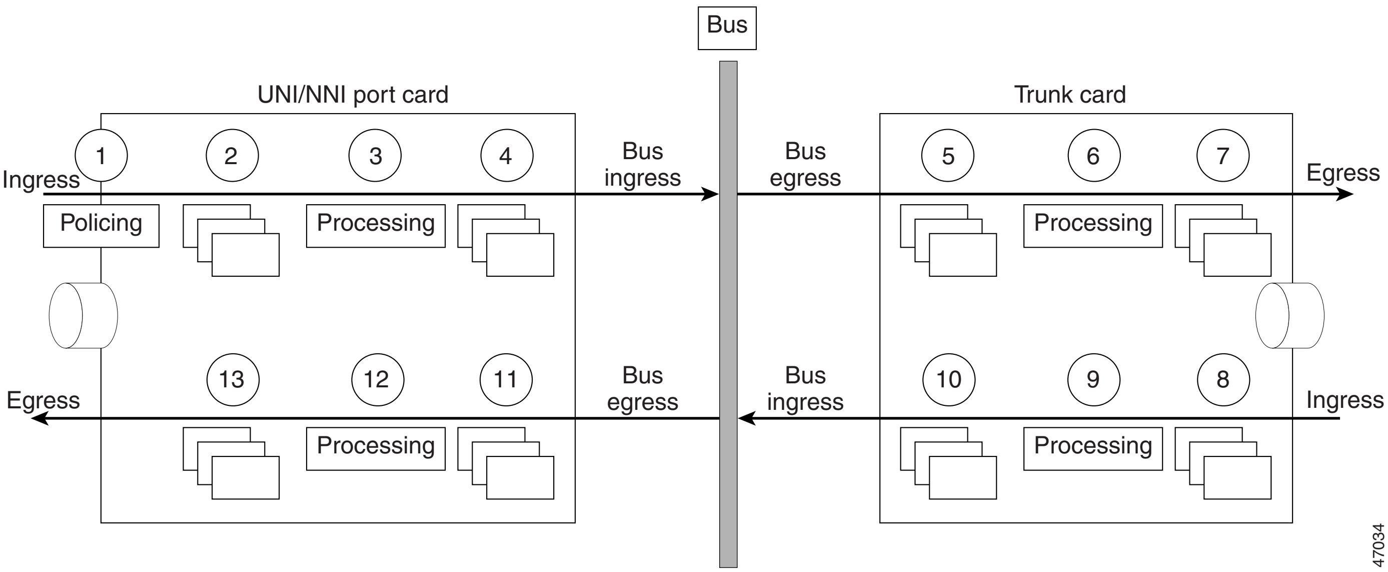
The statistics are organized in ascending order by object type then subobject type.

Note The IDs of the statistics that are collected by CWM do not correspond to the IDs of the statistics that are collected by the switch.

Data Transmission Process Overview

Statistics are collected at different points during data transmission. Figure 4-1 shows how data travels through two cards that are connected across the bus.

Figure 4-1 Data Flow Through Two Cards Connected Across a Bus



The ingress direction describes traffic that travels toward the bus. The egress direction describes traffic that travels from the bus. The data flow process may vary depending on the card type. See the corresponding sections in the chapter.

The numbers in Figure 4-1 correspond to the points at which statistics are collected. Points 1 through 7 show data on the incoming path with policing. Points 8 through 13 show data on the return path without policing.

- 1—Data enters the UNI/NNI port card (ingress).
- 2—Data is queued (ingress).
- 3—Data is scheduled for admission onto the bus (ingress).
- 4—Data is queued for going onto the bus (ingress).
- 5—Data is queued for being taken off the bus (egress).
- 6—Data is processed on the trunk card (egress).
- 7—Data is queued for going out the trunk (egress).
- 8—Data enters the card from the trunk (ingress).
- 9—Data is scheduled for admission onto the bus (ingress).
- 10—Data is queued for going onto the bus (ingress).
- 11—Data is queued for being taken off the bus (egress).
- 12—Data is processed on the port card (egress).
- 13—Data is queued for going out the port (egress).

Connection Statistics

These connection statistics apply to the CWM:

IGX Voice Connection

This section describes the statistics contained in the Voice Connection group. The IGX voice connection statistics in this group are applicable to the CVM and UVM cards. The following table lists the attributes that are common to the IGX voice connection group statistics.

Front Cards	CVM, UVM
Back Cards	BC-T1, BC-E1, BC-J1, BC-Y1, UVI-2T1, UVI-2E1, UVI-2J1
Object Type	0
Subobject Type	0
Default Peak Interval	300 seconds

The IGX voice connection statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	IGX Voice Connection Statistics	Subset of Other Stats	Description
4	Packets Received	No	Number of packets received from the Muxbus by the local port card. Range: 0 to (2^{32}–1) cells.
5	Receive Packets Discarded	Packets Received	Number of packets received and discarded before the queue is transmitted out the port. Range: 0 to (2^{32}–1) cells.
6	Packets Transmitted	No	Number of packets transmitted onto the Muxbus from the local port card. Range: 0 to (2^{32}–1) cells.
7	Projected Packets Transmitted	Packets Transmitted	Number of packets transmitted onto the Muxbus when DSI is enabled. Range: 0 to (2^{32}–1) cells.
8	Supervisory Packets Transmitted	Packets Transmitted	Number of number supervisory packets transmitted from the local port card to the Muxbus. These packets contain the voice signaling bit. Range: 0 to (2^{32}–1) cells.
13	Seconds V.25 Modem On	No	Number of seconds that a V.25 modem is detected and the connection is upgraded to PCM. Range: 0 to (2^{32}–1) cells.
14	Seconds DSI Enabled	No	Number of seconds that the connection is in DSI. Range: 0 to (2^{32}–1) cells.
15	Seconds Off-Hook	No	Number of seconds that the connection is off hook. Range: 0 to (2^{32}–1) cells.
16	Seconds In Service	No	Number of seconds that the connection is in service. The in service connection is not in alarm, the required cards are present, and the connection is routed. Range: 0 to (2^{32}–1) cells.
19	Supervisory Packets Received	Packets Received	Number of supervisory packets received from the Muxbus. These packets contain the voice signaling bit. Range: 0 to (2^{32}–1) cells.

IGX Data Connection

This section describes the statistics contained in the Data Connection group. The IGX data connection statistics in this group apply to the CVM, UVM, LDM, and HDM cards. The following table lists the attributes that are common to the IGX data connection group statistics.

Front Cards	CVM, UVM, LDM, HDM
Back Cards	BC-T1, BC-E1, BC-J1, BC-Y1, UVI-2T1, UVI-2E1, UVI-2J1 RS-232, RS-449, V35, RS-232D, 232-4, 232-8
Object Type	0
Subobject Type	1
Default Peak Interval	300 seconds

The IGX data connection statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	IGX Data Connection Statistics	Subset of Other Stats	Description
4	Packets Received	No	Number of packets received from the local port card. Range: 0 to (2^{32}–1) cells.
5	Receive Packets Discarded	Packets Received	Number of packets received then discarded before the queue is transmitted out of the port. Range: 0 to (2^{32}–1) cells.
6	Packets Transmitted	No	Number of packets transmitted onto the Muxbus from the local port card. Range: 0 to (2^{32}–1) cells.
7	Projected Packets Transmitted	Packets Transmitted	Number of packets transmitted onto the Muxbus when DFM is enabled. Range: 0 to (2^{32}–1) cells.
8	Supervisory Packets Transmitted	Packets Transmitted	Number of supervisory packets transmitted from the local port card to the Muxbus. These packets contain the data channel EIA lead transitions. Range: 0 to (2^{32}–1) cells.
16	Seconds In Service	No	Number of seconds in service. The in service connection is not in alarm, the required cards are present, and the connection is routed. Range: 0 to (2^{32}–1) cells.
19	Supervisory Packets Received	Packets Received	Number of supervisory packets transmitted from the local port card to the Muxbus. These packets contain the data channel EIA lead transitions. Range: 0 to (2^{32}–1) cells.

IGX Frame Relay Connection

This section describes the statistics contained in the Frame Relay Connection group. The IGX Frame Relay connection statistics in this group apply to the FRM and UFM cards. This group is also applicable to FastPAD connections. The following table lists the attributes that are common to the IGX Frame Relay connection statistics.

Front Cards	FRM, UFM, FTM (FastPAD)
Back Cards	BC-T1, BC-E1, BC-J1 FastPAD: FPC T1, FPC E1, FPC V.35, and FPC X.21.
Object Type	0
Subobject Subobject Type	2
Default Peak Interval	300 seconds

The IGX Frame Relay connection statistics are used primarily for gathering billing and performance data.

The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1, with the exception of these ingress points:

- 1—Frame is validated against errors at the port level, such as cyclic redundancy checks (CRCs), alignment errors, and an undefined DCLI.
- 2—Frame is checked for queue depth and queue threshold.
- 3—Policing occurs.
- 4—Frame is queued and transmitted to cell bus in ATM cells.

Stat ID	IGX Frame Relay Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Frames Received	No	After validating the frame against errors–1	Number of frames received from the attached equipment. This statistic also increments when the received frame is discarded for one of these reasons: • Queue depth exceeded. • DE threshold exceeded for frames with DE bit set. • Usage parameter control (UPC) discard. • Unknown protocols in service interworking (SIW) translation. Range: 0 to (2^{32}–1) cells.
1	Receive Frames Discarded	Frames Received	Ingress–2, 3	Number of discarded frames received from the attached equipment. The possible reasons for discard include the following: • Frames are received with DE equal to 1 and the PVC ingress queue is filled at least to the DE threshold. These frames are counted in the PVC DE Frames Dropped statistic. • Frames are received with DE equal to 0, but have been DE tagged because of policing. In addition, the PVC ingress queue is filled at least to the DE threshold. These frames are counted in the PVC DE Frames Dropped statistic. • PVC ingress queue is full. The queue might fill (and overflow) due to sustained transmission above the PVC committed information rate (CIR). These frames are counted in the PVC Rx Frames Discarded-VC-Q-Overflow statistic. • Frames that do not pass policing. These frames are counted in the PVC Rx Frames Discarded UPC statistic. • Protocols encoded in SIW frame are unknown. These frames are counted in the PVC Rx Frames Unknown Protocols statistic. Range: 0 to (2^{32}–1) cells.
2	Frames Transmitted	No	Egress–13	Number of frames that are transmitted to the attached equipment after frame reassembling. Range: 0 to (2^{32}–1) cells.

Stat ID	IGX Frame Relay Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
3	Transmit Frames Discarded	No	Egress–12, 13	Number of frames unable to be transmitted to the attached equipment. The possible reasons for discard include the following: • PVC transmit queue overflow—The frame traversed the network successfully but encountered a full egress VC queue. These frames are counted in the PVC Tx Frames Discarded-VC-Q-Overflow statistic. • Incomplete frame at egress—No end-of-frame (EOF) cell was received. The EOF cell is missing due to discards in the network and the timer expiring. These frames are counted in the Tx Frames Discarded-Trunk Discard statistic. • Incorrect frame length—The expected frame length (recorded in the EOF cell) is different than the length of payload of that frame. This error could be caused by cells missing due to discards on a trunk or by an EOF cell transmission bit error in the frame length field. These frames are counted in the Tx Frame Length Violation statistic. • Invalid frame length—The frame is longer than 4510 octets long. The EOF cell from one frame is missing due to discards on a trunk, resulting in a concatenated frame. These frames discarded are counted in the PVC Tx Frames Discarded Oversized SDUs statistic. • Frame CRC error—The calculated CRC does not match the original frame CRC (contained within the EOF cell). This mismatch occurs due to payload bit transmission errors on the cells or because of lost cells. These frames are counted in the PVC Tx Frames Discarded Ingress CRC. • Port inactive—Logical port on which the connection is mapped is not active. These frames are not counted in any statistic. • Unknown protocols—Protocols encoded in SIW frame are not defined. These frames are counted in the PVC Tx Frames Unknown Protocols statistic. • Common part indicator (CPI) error—CPI bit in the AAL5 PDU received from the network is non-zero. These frames are counted in the PVC Tx Frames Invalid CPIs statistic. Range: 0 to (2^{32}–1) cells.
4	Packets Received	No	Ingress–1	Number of packets received. Range: 0 to (2^{32}–1) cells.
5	Receive Packets Discarded	Packets Received	Ingress–1	Number of packets received. Range: 0 to (2^{32}–1) cells.
6	Packets Transmitted	No	Egress–13	Number of packets transmitted. Range: 0 to (2^{32}–1) cells.
9	Bytes Received	No	After validating the frame against errors–1	Number of of bytes in the frames counted by the Frames Received statistic. Range: 0 to (2^{32}–1) cells.

Stat ID	IGX Frame Relay Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
10	Receive Bytes Discarded	Bytes Received	Ingress–2, 3	Number of of bytes in the frames counted by the Receive Frames Discarded statistic. Range: 0 to (2^{32}–1) cells.
11	Bytes Transmitted	No	Egress–13	Number of of bytes in the frames counted by the Frames Transmitted statistic. Range: 0 to (2^{32}–1) cells.
12	Transmit Bytes Discarded	No	Egress–12, 13	Number of of bytes in the frames counted by the Transmit Frames Discarded statistic. Range: 0 to (2^{32}–1) cells.
16	Seconds In Service	No	Not applicable	Number of seconds that the permanent virtual circuit (PVC) is in service without any alarms. Range: 0 to (2^{32}–1) cells.
17	Frames Transmitted with FECN	Frames Transmitted	Egress–13	Number of frames with the forward explicit congestion notification (FECN) bit set that are transmitted to the attached equipment. The congestion can occur anywhere in the network. Range: 0 to (2^{32}–1) cells.
18	Frames Transmitted with BECN	Frames Transmitted	Egress–13	Number of frames with the backward explicit congestion notification (BECN) bit set that are transmitted to the attached equipment. The congestion can occur anywhere in the network. Range: 0 to (2^{32}–1) cells.
20	Minutes Congested	No	Not applicable	Number of minutes when at least 50% of the frames are tagged FECN by the frame-relay packet. Range: 0 to (2^{32}–1) cells.
21	DE Frames Received	Frames Received	After validating the frame against errors–1	Number of frames with the discard eligible (DE) bit set that are received from the attached equipment. Range: 0 to (2^{32}–1) cells.
22	DE Frames Transmitted	Frames Transmitted	Egress–13	Number of frames with the DE bit set that are transmitted to the attached equipment. Range: 0 to (2^{32}–1) cells.
23	DE Frames Dropped	Frames Received Receive Frames Discarded DE Frames Received	Ingress–2	Number of frames with the DE bit set that are discarded. These frames are dropped when the connection ingress buffer exceeds the DE threshold. Range: 0 to (2^{32}–1) cells.
24	DE Bytes Received	Bytes Received	Before policing–1	Number of of bytes in the frames counted by the DE Frames Received statistic. The count includes the frame-relay header and frame check sequence (FCS)/CRC bytes. Range: 0 to (2^{32}–1) cells.
25	Frames Rx in Excess of CIR	Frames Received	Ingress–2	Number of frames received that are in excess of the CIR. Range: 0 to (2^{32}–1) cells.
26	Bytes Rx in Excess of CIR	Bytes Received	—	Number of bytes received that are in excess of the CIR. Range: 0 to (2^{32}–1) cells.
27	Frames Tx in Excess of CIR	Frames Transmitted	Egress–13	Number of frames transmitted that are in excess of the CIR. Range: 0 to (2^{32}–1) cells.
28	Bytes Tx in Excess of CIR	Bytes Transmitted	—	Number of bytes transmitted that are in excess of the CIR. Range: 0 to (2^{32}–1) cells.
29	IWF Frames Rx and Aborted	Frames Received	—	Number of IWF frames that are received and then aborted. Range: 0 to (2^{32}–1) cells.

Stat ID	IGX Frame Relay Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
30	IWF Frames Rx-EFCI Bit Set	Frames Received	—	Number of IWF frames received that have the explicit forward congestion indication (EFCI) bit set. Range: 0 to (2^{32}–1) cells.
31	Rx Frames Discarded-Deroute/Down	Frames Received	—	Number of frames that are discarded due to administratively downed connections. Range: 0 to (2^{32}–1) cells.
32	Rx Bytes Discarded-Deroute/Down	Bytes Received	—	Number of bytes that are discarded due to administratively downed connections. Range: 0 to (2^{32}–1) cells.
33	Rx Frames Discarded-VC-Q-Overflow	Frames Received Receive Frames Discarded	Ingress–2	Number of frames received from the CPE that are discarded because the virtual channel (VC) queue (PVC ingress buffer) is full. Range: 0 to (2^{32}–1) cells.
34	Rx Bytes Discarded-VC-Q-Overflow	Bytes Received Receive Bytes Discarded	Ingress–2	Number of of bytes in the frames counted by the Rx Frames Discarded VC-Q-Overflow statistic. Range: 0 to (2^{32}–1) cells.
35	Tx Frames Discarded-Q-Overflow	Transmit Frames Discarded	Egress–12	Number of frames that are not transmitted to the attached equipment because either the PVC egress buffer (VC queue) or the port queue is full. Range: 0 to (2^{32}–1) cells.
36	Tx Bytes Discarded-Q-Overflow	Transmit Bytes Discarded	Egress–12	Number of bytes in the frames counted by the Tx Frames Discarded-Q-Overflow statistic. The count includes the frame-relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
37	Tx Frames Discarded-Ingress CRC	Transmit Frames Discarded	Egress–12	Number of frames that are not transmitted to the attached equipment because of an incorrect CRC. The received CRC, included in the EOF, is compared to the calculated CRC on the contents of all the cells that arrive. An incorrect CRC is caused by at least one cell missing due to discard(s) on a trunk or to a transmission bit error on a payload bit. Range: 0 to (2^{32}–1) cells.
38	Tx Bytes Discarded-Ingress CRC	Transmit Bytes Discarded	—	Number of bytes that are discarded due to ingress CRC or length errors. Range: 0 to (2^{32}–1) cells.
39	Tx Frames Discarded -Trunk Discard	Transmit Frames Discarded	Egress–12	Number of frames that are not transmitted to the attached equipment because the EOF cells are discarded in the network or the reassembly timer expires. Range: 0 to (2^{32}–1) cells.
40	Tx Bytes Discarded-Trunk Discard	Transmit Bytes Discarded	—	Number of bytes that are discarded due to trunk CRC or length errors. Range: 0 to (2^{32}–1) cells.

Stat ID	IGX Frame Relay Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
41	Tx Frames during Ingress LMI Fail	Frames Transmitted	Egress–13	Number of frames that are transmitted to the attached equipment while the local management interface (LMI) signaling protocol on the local port failed. The portSignallingState object displayed is in an LMI failure state. Range: 0 to (2^{32}–1) cells.
42	Tx Bytes during Ingress LMI Fail	Bytes Transmitted	Egress–13	Number of bytes in the frames counted in the Tx Frames during Ingress LMI Fail statistic. The count includes the frame-relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
43	Total Dropped Frames	No	—	Number of total frames that are dropped before the queue is transmitted. Range: 0 to (2^{32}–1) cells.
44	Frames Received with BECN	Frames Received	Ingress–2	Number of frames that are received with the BECN bit set. Range: 0 to (2^{32}–1) cells.
45	Frames Received with FECN	Frames Received	Ingress–2	Number of frames that are received with the FECN bit set. Range: 0 to (2^{32}–1) cells.
46	Frames Switched	No	—	Number of frames that are switched. Range: 0 to (2^{32}–1) cells.

FastPAD Voice Connection

This section describes the statistics contained in the FastPAD Voice group. The following table lists the attributes that are common to the FastPAD voice connection statistics.

Front Cards	FTM
Back Cards	FPC-T1, FPC-E1, FPC-V35, FPC-X21
Object Type	0
Subobject Type	3
Default Peak Interval	300 seconds

The FastPAD voice connection statistics are used primarily for gathering billing and performance data.

The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	FastPAD Voice Connection Statistics	Subset of Other Stats	Description
0	Frames Received	No	Number of frames that are received by the local FastPAD port. Range: 0 to (2^{32}–1) cells.
1	Receive Frames Discarded	Frames Received	Number of frames that are discarded by the local FastPAD before the queue is transmitted onto the bus. Range: 0 to (2^{32}–1) cells.
2	Frames Transmitted	No	Number of frames that are transmitted out of the local FastPAD port. Range: 0 to (2^{32}–1) cells.
3	Transmit Frames Discarded	Frames Transmitted	Number of frames that are discarded by the local FastPAD before the queue is transmitted out the port. Range: 0 to (2^{32}–1) cells.

Stat ID	FastPAD Voice Connection Statistics	Subset of Other Stats	Description
4	Packet Received	No	Number of packets received from the bus by the local port card. Range: 0 to $(2^{32}–1)$ cells.
5	Receive Packets Discarded	Packets	Number of packets received from the bus by the local port card and discarded. These packets are discarded before the queue is transmitted out of the port. Range: 0 to $(2^{32}–1)$ cells.
6	Packets Transmitted	No	Number of packets transmitted onto the bus from the local port card. Range: 0 to $(2^{32}–1)$ cells.
9	Bytes Received	No	Number of frame bytes that are received by the local FastPAD port. Range: 0 to $(2^{32}–1)$ cells.
10	Receive Bytes Discarded	Bytes Received	Number of frame bytes that are received and then discarded by the local FastPAD port. Range: 0 to $(2^{32}–1)$ cells.
11	Bytes Transmitted	No	Number of frame bytes that are received from the bus and then transmitted out the FastPAD port. Range: 0 to $(2^{32}–1)$ cells.
12	Transmit Bytes Discarded	Bytes Transmitted	Number of frame bytes that are received from the bus then discarded before transmitting out of the FastPAD port. Bytes can be discarded due to frame age, CRC errors, or lack of buffer space. Range: 0 to $(2^{32}–1)$ cells.
16	Seconds in Service	No	Number of seconds in service (not in alarm) that the required cards are present, and the connection is routed. Range: 0 to $(2^{32}–1)$ cells.
17	Frames Transmitted with FECN	Frames Transmitted	Number of frames that are transmitted with the FECN bit set. Range: 0 to $(2^{32}–1)$ cells.
18	Frames Transmitted with BECN	Frames Transmitted	Number of frames that are transmitted with the BECN bit set. Range: 0 to $(2^{32}–1)$ cells.
20	Minutes Congested	No	Number of minutes when at least 50% of the frames are tagged FECN by FastPAD. Range: 0 to $(2^{32}–1)$ cells.
21	DE Frames Received	Frames Received	Number of frames that are received with the DE bit set by the local FastPAD port. Range: 0 to $(2^{32}–1)$ cells.
22	DE Frames Transmitted	Frames Transmitted	Number of frames that are transmitted with the DE bit set by the local FastPAD port. Range: 0 to $(2^{32}–1)$ cells.
23	DE Frames Dropped	No	Number of frames that are received with the DE bit set then dropped before being transmitted onto the bus. Range: 0 to $(2^{32}–1)$ cells.
24	DE Bytes Received	Bytes Received	Number of number bytes that are received with the DE bit set. Range: 0 to $(2^{32}–1)$ cells.
25	Frames Rx in Excess of CIR	Frames Received	Number of frames that are received in excess of the CIR. Range: 0 to $(2^{32}–1)$ cells.
26	Bytes Rx in Excess of CIR	Bytes Received	Number of bytes that are received in excess of CIR. Range: 0 to $(2^{32}–1)$ cells.
27	Frames Tx in Excess of CIR	Frames Transmitted	Number of frames that are transmitted in excess of CIR. Range: 0 to $(2^{32}–1)$ cells.
28	Bytes Tx in Excess of CIR	Bytes Transmitted	Number of bytes that are transmitted in excess of CIR. Range: 0 to $(2^{32}–1)$ cells.
31	Rx Frames Discarded-Deroute/ Down	Frames Received	Number of frames that are discarded due to administratively downed connections. Range: 0 to $(2^{32}–1)$ cells.

Stat ID	FastPAD Voice Connection Statistics	Subset of Other Stats	Description
32	Rx Bytes Discarded-Deroute/ Down	Bytes Received	Number of bytes that are discarded due to administratively downed connections. Range: 0 to (2^{32}–1) cells.
33	Rx Frames Discarded-VC-Q-Overflow	Frames Received	Number of frames that are discarded due to virtual circuit (VC) queue overflow. Range: 0 to (2^{32}–1) cells.
34	Rx Bytes Discarded-VC-Q-Overflow	Bytes Received	Number of bytes that are discarded due to VC queue overflow. Range: 0 to (2^{32}–1) cells.
35	Tx Frames Discarded-Q-Overflow	Frames Transmitted	Number of frames that are discarded due to transmit queue overflow. Range: 0 to (2^{32}–1) cells.
36	Tx Bytes Discarded-Q-Overflow	Bytes Transmitted	Number of bytes that are discarded due to transmit queue overflow. Range: 0 to (2^{32}–1) cells.
37	Tx Frames Discarded-Ingress CRC	Frames Transmitted	Number of frames that are discarded due to ingress CRC or length errors. Range: 0 to (2^{32}–1) cells.
38	Tx Bytes Discarded Ingress CRC	Bytes Transmitted	Number of bytes that are discarded due to ingress CRC or length errors. Range: 0 to (2^{32}–1) cells.
39	Tx Frames Discarded-Trunk Discard	Frames Transmitted	Number of frames that are discarded due to trunk CRC or length errors. Range: 0 to (2^{32}–1) cells.
40	Tx Bytes Discarded-Trunk Discard	Bytes Transmitted	Number of bytes that are discarded due to trunk CRC or length errors. Range: 0 to (2^{32}–1) cells.
41	Tx Frames during Ingress LMI Fail	Frames Transmitted	Number of frames that are transmitted during an LMI failure in the ingress direction. Range: 0 to (2^{32}–1) cells.
42	Tx Bytes during Ingress LMI Fail	Bytes Transmitted	Number of bytes that are transmitted during an LMI failure in the ingress direction. Range: 0 to (2^{32}–1) cells.

FastPAD Switched Connection

This section describes the statistics contained in the FastPAD Switched Voice group. The following table lists the attributes that are common to the FastPAD switched connection statistics.

Front Cards	FTM
Back Cards	FPC-T1, FPC-E1, FPC-V35, FPC-X21
Object Type	0
Subobject Type	4
Default Peak Interval	300 seconds

The FastPAD switched connection statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	FastPAD Switched Connection Statistics	Subset of Other Stats	Description
0	Frames Received	No	Number of frames that are received by the local FastPAD port. Range: 0 to (2^{32}–1) cells.
1	Receive Frames Discarded	Frames Received	Number of frames that are discarded by the local FastPAD before the queue is transmitted onto the bus. Range: 0 to (2^{32}–1) cells.
2	Frames Transmitted	No	Number of frames that are transmitted out of the local FastPAD port. Range: 0 to (2^{32}–1) cells.
3	Transmit Frames Discarded	Frames Transmitted	Number of frames that are discarded by the local FastPAD before the queue is transmitted out the port. Range: 0 to (2^{32}–1) cells.
4	Packet Received	No	Number of packets received from the bus by the local port card. Range: 0 to (2^{32}–1) cells.
5	Receive Packets Discarded	Packets Received	Number of packets received from the bus by the local port card and discarded. These packets are discarded before the queue is transmitted out of the port. Range: 0 to (2^{32}–1) cells.
6	Packets Transmitted	No	Number of packets transmitted onto the bus from the local port card. Range: 0 to (2^{32}–1) cells.
9	Bytes Received	No	Number of frame bytes that are received by the local FastPAD port. Range: 0 to (2^{32}–1) cells.
10	Receive Bytes Discarded	Bytes Received	Number of frame bytes that are received and then discarded by the local FastPAD port. Range: 0 to (2^{32}–1) cells.
11	Bytes Transmitted	No	Number of frame bytes that are received from the bus and then transmitted out the FastPAD port. Range: 0 to (2^{32}–1) cells.
12	Transmit Bytes Discarded	Bytes Transmitted	Number of frame bytes that are received from the bus then discarded before transmitting out of the FastPAD port. Bytes can be discarded due to frame age, CRC errors, or lack of buffer space. Range: 0 to (2^{32}–1) cells.
16	Seconds in Service	No	Number of seconds in service (not in alarm) that the required cards are present, and the connection is routed. Range: 0 to (2^{32}–1) cells.
17	Frames Transmitted with FECN	Frames Transmitted	Number of frames that are transmitted with the FECN bit set. Range: 0 to (2^{32}–1) cells.
18	Frames Transmitted with BECN	Frames Transmitted	Number of frames that are transmitted with the BECN bit set. Range: 0 to (2^{32}–1) cells.
20	Minutes Congested	No	Number of minutes when at least 50% of the frames are tagged FECN by FastPAD. Range: 0 to (2^{32}–1) cells.
21	DE Frames Received	Frames Received	Number of frames that are received with the DE bit set by the local FastPAD port. Range: 0 to (2^{32}–1) cells.
22	DE Frames Transmitted	Frames Transmitted	Number of frames that are transmitted with the DE bit set by the local FastPAD port. Range: 0 to (2^{32}–1) cells.
23	DE Frames Dropped	No	Number of frames that are received with the DE bit set then dropped before being transmitted onto the bus. Range: 0 to (2^{32}–1) cells.
24	DE Bytes Received	Bytes Received	Number of number bytes that are received with the DE bit set. Range: 0 to (2^{32}–1) cells.

Stat ID	FastPAD Switched Connection Statistics	Subset of Other Stats	Description
25	Frames Rx in Excess of CIR	Frames Received	Number of frames that are received in excess of the CIR. Range: 0 to (2^{32}–1) cells.
26	Bytes Rx in Excess of CIR	Bytes Received	Number of bytes that are received in excess of CIR. Range: 0 to (2^{32}–1) cells.
27	Frames Tx in Excess of CIR	Frames Transmitted	Number of frames that are transmitted in excess of CIR. Range: 0 to (2^{32}–1) cells.
28	Bytes Tx in Excess of CIR	Bytes Transmitted	Number of bytes that are transmitted in excess of CIR. Range: 0 to (2^{32}–1) cells.
31	Rx Frames Discarded-Deroute/ Down	Frames Received	Number of frames that are discarded due to administratively downed connections. Range: 0 to (2^{32}–1) cells.
32	Rx Bytes Discarded-Deroute/ Down	Bytes Received	Number of bytes that are discarded due to administratively downed connections. Range: 0 to (2^{32}–1) cells.
33	Rx Frames Discarded-VC-Q-Overflow	Frames Received	Number of frames that are discarded due to virtual circuit (VC) queue overflow. Range: 0 to (2^{32}–1) cells.
34	Rx Bytes Discarded-VC-Q-Overflow	Bytes Received	Number of bytes that are discarded due to VC queue overflow. Range: 0 to (2^{32}–1) cells.
35	Tx Frames Discarded-Q-Overflow	Frames Transmitted	Number of frames that are discarded due to transmit queue overflow. Range: 0 to (2^{32}–1) cells.
36	Tx Bytes Discarded-Q-Overflow	Bytes Transmitted	Number of bytes that are discarded due to transmit queue overflow. Range: 0 to (2^{32}–1) cells.
37	Tx Frames Discarded-Ingress CRC	Frames Transmitted	Number of frames that are discarded due to ingress CRC or length errors. Range: 0 to (2^{32}–1) cells.
38	Tx Bytes Discarded Ingress CRC	Bytes Transmitted	Number of bytes that are discarded due to ingress CRC or length errors. Range: 0 to (2^{32}–1) cells.
39	Tx Frames Discarded-Trunk Discard	Frames Transmitted	Number of frames that are discarded due to trunk CRC or length errors. Range: 0 to (2^{32}–1) cells.
40	Tx Bytes Discarded- Trunk Discard	Bytes Transmitted	Number of bytes that are discarded due to trunk CRC or length errors. Range: 0 to (2^{32}–1) cells.
41	Tx Frames during Ingress LMI Fail	Frames Transmitted	Number of frames that are transmitted during an LMI failure in the ingress direction. Range: 0 to (2^{32}–1) cells.
42	Tx Bytes during Ingress LMI Fail	Bytes Transmitted	Number of bytes that are transmitted during an LMI failure in the ingress direction. Range: 0 to (2^{32}–1) cells.

FastPAD Data Connection

This section describes the statistics contained in the FastPAD Data group. The following table lists the attributes that are common to the FastPAD data connection statistics.

Front Cards	FTM
Back Cards	FPC-T1, FPC-E1, FPC-V35, FPC-X21
Object Type	0

Subobject Type	5
Default Peak Interval	300 seconds

The FastPAD data connection statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	FastPAD Data Connection Statistics	Subset of Other Stats	Description
0	Frames Received	No	Number of frames that are received by the local FastPAD port. Range: 0 to (2^{32}–1) cells.
1	Receive Frames Discarded	Frames Received	Number of frames that are discarded by the local FastPAD before the queue is transmitted onto the bus. Range: 0 to (2^{32}–1) cells.
2	Frames Transmitted	No	Number of frames that are transmitted out of the local FastPAD port. Range: 0 to (2^{32}–1) cells.
3	Transmit Frames Discarded	Frames Transmitted	Number of frames that are discarded by the local FastPAD before the queue is transmitted out the port. Range: 0 to (2^{32}–1) cells.
4	Packet Received	No	Number of packets received from the bus by the local port card. Range: 0 to (2^{32}–1) cells.
5	Receive Packets Discarded	Packets Received	Number of packets received from the bus by the local port card and discarded. These packets are discarded before the queue is transmitted out of the port. Range: 0 to (2^{32}–1) cells.
6	Packets Transmitted	No	Number of packets transmitted onto the bus from the local port card. Range: 0 to (2^{32}–1) cells.
9	Bytes Received	No	Number of frame bytes that are received by the local FastPAD port. Range: 0 to (2^{32}–1) cells.
10	Receive Bytes Discarded	Bytes Received	Number of frame bytes that are received and then discarded by the local FastPAD port. Range: 0 to (2^{32}–1) cells.
11	Bytes Transmitted	No	Number of frame bytes that are received from the bus and then transmitted out the FastPAD port. Range: 0 to (2^{32}–1) cells.
12	Transmit Bytes Discarded	Bytes Transmitted	Number of frame bytes that are received from the bus then discarded before transmitting out of the FastPAD port. Bytes can be discarded due to frame age, CRC errors, or lack of buffer space. Range: 0 to (2^{32}–1) cells.
16	Seconds in Service	No	Number of seconds in service (not in alarm) that the required cards are present, and the connection is routed. Range: 0 to (2^{32}–1) cells.
17	Frames Transmitted with FECN	Frames Transmitted	Number of frames that are transmitted with the FECN bit set. Range: 0 to (2^{32}–1) cells.
18	Frames Transmitted with BECN	Frames Transmitted	Number of frames that are transmitted with the BECN bit set. Range: 0 to (2^{32}–1) cells.
20	Minutes Congested	No	Number of minutes when at least 50% of the frames are tagged FECN by FastPAD. Range: 0 to (2^{32}–1) cells.
21	DE Frames Received	Frames Received	Number of frames that are received with the DE bit set by the local FastPAD port. Range: 0 to (2^{32}–1) cells.

Stat ID	FastPAD Data Connection Statistics	Subset of Other Stats	Description
22	DE Frames Transmitted	Frames Transmitted	Number of frames that are transmitted with the DE bit set by the local FastPAD port. Range: 0 to (2^{32}–1) cells.
23	DE Frames Dropped	No	Number of frames that are received with the DE bit set then dropped before being transmitted onto the bus. Range: 0 to (2^{32}–1) cells.
24	DE Bytes Received	Bytes Received	Number of number bytes that are received with the DE bit set. Range: 0 to (2^{32}–1) cells.
25	Frames Rx in Excess of CIR	Frames Received	Number of frames that are received in excess of the CIR. Range: 0 to (2^{32}–1) cells.
26	Bytes Rx in Excess of CIR	Bytes Received	Number of bytes that are received in excess of CIR. Range: 0 to (2^{32}–1) cells.
27	Frames Tx in Excess of CIR	Frames Transmitted	Number of frames that are transmitted in excess of CIR. Range: 0 to (2^{32}–1) cells.
28	Bytes Tx in Excess of CIR	Bytes Transmitted	Number of bytes that are transmitted in excess of CIR. Range: 0 to (2^{32}–1) cells.
31	Rx Frames Discarded-Deroute/ Down	Frames Received	Number of frames that are discarded due to administratively downed connections. Range: 0 to (2^{32}–1) cells.
32	Rx Bytes Discarded-Deroute/ Down	Bytes Received	Number of bytes that are discarded due to administratively downed connections. Range: 0 to (2^{32}–1) cells.
33	Rx Frames Discarded-VC-Q-Overflow	Frames Received	Number of frames that are discarded due to virtual circuit (VC) queue overflow. Range: 0 to (2^{32}–1) cells.
34	Rx Bytes Discarded-VC-Q-Overflow	Bytes Received	Number of bytes that are discarded due to VC queue overflow. Range: 0 to (2^{32}–1) cells.
35	Tx Frames Discarded-Q-Overflow	Frames Transmitted	Number of frames that are discarded due to transmit queue overflow. Range: 0 to (2^{32}–1) cells.
36	Tx Bytes Discarded-Q-Overflow	Bytes Transmitted	Number of bytes that are discarded due to transmit queue overflow. Range: 0 to (2^{32}–1) cells.
37	Tx Frames Discarded-Ingress CRC	Frames Transmitted	Number of frames that are discarded due to ingress CRC or length errors. Range: 0 to (2^{32}–1) cells.
38	Tx Bytes Discarded Ingress CRC	Bytes Transmitted	Number of bytes that are discarded due to ingress CRC or length errors. Range: 0 to (2^{32}–1) cells.
39	Tx Frames Discarded-Trunk Discard	Frames Transmitted	Number of frames that are discarded due to trunk CRC or length errors. Range: 0 to (2^{32}–1) cells.
40	Tx Bytes Discarded- Trunk Discard	Bytes Transmitted	Number of bytes that are discarded due to trunk CRC or length errors. Range: 0 to (2^{32}–1) cells.
42	Tx Bytes during Ingress LMI Fail	Bytes Transmitted	Number of bytes that are transmitted during an LMI failure in the ingress direction. Range: 0 to (2^{32}–1) cells.

FastPAD Frame Relay Connection

This section describes the statistics contained in the FastPAD Frame Relay group. The following table lists the attributes that are common to the FastPAD Frame Relay connection statistics.

Front Card	FTM
Back Cards	FPC-T1, FPC-E1, FPC-V35, FPC-X21
Object Type	0
Subobject Type	6
Default Peak Interval	300 seconds

The FastPAD frame-relay connection statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	FastPAD Frame Relay Connection Statistics	Subset of Other Stats	Description
0	Frames Received	No	Number of frames that are received by the local FastPAD port. Range: 0 to (2^{32}–1) cells.
1	Receive Frames Discarded	Frames Received	Number of frames that are discarded by the local FastPAD before the queue is transmitted onto the bus. Range: 0 to (2^{32}–1) cells.
2	Frames Transmitted	No	Number of frames that are transmitted out of the local FastPAD port. Range: 0 to (2^{32}–1) cells.
3	Transmit Frames Discarded	Frames Transmitted	Number of frames that are discarded by the local FastPAD before the queue is transmitted out the port. Range: 0 to (2^{32}–1) cells.
4	Packets Received	No	Number of packets received from the bus by the local port card. Range: 0 to (2^{32}–1) cells.
5	Receive Packets Discarded	Packets Received	Number of packets received from the bus by the local port card and discarded. These packets are discarded before the queue is transmitted out of the port. Range: 0 to (2^{32}–1) cells.
6	Packets Transmitted	No	Number of packets transmitted onto the bus from the local port card. Range: 0 to (2^{32}–1) cells.
9	Bytes Received	No	Number of frame bytes that are received by the local FastPAD port. Range: 0 to (2^{32}–1) cells.
10	Receive Bytes Discarded	Bytes Received	Number of frame bytes that are received and then discarded by the local FastPAD port. Range: 0 to (2^{32}–1) cells.
11	Bytes Transmitted	No	Number of frame bytes that are received from the bus and then transmitted out the FastPAD port. Range: 0 to (2^{32}–1) cells.
12	Transmit Bytes Discarded	Bytes Transmitted	Number of frame bytes that are received from the bus then discarded before transmitting out of the FastPAD port. Bytes can be discarded due to frame age, CRC errors, or lack of buffer space. Range: 0 to (2^{32}–1) cells.
16	Seconds in Service	No	Number of seconds in service (not in alarm) that the required cards are present, and the connection is routed. Range: 0 to (2^{32}–1) cells.

Stat ID	FastPAD Frame Relay Connection Statistics	Subset of Other Stats	Description
17	Frames Transmitted with FECN	Frames Transmitted	Number of frames that are transmitted with the FECN bit set. Range: 0 to (2^{32}–1) cells.
18	Frames Transmitted with BECN	Frames Transmitted	Number of frames that are transmitted with the BECN bit set. Range: 0 to (2^{32}–1) cells.
20	Minutes Congested	No	Number of minutes when at least 50% of the frames are tagged FECN by FastPAD. Range: 0 to (2^{32}–1) cells.
21	DE Frames Received	Frames Received	Number of frames that are received with the DE bit set by the local FastPAD port. Range: 0 to (2^{32}–1) cells.
22	DE Frames Transmitted	Frames Transmitted	Number of frames that are transmitted with the DE bit set by the local FastPAD port. Range: 0 to (2^{32}–1) cells.
23	DE Frames Dropped	No	Number of frames that are received with the DE bit set then dropped before being transmitted onto the bus. Range: 0 to (2^{32}–1) cells.
24	DE Bytes Received	Bytes Received	Number of bytes that are received with the DE bit set. Range: 0 to (2^{32}–1) cells.
25	Frames Rx in Excess of CIR	Frames Received	Number of frames that are received in excess of the CIR. Range: 0 to (2^{32}–1) cells.
26	Bytes Rx in Excess of CIR	Bytes Received	Number of bytes that are received in excess of CIR. Range: 0 to (2^{32}–1) cells.
27	Frames Tx in Excess of CIR	Frames Transmitted	Number of frames that are transmitted in excess of CIR. Range: 0 to (2^{32}–1) cells.
28	Bytes Tx in Excess of CIR	Bytes Transmitted	Number of bytes that are transmitted in excess of CIR. Range: 0 to (2^{32}–1) cells.
31	Rx Frames Discarded-Deroute/Down	Frames Received	Number of frames that are discarded due to administratively downed connections. Range: 0 to (2^{32}–1) cells.
32	Rx Bytes Discarded-Deroute/Down	Bytes Received	Number of bytes that are discarded due to administratively downed connections. Range: 0 to (2^{32}–1) cells.
33	Rx Frames Discarded-VC-Q-Overflow	Frames Received	Number of frames that are discarded due to virtual circuit (VC) queue overflow. Range: 0 to (2^{32}–1) cells.
34	Rx Bytes Discarded-VC-Q-Overflow	Bytes Received	Number of bytes that are discarded due to VC queue overflow. Range: 0 to (2^{32}–1) cells.
35	Tx Frames Discarded-Q-Overflow	Frames Transmitted	Number of frames that are discarded due to transmit queue overflow. Range: 0 to (2^{32}–1) cells.
36	Tx Bytes Discarded-Q-Overflow	Bytes Transmitted	Number of bytes that are discarded due to transmit queue overflow. Range: 0 to (2^{32}–1) cells.
37	Tx Frames Discarded- Ingress CRC	Frames Transmitted	Number of frames that are discarded due to ingress CRC or length errors. Range: 0 to (2^{32}–1) cells.
38	Tx Bytes Discarded Ingress CRC	Bytes Transmitted	Number of bytes that are discarded due to ingress CRC or length errors. Range: 0 to (2^{32}–1) cells.

Stat ID	FastPAD Frame Relay Connection Statistics	Subset of Other Stats	Description
39	Tx Frames Discarded- Trunk Discard	Frames Transmitted	Number of frames that are discarded due to trunk CRC or length errors. Range: 0 to (2^{32}–1) cells.
40	Tx Bytes Discarded- Trunk Discard	Bytes Transmitted	Number of bytes that are discarded due to trunk CRC or length errors. Range: 0 to (2^{32}–1) cells.
41	Tx Frames during Ingress LMI Fail	Frames Transmitted	Number of frames that are transmitted during an LMI failure in the ingress direction. Range: 0 to (2^{32}–1) cells.
42	Tx Bytes during Ingress LMI Fail	Bytes Transmitted	Number of bytes that are transmitted during an LMI failure in the ingress direction. Range: 0 to (2^{32}–1) cells.

UXM and URM Connection

This section describes the UXM and URM statistics contained in the ASI Connection group. These connection statistics are applicable for Switch Software Releases 9.2 and 9.3 on the Cisco IGX switch. These UXM connection statistics also apply to the UXM-E card. The following table lists the attributes that are common to the UXM and URM connection statistics.

Front Cards	UXM, URM
Back Cards	UXM—BC-UAI-6-T3/E3, BC-UAI-3-T3/E3, BC-UAI-2/4-155-SMF, BC-UAI-2/4-SMFXLR, BC-UAI-4-STM1E, BC-UAI-4-155-MMF URM—BC-URI-2FE2V-T1/E1
Object Type	0
Subobject Type	7
Default Peak Interval	300 seconds

The UXM and URM connection statistics are used primarily for gathering billing and performance data. However, the multilevel statistics listed in this section are typically used for troubleshooting. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	UXM and URM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
29	Cells RX Port	No	Ingress–1	Number of cells received from the port before policing and VC queuing. The count includes the sum of cell loss priority (CLP) cells (0+1) cells.. This statistic does not include operation, administration, and maintenance (OAM) cells or cells discarded due to checksum error or invalid virtual path identifier (VPI)/virtual channel identifier (VCI). This statistic is Level 1 in the multilevel statistics. The corresponding name is Rx Cells from Port. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM and URM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
31	Cells TX Network	Cells RX Port	Ingress–4	Number of cells transmitted to the bus and sent to the switch fabric after policing and VC queuing. This statistic does not include the cells discarded due to traffic or congestion control. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX cells to NW. Range: 0 to (2^{32}–1) cells.
32	CLP RX Port	Cells RX Port	Ingress–2, 3	Number of total connection cells with a CLP equal to 0 and 1 that are received from the port before policing and VC queuing. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX cells to NW. Range: 0 to (2^{32}–1) cells.
38	Non-comp RX Port	Cells RX Port	Ingress–2	Number of cells with a CLP (0+1) cells. that are noncompliant or discarded due to policing. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX cells Non-cmplt. Range: 0 to (2^{32}–1) cells.
41	Average Cell Rx Q Depth	No	Ingress–2	Average number of cells that comprise the receive VC queue cell depth. This statistic is Level 1 in the multilevel statistics. The corresponding name is Ingress VC Q depth. Range: 0 to (2^{32}–1) cells.
44	EFCI TX Port	Cells TX Port	Egress–13	Number of cells with an EFCI bit equal to 1 that are transmitted to the port. This statistic is collected after the cells are received from the bus and have passed egress queuing and servicing. This statistic is Level 2 in the multilevel statistics. The corresponding name is TX EFCI 1 to Port. Range: 0 to (2^{32}–1) cells.
45	Cells TX Port	No	Egress–12, 13	Number of cells transmitted to the port after VC queuing. This statistic is Level 1 in the multilevel statistics. The corresponding name is TX Cells to Port. Range: 0 to (2^{32}–1) cells.
46	Cells RX Network	No	Egress–11	Number of cells received from the bus. This statistic is Level 1 in the multilevel statistics. The corresponding name is TX cells from NW. Range: 0 to (2^{32}–1) cells.
58	Number of good PDUs Rx by SAR	No	After SAR processing–3	Number of valid protocol data units (PDUs) received by the segmentation and reassembly (SAR) sublayer. The BXM uses AAL5. Range: 0 to (2^{32}–1) cells.
59	Number of good PDUs Tx by SAR	No	After SAR processing–12	Number of valid PDUs transmitted by the SAR sublayer. The BXM uses AAL5. Range: 0 to (2^{32}–1) cells.
60	Rx PDUs discarded on ingress by SAR	No	After SAR processing–3	Number of invalid PDUs that are discarded by the SAR sublayer in the receive direction. Range: 0 to (2^{32}–1) cells.
61	Tx PDUs discarded on egress by SAR	No	After SAR processing–12	Number of invalid PDUs that are discarded by the SAR sublayer, in the transmit direction. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM and URM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
62	Invalid crc32 PDU Rx by SAR	Rx PDUs discarded on ingress by SAR	After SAR processing–3	Number of PDUs with an invalid CRC that are received by the SAR sublayer. The trailer of the frame includes a 32-bit CRC that calculates across the PDU. Range: 0 to (2^{32}–1) cells.
63	Invalid-length PDU Rx by SAR	Rx PDUs discarded on ingress by SAR	After SAR processing–3	Number of PDUs with an invalid length that are received by the SAR sublayer. The trailer of the frame includes the length field that calculates the entire PDU. Range: 0 to (2^{32}–1) cells.
64	Short-length failures detected by SAR	Invalid-length PDU Rx by SAR	After SAR processing–3	Number of PDUs with missing data (missing cells) that are received by the SAR sublayer. Range: 0 to (2^{32}–1) cells.
65	Long-length failures detected by SAR	Invalid-length PDU Rx by SAR	After SAR processing–3	Number of PDUs with extra cells received by the SAR sublayer. Cells can be added when the EOF cell is lost. Range: 0 to (2^{32}–1) cells.
69	Cells Rx with CLP=0	Total Cells Rx Port	Ingress–2	Number of cells with a CLP equal to 0 that are received from the port. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX CLP0 from Port. Range: 0 to (2^{32}–1) cells.
70	Cells Rx with CLP=0 from network	Cells RX Network	Egress–11	Number of cells with a CLP equal to 0 that are received from the bus. This statistic is Level 1 in the multilevel statistics. The corresponding name is TX CLP0 from NW. Range: 0 to (2^{32}–1) cells.
71	Cells Rx with CLP=1 from network	Cells RX Network	Egress–11	Number of cells with a CLP equal to 1 that are received from the bus. This statistic is Level 1 in the multilevel statistics. The corresponding name is TX CLP1 from NW. Range: 0 to (2^{32}–1) cells.
72	Ingress VSVD Allowed Cell Rate	No	Ingress–1	Value of the allowed cell rate (ACR) used in the resource management (RM) cell. On the ingress, this value is the ACR between the source edge switch of the WAN and the virtual source (VS). This statistic is Level 1 in the multilevel statistics. The corresponding name is Ingress VSVD ACR. Range: 0 to Max valid ACR cells
73	Egress VSVD Allowed Cell Rate	No	Egress–13	Value of the ACR used in the RM cell. On the egress, this value is the ACR between the destination edge switch of the WAN and the virtual destination (VD). This statistic is Level 1 in the multilevel statistics. The corresponding name is Egress VSVD ACR. Range: 0 to Max valid ACR cells

Stat ID	UXM and URM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
74	Backward Severely Errored Cell Blocks	—	—	Number of backward severely errored cells blocked. Range: 0 to (2^{32}–1) cells.
75	Backward Lost Cell Count	—	—	Number of backward cells lost. Range: 0 to (2^{32}–1) cells.
76	Backward Misinserted Cell Count	—	—	Number of backward cells misinserted. Range: 0 to (2^{32}–1) cells.
77	Backward Bipolar Violation Count	—	—	Number of backward bipolar violations. Range: 0 to (2^{32}–1) cells.
78	Forward Severely Errored Cell Blocks	—	—	Number of forward severely errored cells blocked. Range: 0 to (2^{32}–1) cells.
79	Forward Lost Cell Count	—	—	Number of forward cells lost. Range: 0 to (2^{32}–1) cells.
80	Forward Misinserted Cell Count	—	—	Number of forward cells misinserted. Range: 0 to (2^{32}–1) cells.
81	Forward Bipolar Violation Count	—	—	Number of forward bipolar violations. Range: 0 to (2^{32}–1) cells.
82	Cells Tx with EFCI=0	—	—	Number of cells transmitted with the EFCI bit set at 0. Range: 0 to (2^{32}–1) cells.
83	Average Cell Tx Q Depth	—	—	Average number of cells transmitted from the queue. Range: 0 to (2^{32}–1) cells.
84	Unkn Prot Frames Discarded at Ingress	—	—	Number of unknown protocol frames that are discarded in the ingress direction. Range: 0 to (2^{32}–1) cells.
85	Unkn Prot Frames Discarded at Egress	—	—	Number of unknown protocol frames that are discarded in the egress direction. Range: 0 to (2^{32}–1) cells.
86	EOF Cells RX from Port	Cells RX Port	Ingress–2	Number of EOF cells received from the port. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM and URM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
89	No of cells rx non-comp w/clp=0 drpd	Cells Rx with CLP=0	Ingress–2	Number of noncompliant cells with a CLP equal to 0 that are dropped after being received. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX CLP0 Non-cmplt. Range: 0 to (2^{32}–1) cells.
90	No of cells rx non-comp w/clp=1 drpd	CLP RX Port	Ingress–2	Number of noncompliant cells with a CLP equal to 1 that are dropped after being received. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX CLP1 Non-cmpl. Range: 0 to (2^{32}–1) cells.
91	No of cells rx congested w/clp=0 drpd	Cells Rx with CLP=0	Ingress–2	Number of received cells with a CLP equal to 0 that are dropped from a congested line. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX CLP0 Cong Dscd. Range: 0 to (2^{32}–1) cells.
92	No of cells rx congested w/clp=1 drpd	CLP RX Port	Ingress–2	Number of received cells with a CLP equal to 1 that are dropped from a congested line. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX CLP1 Cong Dscd. Range: 0 to (2^{32}–1) cells.
93	No of cells tx with clp=1 to nw	Cells TX Network	Ingress–4	Number of cells with a CLP equal to 1 that are transmitted to the bus. This statistic is Level 2 in the multilevel statistics. The corresponding name is RX CLP1 to NW. Range: 0 to (2^{32}–1) cells.
94	No of cells tx w/efci=0 to nw	Cells TX Network	Ingress–4	Number of cells with an EFCI bit equal to 0 that are transmitted to the bus. This statistic is Level 2 in the multilevel statistics. The corresponding name is RX EFCI 0 to NW. Range: 0 to (2^{32}–1) cells.
95	No of cells tx w/efci=1 to nw	Cells TX Network	Ingress–4	Number of cells with an EFCI bit equal to 1 that are transmitted to the bus. This statistic is Level 2 in the multilevel statistics. The corresponding name is RX EFCI 1 to NW. Range: 0 to (2^{32}–1) cells.
97	No of cells rx congested w/EOF dscd	Total Cells RX Port	Ingress–3	Number of ingress EOF cells with an EFCI bit equal to 0 that are discarded from a congested line. This statistic is Level 2 in the multilevel statistics. The corresponding name is RX EOF CNG DSC. Range: 0 to (2^{32}–1) cells.
98	No of cells tx w/eof=1 to port	Cells Tx Port	Egress–13	Number of cells with EOF equal to 1 that are transmitted to the port. This statistic is Level 2 in the multilevel statistics. The corresponding name is TX EOFs to Port. Range: 0 to (2^{32}–1) cells.
99	No of RM cells tx to port	Cells Tx Port	Egress–13	Number of RM cells transmitted to the port. This statistic is Level 3 in the multilevel statistics. The corresponding name is RM Cells to Port. Range: 0 to (2^{32}–1) cells.
100	No of cells rx w/efci=0 from port	Total Cells Rx Port	Ingress–2	Number of cells with an EFCI bit equal to 0 that are received from the port. This statistic is Level 3 in the multilevel statistics. The corresponding name is RX EFCI 0 from Port. Range: 0 to (2^{32}–1) cells.
101	Cells rx w/EFCI from port	Total Cells Rx Port	Ingress–2	Number of cells with an EFCI bit equal to 1 that are received from the port. This statistic is Level 3 in the multilevel statistics. The corresponding name is RX EFCI 1 from Port. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM and URM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
102	No of OAM cells rx from port	Total Cells Rx Port	Ingress–1	Number of OAM cells received from the port. This statistic is Level 3 in the multilevel statistics. The corresponding name is OAM from Port. Range: 0 to (2^{32}–1) cells.
103	No of cells rx w/RM from port	Total Cells Rx Port	Ingress–1	Number of RM cells received from the port. This statistic is Level 3 in the multilevel statistics. The corresponding name is RM Cells from Port. Range: 0 to (2^{32}–1) cells.
104	Cells rx congested w/EFCI0 dscd	No of cells rx w/efci=0 from port	Ingress–2	Number of cells with an EFCI bit equal to 0 that are discarded from a congested line. This statistic is Level 3 in the multilevel statistics. The corresponding name is Rx EFCI 0 Cng Dsc. Range: 0 to (2^{32}–1) cells.
105	Cells rx congested w/EFCI1 dscd	Cells rx w/EFCI from port	Ingress–2	Number of cells with an EFCI bit equal to 1 that are discarded from a congested line. This statistic is Level 3 in the multilevel statistics. The corresponding name is Rx EFCI 1 Cng Dsc. Range: 0 to (2^{32}–1) cells.
106	Cells rx congested w/OAM dscd	No of OAM cells rx from port	Ingress–1	Number of total OAM cells received and then discarded because of congestion. This statistic is Level 3 in the multilevel statistics. The corresponding name is Rx OAM Cng Dsc. Range: 0 to (2^{32}–1) cells.
107	Cells rx congested w/RM dscd	No of cells rx w/RM from port	Ingress–1	Number of total RM cells received and then discarded because of congestion. This statistic is Level 3 in the multilevel statistics. The corresponding name is Rx RM Cng Dsc. Range: 0 to (2^{32}–1) cells.
108	No of cells tx w/FRm to nw	No of cells tx w/BRm+FsRm to nw	Ingress–4	Number of total forward RM cells transmitted to the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is Rx FRM to NW. Range: 0 to (2^{32}–1) cells.
109	No of cells tx w/BRm+FsRm to nw	No	Ingress–4	Number of total backward forward RM cells transmitted to the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is Rx BRM/Fst to NW. Range: 0 to (2^{32}–1) cells.
110	No of cells rx w/efci=0 from nw	No	Egress–12	Number of cells with an EFCI bit equal to 0 that are received from the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is TX EFCI 0 from NW. Range: 0 to (2^{32}–1) cells.
111	No of cells rx w/efci=1 from nw	Cells RX Network	Egress–12	Number of cells with an EFCI bit equal to 1 that are received from the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is RX EFCI 1 from NW. Range: 0 to (2^{32}–1) cells.
112	No of egress OAM cells rx	Cells RX Network	Egress–12	Number of OAM cells received from the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is OAM From NW. Range: 0 to (2^{32}–1) cells.
113	No of egress cells rx w/RM	Cells RX Network	Egress–12	Number of RM cells received from the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is RM From NW. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM and URM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
114	Cells tx congested w/EFCI0 dscd	No	Egress–13	Number of discarded cells that have an EFCI bit equal to 0. This statistic is collected after the cells are received from the bus and have passed egress queuing and servicing. This statistic is Level 3 in the multilevel statistics. The corresponding name is Tx EFCI 0 Cng Dsc. Range: 0 to (2^{32}–1) cells.
115	Cells tx congested w/EFCI1 dscd	No	Egress–13	Number of discarded cells that have an EFCI bit equal to 1. This statistic is collected after the cells are received from the bus and have passed egress queuing and servicing. This statistic is Level 3 in the multilevel statistics. The corresponding name is Tx EFCI 1 Cng Dsc. Range: 0 to (2^{32}–1) cells.
116	Cells tx congested w/RM dscd	No	Egress–13	Number of RM cells discarded due to congestion. This statistic is collected after the cells are received from the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is Tx RM Cng Dsc. Range: 0 to (2^{32}–1) cells.
117	Cells tx congested w/OAM dscd	No	Egress–13	Number of OAM cells discarded due to congestion. This statistic is collected after the cells are received from the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is Tx OAM Cng Dsc. Range: 0 to (2^{32}–1) cells.
118	No of cells tx w/clp=0	CLP TX Port	Egress–13	Number of cells with a CLP equal to 0 that are transmitted to the port. This statistic is Level 1 in the multilevel statistics. The corresponding name is TX CLP0 Cells to Port. This statistic is only available in Switch Software Releases 9.3 and later. Range: 0 to (2^{32}–1) cells.
119	No of cells tx w/clp=1	CLP TX Port	Egress–13	Number of cells with a CLP equal to 1 that are transmitted to the port. This statistic is only available in Switch Software Releases 9.3 and above. Range: 0 to (2^{32}–1) cells.
120	Cells tx w/clp=0 to nw	Cells TX Network	Ingress–4	Number of cells with a CLP equal to 0 that are transmitted to the bus. This statistic is Level 2 in the multilevel statistics. The corresponding name is RX CLP0 to NW. This statistic is only available in Switch Software Releases 9.3 and above. Range: 0 to (2^{32}–1) cells.

BXM and ASI Connection

This section describes the BXM and ASI statistics contained in the ASI Connection group. These connection statistics apply to Switch Software Releases 9.2 and 9.3 on the Cisco BPX switch. The following table lists the attributes that are common to the BXM and ASI connection statistics.

Front Cards	BXM—T3/E3, BXM-155, BXM-622 ASI—T3/E3, ASI-155, ASI-155e
Back Cards	BXM—BPX-T3/E3-BC, MMF-155-4/8, SMF-155-4/8 SMFLR-155-4/8, SMF-622-2, SMFLR-622-2, SMFXLR-622-2, SMF-622, SMFLR-622, SMFXLR-622 ASI—LM-3T3/3E3, LM-2OC-3-SMF, LM-2OC-3-SMFLR, LM-2OC-3-MMF
Object Type	0
Subobject Type	7
Default Peak Interval	300 seconds

The BXM and ASI connection statistics are used primarily for gathering billing and performance data. However, the multilevel statistics listed in this section are typically used for troubleshooting.

The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	BXM and ASI Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
29	Cells RX Port	No	Ingress–1	Number of cells received from the port before policing and VC queuing. The count includes the sum of CLP cells (0+1) cells.. This statistic does not include OAM cells or cells discarded due to checksum error or invalid VPI/VCI. This statistic is Level 1 in the multilevel statistics. The corresponding name is Rx Cells from port. Range: 0 to (2^{32}–1) cells.
30	Frames RX Port	No	Ingress–1	Number of total AAL5 frames that are received from the port. The count includes valid, invalid, or subsequently discarded frames. This statistic applies to ATM data connections. Traffic flow over the connection is adapted to ATM at the AAL5 layer. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX EOFs from port. Range: 0 to (2^{32}–1) cells. frames
31	Cells TX Network	Cells RX Port	Ingress–4	Number of cells transmitted to the bus and sent to the switch fabric after policing and VC queuing. This statistic does not include discarded cells. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX cells to NW. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
32	CLP RX Port	Cells RX Port	Ingress–2, 3	Number of total connection cells with a CLP equal to 0 and 1 that are received before policing and VC queuing. This statistic does not include cells discarded due to a checksum error. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX cells to NW. Range: 0 to (2^{32}–1) cells.
33	Non-comp CLP RX Port	Cells RX Port	—	Number of noncompliant CLP cells received at the port. Range: 0 to (2^{32}–1) cells.
34	Discard CLPth RX Port	Cells RX Port	—	Number of CLP cells received at the port and then discarded. Range: 0 to (2^{32}–1) cells.
35	Discard Qfull RX Port	Cells RX Port	—	Number of cells discarded due to transmit queue overflow. Range: 0 to (2^{32}–1) cells.
36	EFCI RX Port	Cells RX Port	—	Number of cells received at the port with the EFCI bit set. Range: 0 to (2^{32}–1) cells.
37	AAL5 RX Port	Cells RX Port	—	Number of AAL5 cells received at the port. Range: 0 to (2^{32}–1) cells.
38	Non-comp RX Port	Cells RX Port	Ingress–2	Number of cells with CLP (0+1) cells. that are noncompliant or discarded due to policing. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX cells Non-cmplt. Range: 0 to (2^{32}–1) cells.
39	Discarded Failed RX Port	Cells RX Port	—	Number of failed cells received at the port and then discarded. Range: 0 to (2^{32}–1) cells.
40	AAL5 Discarded Qfull RX Port	Cells RX Port	—	Number of AAL5 cells discarded due to transmit queue overflow. Range: 0 to (2^{32}–1) cells.
41	Average Cell Rx Q Depth	No	Ingress–2	Provides the average number of cells that comprises the receive VC queue cell depth. This statistic is Level 1 in the multilevel statistics. The corresponding name is Ingress VC Q depth. Range: 0 to (2^{32}–1) cells.
42	Discarded Rsrc Overflow RX Port	Cells RX Port	—	Number of cells discarded due to resource overflow. Range: 0 to (2^{32}–1) cells.
43	Discarded Sbin Full RX Port	Cells RX Port	—	Number of cells discarded due to the Sbin being full. Range: 0 to (2^{32}–1) cells.
44	EFCI TX Port	Cells TX Port	Egress–13	Number of cells with an explicit EFCI bit equal to 1 that are transmitted to the port. This statistic is collected after the cells are received from the bus and have passed egress queuing and servicing. This statistic is Level 2 in the multilevel statistics. The corresponding name is TX EFCI 1 to Port. Range: 0 to (2^{32}–1) cells.
45	Cells TX Port	No	Egress–12, 13	Number of cells transmitted to the port after VC queuing. This statistic is Level 1 in the multilevel statistics. The corresponding name is TX Cells to Port. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
46	Cells RX Network	No	Egress–11	Number of cells received from the bus. This statistic is Level 1 in the multilevel statistics. The corresponding name is TX cells from NW. Range: 0 to (2^{32}–1) cells.
47	Discarded Qbin Full	—	—	Number of cells discarded because the queue bin is full. Range: 0 to (2^{32}–1) cells.
48	Discarded Qbin CLPth Port	—	—	Number of CLP cells discarded because the queue bin is full. Range: 0 to (2^{32}–1) cells.
49	CLP TX Port	Cells TX Port	Egress–13	Number of connection cells with a CLP equal to 1 that are transmitted to the port. This statistic is Level 1 in the multilevel statistics. The corresponding name is TX CLP1 to Port. Range: 0 to (2^{32}–1) cells.
50	BCM RX Port	Cells RX Port	—	Number of BCM cells received at the port. Range: 0 to (2^{32}–1) cells.
51	BCM TX Network	Cells TX Network	—	Number of BCM cells transmitted to the network. Range: 0 to (2^{32}–1) cells.
52	OAM TX Network	Cells TX Network	—	Number of OAM cells transmitted to the network. Range: 0 to (2^{32}–1) cells.
53	AIS RX Port	Cells RX Port	—	Provides a counts of the alarm indication signal (AIS) cells received at the port. Range: 0 to (2^{32}–1) cells.
54	FERF RX Port	Cells RX Port	—	Number of cells received at the port. Range: 0 to (2^{32}–1) cells.
57	Current egress VC Queue Depth	No	Egress–12	Average number of cells that comprises the transmit VC queue cell depth. This statistic is Level 1 in the multilevel statistics. The corresponding name is Egress VC Q Depth. Range: 0 to (2^{32}–1) cells.
58	Number of good PDUs Rx by SAR	No	After SAR processing–3	Number of valid protocol data units (PDUs) received by the segmentation and reassembly (SAR) sublayer. The BXM uses AAL5. Range: 0 to (2^{32}–1) cells.
59	Number of good PDUs Tx by SAR	No	After SAR processing–12	Number of valid PDUs transmitted by the SAR sublayer. The BXM uses AAL5. Range: 0 to (2^{32}–1) cells.
60	Rx PDUs discarded on ingress by SAR	No	After SAR processing–3	Number of invalid PDUs that are discarded by the SAR sublayer, in the receive direction. Cells are discarded due to bit errors, lost cells, or cells out of sequence. Range: 0 to (2^{32}–1) cells.
61	Tx PDUs discarded on egress by SAR	No	After SAR processing–12	Number of invalid PDUs that are discarded by the SAR sublayer, in the transmit direction. Cells are discarded due to bit errors, lost cells, or cells out of sequence. Range: 0 to (2^{32}–1) cells.
62	Invalid crc32 PDU Rx by SAR	Rx PDUs discarded on ingress by SAR	After SAR processing–3	Number of PDUs with an invalid CRC that are received by the SAR sublayer. The trailer of the frame includes a 32-bit CRC that calculates across the PDU. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
63	Invalid-length PDU Rx by SAR	Rx PDUs discarded on ingress by SAR	After SAR processing–3	Number of PDUs with an invalid length that are received by the SAR sublayer. The trailer of the frame includes the length field that calculates the entire PDU. Range: 0 to (2^{32}–1) cells.
64	Short-length failures detected by SAR	Invalid-length PDU Rx by SAR	After SAR processing–3	Number of PDUs with missing data (missing cells) that are received by the SAR sublayer. The trailer of the frame includes the length field that calculates the entire PDU. Range: 0 to (2^{32}–1) cells.
65	Long-length failures detected by SAR	Invalid-length PDU Rx by SAR	After SAR processing–3	Number of PDUs with extra cells received by the SAR sublayer. Cells can be added when the EOF cell is lost. The trailer of the frame includes the length field that calculates the entire PDU. Range: 0 to (2^{32}–1) cells.
69	Cells Rx with CLP=0	Total Cells Rx Port	Ingress–2	Number of cells with a CLP equal to 0 that are received from the port. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX CLP0 from Port. Range: 0 to (2^{32}–1) cells.
70	Cells Rx with CLP=0 from network	Cells RX Network	Egress–11	Number of cells with a CLP equal to 0 that are received from the bus. This statistic is Level 1 in the multilevel statistics. The corresponding name is TX CLP0 from NW. Range: 0 to (2^{32}–1) cells.
71	Cells Rx with CLP=1 from network	Cells RX Network	Egress–11	Number of cells with a CLP equal to 1 that are received from the bus. This statistic is Level 1 in the multilevel statistics. The corresponding name is TX CLP1 from NW. Range: 0 to (2^{32}–1) cells.
72	Ingress VSVD Allowed Cell Rate	No	Ingress–1	Value of the allowed cell rate (ACR) used in the RM cell. On the ingress, this value is the ACR between the source edge switch of the WAN and the virtual source (VS). This statistic is Level 1 in the multilevel statistics. The corresponding name is Ingress VSVD ACR. Range: 0 to Max valid ACR cells
73	Egress VSVD Allowed Cell Rate	No	Egress–13	Value of the ACR used in the RM cell. On the egress, this value is the ACR between the destination edge switch of the WAN and the virtual destination (VD). This statistic is Level 1 in the multilevel statistics. The corresponding name is Egress VSVD ACR. Range: 0 to Max valid ACR cells
74	Backward Severely Errored Cell Blocks	—	—	Number of backward severely errored cells blocked. Range: 0 to (2^{32}–1) cells.
75	Backward Lost Cell Count	—	—	Number of backward cells lost. Range: 0 to (2^{32}–1) cells.
76	Backward Misinserted Cell Count	—	—	Number of backward cells misinserted. Range: 0 to (2^{32}–1) cells.
77	Backward Bipolar Violation Count	—	—	Number of backward bipolar violations. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
78	Forward Severely Errored Cell Blocks	—	—	Number of forward severely errored cells blocked. Range: 0 to (2^{32}–1) cells.
79	Forward Lost Cell Count	—	—	Number of forward cells lost. Range: 0 to (2^{32}–1) cells.
80	Forward Misinserted Cell Count	—	—	Number of forward cells misinserted. Range: 0 to (2^{32}–1) cells.
81	Forward Bipolar Violation Count	—	—	Number of forward bipolar violations. Range: 0 to (2^{32}–1) cells.
83	Average Cell Tx Q Depth	—	—	Provides the average number of cells transmitted from the queue. Range: 0 to (2^{32}–1) cells.
89	No of cells rx non-comp w/clp=0 drpd	Cells Rx with CLP=0	Ingress–2	Number of noncompliant cells with a CLP equal to 0 that are dropped after being received. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX CLP0 Non-cmplt. Range: 0 to (2^{32}–1) cells.
90	No of cells rx non-comp w/clp=1 drpd	CLP RX Port	Ingress–2	Number of noncompliant cells with a CLP equal to 1 that are dropped after being received. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX CLP1 Non-cmpl. Range: 0 to (2^{32}–1) cells.
91	No of cells rx congested w/clp=0 drpd	Cells Rx with CLP=0	Ingress–2	Number of received cells with a CLP equal to 0 that are dropped from a congested line. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX CLP0 Cong Dscd. Range: 0 to (2^{32}–1) cells.
92	No of cells rx congested w/clp=1 drpd	CLP RX Port	Ingress–2	Number of received cells with a CLP equal to 1 that are dropped from a congested line. This statistic is Level 1 in the multilevel statistics. The corresponding name is RX CLP1 Cong Dscd. Range: 0 to (2^{32}–1) cells.
93	No of cells tx with clp=1 to nw	Cells TX Network	Ingress–4	Number of cells with a CLP equal to 1 that are transmitted to the bus. This statistic is Level 2 in the multilevel statistics. The corresponding name is RX CLP1 to NW. Range: 0 to (2^{32}–1) cells.
94	No of cells tx w/efci=0 to nw	Cells TX Network	Ingress–4	Number of cells with an EFCI bit equal to 0 that are transmitted to the bus. This statistic is Level 2 in the multilevel statistics. The corresponding name is RX EFCI 0 to NW. Range: 0 to (2^{32}–1) cells.
95	No of cells tx w/efci=1 to nw	Cells TX Network	Ingress–4	Number of cells with an EFCI bit equal to 1 that are transmitted to the bus. This statistic is Level 2 in the multilevel statistics. The corresponding name is RX EFCI 1 to NW. Range: 0 to (2^{32}–1) cells.
96	No of cells tx w/efci=0 to port	Cells TX Port	Egress–13	Number of cells with an EFCI bit equal to 0 that are transmitted to the port (to the equipment connected to the port). This statistic is collected after the cells are received from the bus and have passed egress queuing and servicing. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
97	No of cells rx congested w/EOF dscd	Total Cells RX Port	Ingress–3	Number of ingress EOF cells with an EFCI bit equal to 0 that are discarded from a congested line. This statistic is Level 2 in the multilevel statistics. The corresponding name is RX EOF CNG DSC. Range: 0 to (2^{32}–1) cells.
98	No of cells tx w/eof=1 to port	Cells Tx Port	Egress–13	Number of cells with EOF equal to 1 that are transmitted to the port. This statistic is Level 2 in the multilevel statistics. The corresponding name is TX EOFs to Port. Range: 0 to (2^{32}–1) cells.
99	No of RM cells tx to port	Cells Tx Port	Egress–13	Number of RM cells transmitted to the port. This statistic is Level 3 in the multilevel statistics. The corresponding name is RM Cells to Port. Range: 0 to (2^{32}–1) cells.
100	No of cells rx w/efci=0 from port	Total Cells Rx Port	Ingress–2	Number of cells with an EFCI bit equal to 0 that are received from the port. This statistic is Level 3 in the multilevel statistics. The corresponding name is RX EFCI 0 from Port. Range: 0 to (2^{32}–1) cells.
101	Cells rx w/EFCI from port	Total Cells Rx Port	Ingress–2	Number of cells with an EFCI bit equal to 1 that are received from the port. This statistic is Level 3 in the multilevel statistics. The corresponding name is RX EFCI 1 from Port. Range: 0 to (2^{32}–1) cells.
102	No of OAM cells rx from port	Total Cells Rx Port	Ingress–1	Number of OAM cells received from the port. This statistic is Level 3 in the multilevel statistics. The corresponding name is OAM from Port. Range: 0 to (2^{32}–1) cells.
103	No of cells rx w/RM from port	Total Cells Rx Port	Ingress–1	Number of RM cells received from the port. This statistic is Level 3 in the multilevel statistics. The corresponding name is RM Cells from Port. Range: 0 to (2^{32}–1) cells.
104	Cells rx congested w/EFCI0 dscd	No of cells rx w/efci=0 from port	Ingress–2	Number of cells with an EFCI bit equal to 0 that are discarded from a congested line. This statistic is Level 3 in the multilevel statistics. The corresponding name is Rx EFCI 0 Cng Dsc. Range: 0 to (2^{32}–1) cells.
105	Cells rx congested w/EFCI1 dscd	Cells rx w/EFCI from port	Ingress–2	Number of cells with an EFCI bit equal to 1 that are discarded from a congested line. This statistic is Level 3 in the multilevel statistics. The corresponding name is Rx EFCI 1 Cng Dsc. Range: 0 to (2^{32}–1) cells.
106	Cells rx congested w/OAM dscd	No of OAM cells rx from port	Ingress–1	Number of total OAM cells received and then discarded because of congestion. This statistic is Level 3 in the multilevel statistics. The corresponding name is Rx OAM Cng Dsc. Range: 0 to (2^{32}–1) cells.
107	Cells rx congested w/RM dscd	No of cells rx w/RM from port	Ingress–1	Number of total RM cells received and then discarded because of congestion. This statistic is Level 3 in the multilevel statistics. The corresponding name is Rx RM Cng Dsc. Range: 0 to (2^{32}–1) cells.
108	No of cells tx w/FRm to nw	No of cells tx w/BRm+FsRm to nw	Ingress–4	Number of total forward RM cells transmitted to the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is Rx FRM to NW. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
109	No of cells tx w/BRm+FsRm to nw	No	Ingress–4	Number of total backward forward RM cells transmitted to the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is Rx BRM/Fst to NW. Range: 0 to (2^{32}–1) cells.
110	No of cells rx w/efci=0 from nw	No	Egress–12	Number of cells with an EFCI bit equal to 0 that are received from the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is TX EFCI 0 from NW. Range: 0 to (2^{32}–1) cells.
111	No of cells rx w/efci=1 from nw	Cells RX Network	Egress–12	Number of cells with an EFCI bit equal to 1 that are received from the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is RX EFCI 1 from NW. Range: 0 to (2^{32}–1) cells.
112	No of egress OAM cells rx	Cells RX Network	Egress–12	Number of OAM cells received from the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is OAM From NW. Range: 0 to (2^{32}–1) cells.
113	No of egress cells rx w/RM	Cells RX Network	Egress–12	Number of RM cells received from the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is RM From NW. Range: 0 to (2^{32}–1) cells.
114	Cells tx congested w/EFCI0 dscd	No	Egress–13	Number of discarded cells that have an EFCI bit equal to 0. This statistic is collected after the cells are received from the bus and have passed egress queuing and servicing. This statistic is Level 3 in the multilevel statistics. The corresponding name is Tx EFCI 0 Cng Dsc. Range: 0 to (2^{32}–1) cells.
115	Cells tx congested w/EFCI1 dscd	No	Egress–13	Number of discarded cells that have an EFCI bit equal to 1. This statistic is collected after the cells are received from the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is Tx EFCI 1 Cng Dsc. Range: 0 to (2^{32}–1) cells.
116	Cells tx congested w/RM dscd	No	Egress–13	Number of RM cells discarded due to congestion. This statistic is collected after the cells are received from the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is Tx RM Cng Dsc. Range: 0 to (2^{32}–1) cells.
117	Cells tx congested w/OAM dscd	No	Egress–13	Number of OAM cells discarded due to congestion. This statistic is collected after the cells are received from the bus. This statistic is Level 3 in the multilevel statistics. The corresponding name is Tx OAM Cng Dsc. Range: 0 to (2^{32}–1) cells.

FRSM Connection

This section describes the frame-relay statistics contained in the MGX Frame Relay Connection group. The statistics in this group apply to the FRSM card on the Cisco MGX 8220, 8230, 8250, 8830, 8850 PXM1E-based, 8850 PXM1-based, and PXM45-based. The following table lists the attributes that are common to the FRSM connection statistics.

Front Cards	FRSM-8T1, FRSM-8E1, FRSM-2CT3, FRSM-2T3, FRSM-2E3, FRSM-HS2, FRSM-HS1
Back Cards	RJ48-8T1, RJ48-8E1, BNC-2T3, BNC-2E3, SCSC2-2HSSI
Object Type	0
Subobject Type	8
Default Peak Interval	300 seconds

The FRSM connection statistics are used primarily for gathering billing and performance data.

The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1, with the exception of these ingress points:

- 1—Frame is validated against errors at the port level, for example CRC, alignment errors, and an undefined DCLI.
- 2—Frame is checked for queue depth and queue threshold.
- 3—Policing occurs.
- 4—Frame is queued and transmitted to the cell bus in the ATM cells.

Stat ID	FRSM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Frames Received	No	After validating the frame against errors–1	Number of frames received from the attached equipment. This statistic also increments when the received frame is discarded for one of these reasons: • Queue depth exceeded. • DE threshold exceeded for frames with DE bit set. • UPC discard. • Unknown protocols in SIW translation. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
1	Receive Frames Discarded	Frames Received	Ingress–2, 3	Number of discarded frames received from the attached equipment. Possible reasons for discard include • Frames are received with DE equal to 1 and the PVC ingress queue is filled at least to the DE threshold. These frames are counted in the PVC DE Frames Dropped statistic. • Frames are received with DE equal to 0, but have been DE tagged because of policing. In addition, the PVC ingress queue is filled at least to the DE threshold. These frames are counted in the PVC DE Frames Dropped statistic. • PVC ingress queue is full. The queue might fill (and overflow) due to sustained transmission above the PVC CIR. These frames are counted in the PVC Rx Frames Discarded VC Q Overflow statistic. • Frames that do not pass policing. These frames are counted in the PVC Rx Frames Discarded UPC statistic. • Protocols encoded in SIW frame are unknown. These frames are counted in the PVC Rx Frames Unknown Protocols statistic. Range: 0 to (2^{32}–1) cells.
2	Frames Transmitted	No	Egress–13	Number of frames that are transmitted to the attached equipment after frame reassembling. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
3	Transmit Frames Discarded	No	Egress–12, 13	Number of frames unable to be transmitted to the attached equipment. Possible reasons for discard include • PVC transmit queue overflow—The frame traversed the network successfully but encountered a full egress VC queue. These frames are counted in the PVC Tx Frames Discarded-VC-Q-Overflow statistic. • Incomplete frame at egress—No EOF cell was received. The EOF cell is missing due to discards in the network and the timer expiring. These frames are counted in the Tx Frames Discarded-Trunk Discard statistic. • Incorrect frame length—The expected frame length (recorded in the EOF cell) is different than the length of payload of that frame. This error can be caused by cells missing due to discards on a trunk, or by an EOF cell transmission bit error in the frame length field. These frames are counted in the Tx Frame Length Violation statistic. • Invalid frame length—The frame is longer than 4510 octets. The EOF cell from one frame is missing due to discards on a trunk, resulting in a concatenated frame. These frames are counted in the PVC Tx Frames Discarded Oversized SDUs statistic. • Frame CRC error—The calculated CRC does not match the original frame CRC (contained within the EOF cell). This mismatch occurs due to payload bit transmission errors on the cells or because of lost cells. These frames are counted in the PVC Tx Frames Discarded Ingress CRC. • Port inactive—Logical port is not active. These frames are not counted in any statistic. • Unknown protocols—Protocols encoded in SIW frame are not defined. These frames are counted in the PVC Tx Frames Unknown Protocols statistic. • CPI error—CPI bit in the AAL5 PDU received from the network is non-zero. These frames are counted in the PVC Tx Frames Invalid CPIs statistic. Range: 0 to (2^{32}–1) cells.
9	Bytes Received	No	After validating the frame against errors–1	Number of bytes in the frames counted by the Frames Received statistic. The count includes the frame-relay header and frame check sequence (FCS)/CRC bytes. Range: 0 to (2^{32}–1) cells.
10	Receive Bytes Discarded	Bytes Received	Ingress–2, 3	Number of bytes in the frames counted by the Receive Frames Discarded statistic. The count includes the frame-relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
11	Bytes Transmitted	No	Egress–13	Number of bytes in the frames counted by the Frames Transmitted statistic. The count includes the frame-relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
12	Transmit Bytes Discarded	No	Egress–12, 13	Number of bytes in the frames counted by the Transmit Frames Discarded statistic. The count includes the frame-relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
16	Seconds In Service	No	Not applicable	Seconds that the permanent virtual circuit (PVC) is in service without any alarms. Range: 0 to (2^{32}–1) cells.
17	Frames Transmitted with FECN	Frames Transmitted	Egress–13	Number of frames with the FECN bit set that are transmitted to the attached equipment. The congestion can occur anywhere in the network. Range: 0 to (2^{32}–1) cells.
18	Frames Transmitted with BECN	Frames Transmitted	Egress–13	Number of frames with the BECN bit set that are transmitted to the attached equipment. The congestion can occur anywhere in the network. Range: 0 to (2^{32}–1) cells.
21	DE Frames Received	Frames Received	After validating the frame against errors–1	Number of frames with the DE bit set that are received from the attached equipment. Range: 0 to (2^{32}–1) cells.
22	DE Frames Transmitted	Frames Transmitted	Egress–13	Number of frames with the DE bit set that are transmitted to the attached equipment. Range: 0 to (2^{32}–1) cells.
23	DE Frames Dropped	Frames Received Receive Frames Discarded DE Frames Received	Ingress–2	Number of frames with the DE bit set that are discarded. These frames are dropped when the connection ingress buffer exceeds the DE threshold. Range: 0 to (2^{32}–1) cells.
24	DE Bytes Received	Bytes Received	Before policing–1	Number of of bytes in the frames counted by the DE Frames Received statistic. The count includes the frame-relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
25	Frames Rx in Excess of CIR	Frames Received	Ingress–2	Number of frames received that are in excess of the CIR. Range: 0 to (2^{32}–1) cells.
27	Frames Tx in Excess of CIR	Frames Transmitted	Egress–13	Number of frames transmitted that are in excess of the CIR. Range: 0 to (2^{32}–1) cells.
28	Tx Bytes Tagged DE	Bytes Transmitted	Egress–12	Number of of bytes in the frames counted in the Tx Frames Tagged DE statistic. The count includes the frame-relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
29	Tx Frames Tagged DE	Frames Transmitted DE Frames Transmitted	Egress–12	Number of frames that have the DE bit tagged. This statistic applies only to network interworking (NIW) connections with the CLP to DE mapping mode set to mapDE. If the incoming frame has the DE bit set to 0, and the CLP bit is set on any of the cells, the DE bit is tagged for that frame. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
33	Rx Frames Discarded-VC-Q-Overflow	Frames Received Receive Frames Discarded	Ingress–2	Number of frames received from the CPE that are discarded because the VC queue (PVC ingress buffer) is full. Range: 0 to (2^{32}–1) cells.
34	Rx Bytes Discarded-VC-Q-Overflow	Bytes Received Receive Bytes Discarded	Ingress–2	Number of of bytes in the frames counted by the Rx Frames Discarded VC-Q-Overflow statistic. The count includes the frame-relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
35	Tx Frames Discarded-Q-Overflow	Transmit Frames Discarded	Egress–12	Number of frames that are not transmitted to the attached equipment because either the PVC egress buffer (VC queue) or the port queue is full. Range: 0 to (2^{32}–1) cells.
36	Tx Bytes Discarded-Q-Overflow	Transmit Bytes Discarded	Egress–12	Number of of bytes in the frames counted by the Tx Frames Discarded-Q-Overflow statistic. The count includes the frame-relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
37	Tx Frames Discarded-Ingress CRC	Transmit Frames Discarded	Egress–12	Number of frames that are not transmitted to the attached equipment because of an incorrect CRC. The received CRC, included in the EOF, is compared to the calculated CRC on the contents of all the cells that arrive. An incorrect CRC is caused by at least one cell missing due to discard(s) on a trunk or to a transmission bit error on a payload bit. Range: 0 to (2^{32}–1) cells.
39	Tx Frames Discarded-Trunk Discard	Transmit Frames Discarded	Egress–12	Number of frames that are not transmitted to the attached equipment because the EOF cells are discarded in the network or the reassembly timer expires. Range: 0 to (2^{32}–1) cells.
41	Tx Frames during Ingress LMI Fail	Frames Transmitted	Egress–13	Number of frames that are transmitted to the attached equipment while the LMI signaling protocol on the local port failed. The portSignallingState object displayed is in an LMI failure state. Range: 0 to (2^{32}–1) cells.
42	Tx Bytes during Ingress LMI Fail	Bytes Transmitted	Egress–13	Number of bytes in the frames counted in the Tx Frames during Ingress LMI Fail statistic. The count includes the frame-relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
43	Rx Frames Discarded UPC	Frames Received Receive Frames Discarded	Ingress–3	Number of frames discarded due to UPC. Both Bc and Be buckets are full, and the frames do not pass policing. Range: 0 to (2^{32}–1) cells.
46	Tx Frames Invalid CPIs	Transmit Frames Discarded	Egress–12	Number of frames that are not transmitted to the attached equipment because of an invalid CPI. An invalid CPI is a non zero number. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
47	Tx Frames Length Violations	Transmit Frames Discarded	Egress–12	Number of frames that are not transmitted to the CPE because the expected frame length (recorded in the AAL5 EOF cell) is different than the total payload of all the cells that arrived. A frame length error occurs because at least one missing packet or a transmission bit error occurred on the frame length field in the AAL5 EOF cell. Range: 0 to (2^{32}–1) cells.
48	Tx Frames Oversize SDUs	Transmit Frames Discarded	Egress–12	Number of frames that are not transmitted to the CPE because of an invalid length. The frame is longer than 4510 bytes. This invalid length occurs when the AAL5 EOF cell of a frame is missing due to discards on a trunk. The result is a concatenated frame. Range: 0 to (2^{32}–1) cells.
49	Tx Frames Unknown Protocols	Transmit Frames Discarded	Egress–12	Number of frames that are not transmitted to the attached equipment because the incoming PDU (routed or bridged) is not recognized or supported. This statistic applies only to SIW translation connections. Range: 0 to (2^{32}–1) cells.
50	Rx Frames Unknown Protocols	Frames Received Receive Frames Discarded	After point 3 and before queueing	Number of frames that are discarded because the incoming PDU (routed or bridged) is not recognized or supported. This statistic applies only to SIW translation connections. Range: 0 to (2^{32}–1) cells.
51	No Bytes In Egress Direction DE=1	—	Egress	Number of bytes discarded on the channel with the DE bit set to 1. Range: 0 to (2^{32}–1) cells.
52	No Bytes Discarded Ingress With DE=1	—	Ingress	Number of bytes discarded on the channel with DE bit set to 1. Range: 0 to (2^{32}–1) cells.
53	Total Bytes With DE=1 Tx To Port Side	—	Egress—13	Number of total bytes with DE set to 1 that are transmitted to the port side. Range: 0 to (2^{32}–1) cells.
54	Total CLP Cells/DE Frames Discarded	—	—	Number of total CLP = 1 cells/DE frames that are discarded due to congestion (DE threshold exceeded). Range: 0 to (2^{32}–1) cells.

AUSM Connection

This section describes the ATM connection statistics contained in the MGX ATM Connection group. The statistics in this group apply to the AUSM card on the Cisco MGX 8220, 8230, 8250, and 8850 PXM1-based nodes. The following table lists the attributes that are common to the AUSM connection statistics.

Front Cards	AUSM-8T1E1 Revision B
Back Cards	LM-RJ48-8T1/LM-RJ48-8E1, OC-3, OC-121
Object Type	0 (Connection)
Subobject Type	9 (ATM connection)
Default Peak Interval	300 seconds

The AUSM connection statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	AUSM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
16	Seconds In Service	No	Not applicable	Number of seconds that the channel is in service (in an active state). The count does not increment when the channel is in alarm. Range: 0 to (2^{32}–1) cells.
34	Discard CLPth Rx Port	Total Cells Rx from Line	At the policing stage–1	Number of cells discarded due to policing action or CLP. If the CLP bit in the ATM header is set to 1, cells are discarded. Range: 0 to (2^{32}–1) cells.
35	Discard Qfull Rx Port	Total Cells Rx from Line	At the VC queuing stage–2	Number of cells discarded due to the VC queue being full. The ingress queue is full when the queue depth is greater than the maximum allowed queue depth. The cells are received from the ingress side (from equipment connected to the port), and are dropped before entering the network. Range: 0 to (2^{32}–1) cells.
55	Number of Cells Rx w/CLP Set	Total Cells Rx from Line	Before the policing stage–1	Number of cells with a CLP equal to 1 that are received from the ingress side (from equipment connected to the port). Range: 0 to (2^{32}–1) cells.
56	Number Of Cells Rx w/EFCI Set	Total Cells Rx from Line	Before the policing stage–1	Number of cells with the EFCI bit set to 1 that are received from the ingress side (from equipment connected to the port). Range: 0 to (2^{32}–1) cells.
57	Number of Cells Rx w/ UPC CLP Set	Total Cells Rx from Line	After the policing stage–between 1 and 2	Number of cells with the UPC a CLP equal to 1 that are received from the ingress side (from equipment connected to the port). If cells are noncompliant to the sustainable cell rate (SCR) at the second bucket, they are tagged with a CLP equal to 1. Range: 0 to (2^{32}–1) cells.

Stat ID	AUSM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
59	Number of Cells Rx w/ UPC CLP Set discarded at Ingress	Total Cells Rx from Line	Before the policing stage–1	Number of cells with the CLP bit set that are received then discarded. These cells are received from the ingress side, and are discarded before entering the network. Range: 0 to (2^{32}–1) cells.
61	Total Cells Tx from Line	Total Cells Rx from Line	After the policing and the queuing stages where cells enter the network–3	Number of cells transmitted to the bus after going through the policing and queuing stages. The count includes the number of data cells transmitted to the cell bus after UPC and ingress queuing and not the cells discarded at the policing and queuing stages or the number of the OAM cells transmitted. Range: 0 to (2^{32}–1) cells.
68	Total Cells Rx from Line	No	Before the policing stage–1	Number of data cells received from the port. The count includes the sum of CLP (0+1) cells.. The count does not include management cells received from the port. Range: 0 to (2^{32}–1) cells.
70	VC queue flushed by SAR	No	Ingress	Number of cells discarded from the VC queue by the segmentation and reassembly (SAR) layer. The queue is flushed at certain intervals. **Note** This statistic is not supported.
71	Total Cells Tx to Line	No	Egress–7, 13	Number of cells transmitted. Range: 0 to (2^{32}–1) cells.
72	Total Cells Tx to Line w/CLP set	—	Egress–13	Number of cells with CLP bit set to 1 that are transmitted. Range: 0 to (2^{32}–1) cells.
73	Discard Qfull Tx Port	—	Egress–13	Number of transmitted cells discarded because the queue is full. Range: 0 to (2^{32}–1) cells.
74	Discard CLPth Tx Port	No	Egress–13	Number of cells discarded due to policing action or CLP. If the CLP bit in the ATM header is set to 1, cells are discarded. Range: 0 to (2^{32}–1) cells.
75	Total No. of Cells Tx to N/W	—	—	Number of cells sent to the network after leaving the queuing engine. Range: 0 to (2^{40}–1) cells.
76	Total No. of Cells Tx to N/W w/CLP set	No	Egress–13	Number of cells with the CLP bit set that are transmitted. Range: 0 to (2^{32}–1) cells.

CESM Connection

This section describes the statistics contained in the circuit emulation (CE) Connection group. The statistics in this group apply to the CESM card on the Cisco MGX 8220, 8230, 8250, and 8850 PXM1-based nodes. The following table lists the attributes that are common to the CE connection statistics.

Front Cards	AX-CESM-8T1, AX-CESM-8E1, MGX-CESM-T3, MGX-CESM-E3
Back Cards	RJ48-8T1, RJ48-8E1, SMB-8E1, BNC-2T3, BNC-2E3
Object Type	0
Subobject Type	10
Default Peak Interval	300 seconds

The CE connection statistics are used primarily for gathering billing data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	CESM Connection Statistics	Description
58	AAL1 Sequence Mismatch	Number of sequences of mismatches. Range: 0 to (2^{32}–1) cells.
64	HCS Correctable Error	Number of header checksum errors (HCS) that are corrected. Range: 0 to (2^{32}–1) cells.
66	Loss of Cell Delineation	Number of instances with loss of cell delineation. Range: 0 to (2^{32}–1) cells.
71	Total Cells Tx to Line	Number of cells transmitted to the line. Range: 0 to (2^{32}–1) cells.
72	Total Cells Rx to Line	Number of cells received from the line. Range: 0 to (2^{32}–1) cells.
73	Seconds In Service	Number of seconds that a permanent virtual circuit (PVC) is in service without alarms. Range: 0 to (2^{32}–1) cells.

PXM1 Connection

This section describes the statistics contained in the Broadband Connection group. The statistics in this group apply to the PXM1 card on the Cisco MGX 8230, Cisco MGX 8250, and Cisco MGX 8850 (PXM1) cells. nodes. The following table lists the attributes that are common to the PXM1 connection statistics.

Front Cards	PXM
Back Cards	PXM-UI RJ-45/48, BNC, DB-15
Object Type	0
Subobject Type	11
Default Peak Interval	300 seconds

The PXM1 connection statistics are used primarily for gathering billing data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	PXM1 Connection Statistics	Description
1	Number of Cells Rx w/CLP Set	Number of cells with the CLP bit set that are received. Range: 0 to (2^{32}–1) cells.
2	Cells Rx w/CLP=0	Number of cells with a CLP equal to 0 that are received. Range: 0 to (2^{32}–1) cells.
3	Nonconforming cells Rx at Gcra1 Policer	Number of nonconforming cells received at the first policing point. Range: 0 to (2^{32}–1) cells.
4	Nonconforming cells Rx at Gcra2 Policer	Number of nonconforming cells received at the second policing point. Range: 0 to (2^{32}–1) cells.
5	No. of EOF cells Rx	Number of EOF cells received. Range: 0 to (2^{32}–1) cells.
6	Cells Rx w/CLP=0 discarded	Number of cells with a CLP equal to 0 that are received then discarded. Range: 0 to (2^{32}–1) cells.
7	Cells Rx w/CLP discarded	Number of cells with the CLP bit set that are received then discarded. Range: 0 to (2^{32}–1) cells.
8	No. of Rx cells sent	Number of cells received and sent to the queue. Range: 0 to (2^{32}–1) cells.
9	Cells Tx w Efci=0	Number of cells with the EFCI bit equal to 0 that are transmitted. Range: 0 to (2^{32}–1) cells.
10	Cells Tx w Efci set	Number of cells with the EFCI bit set that are transmitted. Range: 0 to (2^{32}–1) cells.
11	Cells Rx w/CLP=0 discarded at Output	Number of cells with a CLP equal to 0 that are received then discarded at the output. Range: 0 to (2^{32}–1) cells.
12	Cells Rx w/CLP set discarded at Output	Number of cells with the CLP bit set that are received then discarded at the output. Range: 0 to (2^{32}–1) cells.

AXSM Connection

This section describes the statistics contained in the AXSM_ATM_conn group. This group contains statistics that are applicable AXSM card on the Cisco MGX 8850 PXM45-based switch. The following table lists the common attributes for AXSM connection statistics.

Front Cards	MGX-AXSM-16-T3E3, MGX-AXSM-16-155, MGX-AXSM-4-622, MGX-AXSM-1-2488
Back Cards	MGX-SMB-8-T3, MGX-SMB-8-E3, MGX-SMB-4-155, MGX-SMFIR-8-155, MGX-SMFLR-8-155, MGX-MMF-8-155, MGX-SMFLR-2-622, MGX-SMFIR-2-622, MGX-SMFSR-1-2488, MGX-SMFLR-1-2488, MGX-SMFXLR-1-2488
Object Type	0
Subobject Type	12
Default Peak Interval	300 seconds

The AXSM connection statistics are used primarily for gathering billing data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	AXSM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 Cells From Port	No	Ingress–2, 8	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{40}–1) cells.
1	Ingress CLP1 Cells From Port	No	Ingress–2, 8	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{40}–1) cells.
2	Ingress CLP0 cells discarded	Ingress CLP0+1 cells discarded	Ingress–2, 8	Number of ingress cells with a CLP equal to 0 that are discarded due to policing. Range: 0 to (2^{40}–1) cells.
3	Ingress CLP0+1 cells discarded	No	Ingress–2, 8	Number of total ingress cells with CLP (0+1) cells. that are discarded due to policing. Range: 0 to (2^{40}–1) cells.
4	Ingress CLP0+1 noncompliant cells	No	Ingress–2, 8	Number of cells noncompliant as a result of policing. Depending on the configuration, this count includes cells tagged noncompliant or are discarded. Range: 0 to (2^{40}–1) cells.
5	Ingress EFCI=1 Cells From Port	No	Ingress–3, 9	Number of ingress EFCI cells. Range: 0 to (2^{40}–1) cells.
6	Ingress EOF=1 Cells From Port	No	Ingress–3, 9	Number of ingress EOF cells. Range: 0 to (2^{40}–1) cells.
7	Egress CLP0 Cells to Port	No	Egress–7, 13	Number of egress cells with a CLP equal to 0. Range: 0 to (2^{40}–1) cells.
8	Egress CLP1 Cells to Port	No	Egress–7, 13	Number of egress cells with a CLP equal to 1. Range: 0 to (2^{40}–1) cells.

Stat ID	AXSM Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
9	Egress EFCI=1 Cells to Port	No	Egress–6, 12	Number of egress cells with EFCI equal to 1. Range: 0 to (2^{40}–1) cells.
10	Egress EOF=1 Cells to Port	No	Egress–6, 12	Number of egress cells with EOF equal to 1. Range: 0 to (2^{40}–1) cells.

AXSM-E Connection

This section describes the statistics contained in the AXSME_ATM_conn group. The AXSM-E connection statistics in this group apply to the Cisco MGX 8850 PXM45-based switch. The following table lists the attributes that are common to the AXSM-E connection statistics.

Front Cards	AXSM-2-622-E, AXSM-8-155-E, AXSM-16-T3E3-E
Back Cards	SMFLR-1-622, SMFIR-1-622, SMFLR-4-155, SMFIR-4-155, MMF-4-155, SMB-4-155, SMB-8-T3, SMB-8-E3
Object Type	0
Subobject Type	13
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The AXSM-E connection statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1. (AXSM-E statistics are only collected at measurement points 1, 2, and 13.)

Stat ID	AXSM-E Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
1	CLP1 noncompliant cells	Tagged non compliant cells	Ingress–1	Number of discarded cells with CLP equal to 1 that are tagged noncompliant. Range: 0 to (2^{40}–1) cells.
2	CLP0 noncompliant cells	Tagged non compliant cells	Ingress–1	Number of discarded cells with a CLP equal to 0 that are tagged noncompliant. Range: 0 to (2^{40}–1) cells.
3	Tagged non compliant cells	No	Ingress–1	Number of cells tagged noncompliant. These cells are received at the port. Range: 0 to (2^{40}–1) cells.
5	CLP0 cells from port	No	Ingress–1	Number of cells with a CLP equal to 0. These cells are received from the port before policing. Range: 0 to (2^{40}–1) cells.
6	CLP1 cells from port	No	Ingress–1	Number of cells with a CLP equal to 1. These cells are received from the port before policing. Range: 0 to (2^{40}–1) cells.
8	EFCI=1 cells from the port	No	Ingress–2	Number of cells with the EFCI equal to 1. These cells are received from the port. Range: 0 to (2^{40}–1) cells.

Stat ID	AXSM-E Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
12	EFCI=1 cells to the network	No	Ingress–2	Number of cells with EFCI equal to 1 that are transmitted to the bus after policing. Range: 0 to (2^{40}–1) cells.
14	Ingress CLP0 cells discarded in qe	No	Ingress–2	Number of cells with a CLP equal to 0 that are discarded due to an overflow in the queuing engine. Range: 0 to (2^{40}–1) cells.
15	Ingress CLP1 cells discarded in qe	No	Ingress–2	Number of cells with a CLP equal to 1 that are discarded due to an overflow in the queuing engine. Range: 0 to (2^{40}–1) cells.
19	CLP1 cells to the port	No	After 13	Number of cells with a CLP equal to 1 that are transmitted to the port. Range: 0 to (2^{40}–1) cells.
20	CLP0 cells to the port	No	After 13	Number of cells with a CLP equal to 0 that are transmitted to the port. Range: 0 to (2^{40}–1) cells.
23	EFCI=1 cells to the port	No	Egress–13	Number of cells with EFCI equal to 1 that are transmitted to the port. Range: 0 to (2^{40}–1) cells.
28	EFC1=1 cells from the network	No	Egress–13	Number of cells with EFCI equal to 1 that are received from the bus before queuing. Range: 0 to (2^{40}–1) cells.
30	Egress CLP0 cells discarded in qe	No	Egress–13	Number of cells with a CLP equal to 0 that are discarded due to an overflow in the queuing engine. Range: 0 to (2^{40}–1) cells.
31	Egress CLP1 cells discarded in qe	No	Egress–13	Number of cells with a CLP equal to 1 that are discarded due to an overflow in the queuing engine. Range: 0 to (2^{40}–1) cells.

PXM1E Connection

This section describes the statistics contained in the PXM1E Connection group. The PXM1E connection statistics in this group apply to the Cisco MGX 8830 and 8850 nodes. The following table lists the attributes that are common to the PXM1E connection statistics.

Front Cards	PXM1E-8-T3E3, PXM1E-8-155, PXM1E-2-622, PXM1E-T3E3-155 (combo card)
Back Cards	MGX-SMB-8T3, MGX-SMB-8E3, MGX-SMFIR-8-155LC/B, MGX-SMFLR-8-155LC/B, MGB-MMF-8-155/B, MGX-SMFIR-8-155LC/C, MGX-SMFLR-8-155LC/C, MGB-MMF-8-155/C, MGX-SMFIR-2-622/B, MGX-SMFLR-2-622/B, MGX-SMFIR-2-622/C, MGX-SMFLR-2-622/C, MGX-FRU-T3E3-155
Object Type	0
Subobject Type	14
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The PXM1E connection statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	PXM1E Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
1	Discarded non compliant CLP0 cells	Tagged non compliant cells	Ingress–1	Number of discarded cells with CLP equal to 0 that are tagged noncompliant. Range: 0 to (2^{40}–1) cells.
2	Discarded non compliant CLP1 cells	Tagged non compliant cells	Ingress–1	Number of discarded cells with a CLP equal to 1 that are tagged noncompliant. Range: 0 to (2^{40}–1) cells.
3	Tagged CLP0 noncompliant cells (Ingress)	No	Ingress–1	Number of cells with a CLP equal to 1 that are tagged noncompliant. These cells are received at the port. Range: 0 to (2^{40}–1) cells.
5	CLP0 cells from the port (before Policer)	No	Ingress–1	Number of cells with a CLP equal to 0. These cells are received from the port before policing. Range: 0 to (2^{40}–1) cells.
6	CLP1 cells from the port (before Policer)	No	Ingress–1	Number of cells with a CLP equal to 1. These cells are received from the port before policing. Range: 0 to (2^{40}–1) cells.
9	Cells to network (leaves QE)	No	Ingress–2	Number of cells sent to the network after leaving the queuing engine. Range: 0 to (2^{40}–1) cells.
13	Cells discarded in QE (Ingress)	No	Ingress–2	Number of cells discarded due to an overflow in the queuing engine. Range: 0 to (2^{40}–1) cells.
19	CLP0 cells to the Port	No	After 13	Number of cells with a CLP equal to 0 that are transmitted to the port. Range: 0 to (2^{40}–1) cells.
20	CLP1 cells to the Port	No	After 13	Number of cells with a CLP equal to 1 that are transmitted to the port. Range: 0 to (2^{40}–1) cells.
25	Cells from network	No	Egress–13	Number of cells received from the network. Range: 0 to (2^{40}–1) cells.
29	Cells discarded in QE(Egress)	No	Egress–2	Number of cells discarded due to an overflow in the queuing engine. Range: 0 to (2^{40}–1) cells.

FRSM12 Connection

This section describes the frame-relay statistics contained in the FRSM12 Connection group. The statistics in this group apply to the FRSM12 card on the Cisco MGX 8850 PXM45-based node. The following table lists the attributes that are common to the FRSM12 connection statistics.

Front Cards	FRSM-12T3E3
Back Cards	SMB-6T3, SMB-6E3
Object Type	0
Subobject Type	15
Default Peak Interval	300 seconds

The FRSM12 connection statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1, with the exception of these ingress points 1, 2, 3, and 4.

Stat ID	FRSM12 Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Frames Transmitted with FECN bit tagged	No	Egress–13	Number of frames that are transmitted with FECN bit. Range: 0 to (2^{32}–1) cells.
1	Frames Transmitted with BECN bit tagged	No	Egress–13	Number of frames that are transmitted with BECN bit. Range: 0 to (2^{32}–1) cells.
2	Frames Txed with FECN bit already set	Frames Transmitted	Egress–13	Number of frames with the FECN bit set that are transmitted to the attached equipment. The congestion can occur anywhere in the network. Range: 0 to (2^{32}–1) cells.
3	Frames Txed with BECN bit already set	Frames Transmitted	Egress–13	Number of frames with the BECN bit set that are transmitted to the attached equipment. The congestion can occur anywhere in the network. Range: 0 to (2^{32}–1) cells.
4	DE Frames Transmitted	No	Egress–13	Number of DE bytes transmitted. Range: 0 to (2^{32}–1) cells.
5	DE Bytes Transmitted	No	Egress–13	Number of DE frames that are transmitted. Range: 0 to (2^{32}–1) cells.
6	Frames Transmitted tagged DE	Frames Transmitted	Egress–12	Number of frames that have the DE bit tagged. This statistic applies only to network interworking (NIW) connections with the CLP to DE mapping mode set to mapDE. If the incoming frame has the DE bit set to 0, and the CLP bit is set on any of the cells, then the DE bit is tagged for that frame. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM12 Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
7	Bytes Transmitted tagged DE	No	Egress–13	Number of bytes transmitted which have been DE tagged at the far end ingress in excess of CIR. Range: 0 to (2^{32}–1) cells.
8	Frames Transmitted	No	Egress–13	Number of frames that are transmitted to the attached equipment after frame reassembling. Range: 0 to (2^{32}–1) cells.
9	Bytes Transmitted	No	Egress–13	Number of of bytes in the frames counted by the Frames Transmitted statistic. The count includes the frame-relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
10	Frames Txed with invalid CPI Header	Egress Frames discarded	Egress–12	Number of frames that are not transmitted to the attached equipment because of an invalid CPI. An invalid CPI is a non zero number. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM12 Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
11	Egress Frames discarded	No	Egress–12, 13	Number of frames unable to be transmitted to the attached equipment. Possible reasons for discard include the following: • PVC transmit queue overflow—The frame traversed the network successfully but encountered a full egress VC queue. These frames are counted in the PVC Tx Frames Discarded-VC-Q-Overflow statistic. • Incomplete frame at egress—No EOF cell was received. The EOF cell is missing due to discards in the network and the timer expiring. These frames are counted in the Tx Frames Discarded-Trunk Discard statistic. • Incorrect frame length—The expected frame length (recorded in the EOF cell) is different than the length of payload of that frame. This error can be caused be caused by cells missing due to discards on a trunk, or by an EOF cell transmission bit error in the frame length field. These frames are counted in the Tx Frame Length Violation statistic. • Invalid frame length—The frame is longer than 4510 octets. The EOF cell from one frame is missing due to discards on a trunk, resulting in a concatenated frame. These frames are counted in the PVC Tx Frames Discarded Oversized SDUs statistic. • Frame CRC error—The calculated CRC does not match the original frame CRC (contained within the EOF cell). This mismatch occurs due to payload bit transmission errors on the cells or because of lost cells. These frames are counted in the PVC Tx Frames Discarded Ingress CRC. • Port inactive—Logical port is not active. These frames are not counted in any statistic. • Unknown protocols—Protocols encoded in SIW frame are not defined. These frames are counted in the PVC Tx Frames Unknown Protocols statistic. • CPI error—CPI bit in the AAL5 PDU received from the network is non-zero. These frames are counted in the PVC Tx Frames Invalid CPIs statistic. Range: 0 to (2^{32}–1) cells.
12	Egress Frames discarded - source abort	No	Egress–13	Number of frames that are discarded on the egress due to source abort. Range: 0 to (2^{32}–1) cells.
13	Egress Frames discarded - CRC Error	Egress Frames discarded	Egress–12	Number of frames that are not transmitted to the attached equipment because of an incorrect CRC. The received CRC, included in the EOF, is compared to the calculated CRC on the contents of all the cells that arrive. An incorrect CRC is caused by at least one cell missing due to discard(s) on a trunk or to a transmission bit error on a payload bit. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM12 Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
14	Frames Txed dropped - Unknown Protocols	Egress Frames discarded	Egress–12	Number of frames that are not transmitted to the attached equipment because the incoming PDU (routed or bridged) is not recognized or supported. This statistic applies only to SIW translation connections. Range: 0 to (2^{32}–1) cells.
15	Frames Txed with oversized PDU's	Egress Frames discarded	Egress–12	Number of frames that are not transmitted to the CPE because of an invalid length. The frame is longer than 4510 bytes. This invalid length occurs when the AAL5 EOF cell of a frame is missing due to discards on a trunk. The result is a concatenated frame. Range: 0 to (2^{32}–1) cells.
16	Frames Txed with length violations	Egress Frames discarded	Egress–12	Number of frames that are not transmitted to the CPE because the expected frame length (recorded in the AAL5 EOF cell) is different than the total payload of all the cells that arrived. A frame length error occurs for these reasons: • At least one missing packet • Transmission bit error on the frame length field in the AAL5 EOF cell Range: 0 to (2^{32}–1) cells.
17	Frames Rcvd with FECN bit already set	No	Ingress–3	Number of frames that are received with FECN bit already set. Range: 0 to (2^{32}–1) cells.
18	Frames Rcvd with BECN bit already set	No	Ingress–3	Number of frames received with BECN bit already set. Range: 0 to (2^{32}–1) cells.
19	Frames Rcvd tagged with DE bit	Frames Received	After validating the frame against errors–1	Number of frames with the DE bit set that are received from the attached equipment. Range: 0 to (2^{32}–1) cells.
20	Bytes Rcvd tagged with DE bit	No	Ingress–3	Number of bytes received that are tagged with DE bit. Range: 0 to (2^{32}–1) cells.
21	DE Frames Received	Frames Transmitted	Ingress–2	Number of frames with the DE bit set that are transmitted to the attached equipment. Range: 0 to (2^{32}–1) cells.
22	DE Bytes Received	Bytes Transmitted	Ingress–2	Number of of bytes in the frames counted in the Tx Frames Tagged DE statistic. The count includes the frame-relay header and the FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM12 Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
23	Frames Received	No	After validating the frame against errors–1	Number of frames received from the attached equipment. This statistic also increments when the received frame is discarded for one of these reasons: • Queue depth exceeded. • DE threshold exceeded for frames with DE bit set. • UPC discard. • Unknown protocols in SIW translation. Range: 0 to (2^{32}–1) cells.
24	Bytes Received	No	After validating the frame against errors–1	Number of of bytes in the frames counted by the Frames Received statistic. The count includes the frame-relay header and the frame check sequence (FCS)/CRC bytes. Range: 0 to (2^{32}–1) cells.
25	Ingress Frames Disc.-Excess UPC meas.	Frames Received Ingress Frames Discarded	Ingress–3	Number of frames discarded due to UPC. Both Bc and Be buckets are full, and the frames do not pass policing. Range: 0 to (2^{32}–1) cells.
26	Ingress Frames Disc.-DE Thshold exceed	No	Ingress–2	Number of frames discarded on the ingress due to exceeded DE threshold. Range: 0 to (2^{32}–1) cells.
27	Ingress Frames Disc.-queue depth exceed	Frames Received Ingress Frames Discarded	Ingress–2	Number of frames received from the CPE that are discarded because the queue (PVC ingress buffer) is full. Range: 0 to (2^{32}–1) cells.
28	Ingress Bytes Disc.-queue depth exceed	Bytes Received Ingress Bytes Discarded	Ingress–2	Number of of bytes in the frames counted by the Rx Frames Discarded VC-Q-Overflow statistic. The count includes the frame-relay header and the FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM12 Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
29	Ingress Frames Discarded	Frames Received	Ingress–2, 3	Number of discarded frames received from the attached equipment. Possible reasons for discard include • Frames are received with DE equal to 1 and the PVC ingress queue is filled at least to the DE threshold. These frames are counted in the PVC DE Frames Dropped statistic. • Frames are received with DE equal to 0, but have been DE tagged because of policing. In addition, the PVC ingress queue is filled at least to the DE threshold. These frames are counted in the PVC DE Frames Dropped statistic. • PVC ingress queue is full. The queue might fill (and overflow) due to sustained transmission above the PVC CIR. These frames are counted in the PVC Rx Frames Discarded VC Q Overflow statistic. • Frames do not pass policing. These frames are counted in the PVC Rx Frames Discarded UPC statistic. • Protocols encoded in SIW frame are unknown. These frames are counted in the PVC Rx Frames Unknown Protocols statistic. Range: 0 to (2^{32}–1) cells.
30	Ingress Bytes Discarded	Bytes Received	Ingress–2, 3	Number of bytes in the frames counted by the Receive Frames Discarded statistic. The count includes the frame-relay header and the FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
31	Frames Rcvd dropped - Unknown Protocols	Frames Received Ingress Frames Discarded	After point 3 and before queueing	Number of frames that are discarded because the incoming PDU (routed or bridged) is not recognized or supported. This statistic applies only to SIW translation connections. Range: 0 to (2^{32}–1) cells.
32	Frames Rcvd tagged with FECN bit	No	Ingress–3	Number of frames received that are tagged with FECN bit. Range: 0 to (2^{32}–1) cells.
33	Frames Rcvd tagged with BECN bit	No	Ingress–3	Number of frames received that are tagged with BECN bit. Range: 0 to (2^{32}–1) cells.
34	Transmitted AIR in Kbps	No	Egress–13	Number of transmitted average information rate (AIR) in kbps. Range: 0 to (2^{32}–1) cells.
35	Received AIR in Kbps	No	Ingress–3	Number of received average information rate in kbps. Range: 0 to (2^{32}–1) cells.

AXSM-XG Connection Statistics

This section describes the statistics contained in the AXSMXG_ATM group. The AXSM-XG connection statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for AXSM-XG connection statistics.

Front Card	AXSM-XG, AXSM-4-2488CH
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	0
Subobject Type	16
Default Peak Interval	300 seconds

The following table includes the AXSM-XG connection statistics.

Stat ID	AXSM-XG Connection Statistics	Ingress/Egress Measurement Point	Description
0	Total Cells from port	Ingress	Number of total ingress cells. Range: 0 to (2^{64}–1) cells.
1	CLP0 cells from port (before policing)	Ingress–1	Number of ingress cells with a CLP equal to 0 that are received before policing. Range: 0 to (264–1) cells.
2	CLP1 cells from port (before policing)	Ingress–1	Number of ingress cells with a CLP equal to 1that are received before policing. Range: 0 to (2^{64}–1) cells.
5	Frames from port	Ingress	Number of frames that are received from the port. Range: 0 to (2^{64}–1) cells.
6	EFCI=1 cells from the port	Ingress	Number of cells with the EFCI equal to 1. These cells are received from the port. Range: 0 to (2^{64}–1) cells.
9	CLP0 non compliant cells	Ingress	Number of discarded cells with a CLP equal to 0 that are tagged noncompliant. Range: 0 to (2^{64}–1) cells.
10	CLP1 non compliant cells	Ingress	Number of discarded cells with CLP equal to 1 that are tagged noncompliant. Range: 0 to (2^{64}–1) cells.
11	Tagged non compliant cells	Ingress	Number of cells tagged noncompliant. These cells are received at the port. Range: 0 to (2^{64}–1) cells.
13	CLP0 cells to network	—	Number of cells with a CLP equal to 0 that are transmitted to the network. Range: 0 to (2^{64}–1) cells.
14	CLP1 cells to network	—	Number of cells with a CLP equal to 1that are transmitted to the network. Range: 0 to (2^{64}–1) cells.

The following table includes the AXSM-XG egress connection statistics.

Stat ID	AXSM-XG Physical Interface Statistics	Ingress/Egress Measurement Point	Description
23	CLP1 cells to the port	Egress	Number of discarded cells with CLP equal to 1 that are transmitted to the port. Range: 0 to (2^{64}–1) cells.
24	CLP0 cells to the port	Egress	Number of egress cells with a a CLP equal to 0 that are transmitted to the port. Range: 0 to (2^{64}–1) cells.
27	Frames to Port	—	Number of frames that are transmitted to the port. Range: 0 to (2^{64}–1) cells.
28	EFCI=1 cells to the port	Egress	Number of cells with the EFCI equal to 1. These cells are transmitted to the port. Range: 0 to (2^{64}–1) cells.
31	CLP0 cells from the network	—	Number of cells with CLP equal to 0 that are received from the network. Range: 0 to (2^{64}–1) cells.
32	CLP1 cells from the network	—	Number of cells with CLP equal to 1 that are received from the network. Range: 0 to (2^{64}–1) cells.

VXSM ATM Connection Statistics

This section describes the statistics contained in the VXSM_ATM_conn group. The VXSM connection statistics apply to the VXSM cards on the Cisco MGX 8850 and 8880 PXM45-based nodes. The following table lists the common attributes for VXSM connection statistics.

Front Card	VXSM
Back Card	VXSM-BC-4-155
Object Type	0
Subobject Type	17
Default Peak Interval	300 seconds

The following table includes the VXSM ATM connection statistics.

Stat ID	VXSM ATM Connection Statistics	Ingress/Egress Measurement Point	Description
0	Total Ingress Cells from port	Ingress	Number of total ingress cells. Range: 0 to (2^{64}–1) cells.
1	CLP0 cells from port (before policing)	Ingress–1	Number of ingress cells with a CLP equal to 0 that are received before policing. Range: 0 to (2^{64}–1) cells.
2	CLP1 cells from port (before policing)	Ingress–1	Number of ingress cells with a CLP equal to 1 that are received before policing. Range: 0 to (2^{64}–1) cells.
3	EFCI=1 CLP0 cells from the port	Ingress	Number of CLP0 cells with the EFCI equal to 1. These cells are received from the port. Range: 0 to (2^{64}–1) cells.
4	EFCI=1 CLP1 cells from the port	Ingress	Number of CLP1 cells with the EFCI equal to 1. These cells are received from the port. Range: 0 to (2^{64}–1) cells.

Stat ID	VXSM ATM Connection Statistics	Ingress/Egress Measurement Point	Description
5	Total Egress Cells to network	Egress	Number of total egress cells. Range: 0 to (2^{64}–1) cells.
6	CLP0 cells to network (before policing)	Egress–1	Number of egress cells with a CLP equal to 0 that are received before policing. Range: 0 to (2^{64}–1) cells.
7	CLP1 cells to network (before policing)	Egress–1	Number of egress cells with a CLP equal to 1 that are received before policing. Range: 0 to (2^{64}–1) cells.
8	EFCI=1 CLP0 cells to the network	Egress	Number of CLP0 cells with the EFCI equal to 1. Range: 0 to (2^{64}–1) cells.
9	EFCI=1 CLP1 cells to the network	Egress	Number of CLP1 cells with the EFCI equal to 1. Range: 0 to (2^{64}–1) cells.

MPSM155 ATM Connection Statistics

This section describes the statistics contained in the MPSM155_ATM group. The MPSM155-ATM connection statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM connection statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	0
Subobject Type	18
Default Peak Interval	300 seconds

The following table includes the MPSM155-ATM connection statistics.

Stat ID	MPSM155-ATM Connection Statistics	Ingress/Egress Measurement Point	Description
1	CLP0 cells from port (before policing)	Ingress–1	Number of ingress cells with a CLP equal to 0 that are received before policing. Range: 0 to (2^{64}–1) cells.
2	CLP1 cells from port (before policing)	Ingress–1	Number of ingress cells with a CLP equal to 1 that are received before policing. Range: 0 to (2^{64}–1) cells.
5	Frames from port	Ingress	Number of frames that are received from the port. Range: 0 to (2^{64}–1) cells.
6	EFCI=1 cells from the port	Ingress	Number of cells with the EFCI equal to 1. These cells are received from the port. Range: 0 to (2^{64}–1) cells.
9	CLP0 non compliant cells	Ingress	Number of discarded cells with a CLP equal to 0 that are tagged noncompliant. Range: 0 to (2^{64}–1) cells.
10	CLP1 non compliant cells	Ingress	Number of discarded cells with a CLP equal to 1 that are tagged noncompliant. Range: 0 to (2^{64}–1) cells.

Stat ID	MPSM155-ATM Connection Statistics	Ingress/Egress Measurement Point	Description
11	Tagged non compliant cells	Ingress	Number of cells tagged noncompliant. These cells are received at the port. Range: 0 to (2^{64}–1) cells.
13	CLP0 cells to network	—	Number of cells with a CLP equal to 0 that are transmitted to the network. Range: 0 to (2^{64}–1) cells.
14	CLP1 cells to network	—	Number of cells with a CLP equal to 1that are transmitted to the network. Range: 0 to (2^{64}–1) cells.
23	CLP1 cells to the port	Egress	Number of discarded cells with CLP equal to 1 that are transmitted to the port. Range: 0 to (2^{64}–1) cells.
24	CLP0 cells to the port	Egress	Number of egress cells with a CLP equal to 0 that are transmitted to the port. Range: 0 to (2^{64}–1) cells.
27	Frames to Port	—	Number of frames that are transmitted to the port. Range: 0 to (2^{64}–1) cells.
28	EFCI=1 cells to the port	Egress	Number of cells with the EFCI equal to 1. These cells are transmitted to the port. Range: 0 to (2^{64}–1) cells.
31	CLP0 cells from the network	—	Number of cells with CLP equal to 0 that are received from the network. Range: 0 to (2^{64}–1) cells.
32	CLP1 cells from the network	—	Number of cells with CLP equal to 1 that are received from the network. Range: 0 to (264–1) cells.
46	EFCI=1 cells from the network	Ingress	Number of cells with the EFCI equal to 1 that are received from the network. Range: 0 to (2^{64}–1) cells.
56	EFCI=1 cells to the network	Egress	Number of cells with the EFCI equal to 1 that are transmitted to the network. Range: 0 to (2^{64}–1) cells.

MPSM155 Frame Relay Connection Statistics

This section describes the statistics contained in the MPSM155_FR_Conn group. The MPSM155-Frame Relay connection statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM155-FR connection statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	0
Subobject Type	19
Default Peak Interval	300 seconds

The following table includes the MPSM155-Frame Relay connection statistics.

Stat ID	MPSM155 FR Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Frames Transmitted with FECN bit tagged	No	Egress–13	Number of frames that are transmitted with FECN bit. Range: 0 to (2^{32}–1) cells.
1	Frames Transmitted with BECN bit tagged	No	Egress–13	Number of frames that are transmitted with BECN bit. Range: 0 to (2^{32}–1) cells.
2	Frames Txed with FECN bit already set	Frames Transmitted	Egress–13	Number of frames with the FECN bit set that are transmitted to the attached equipment. The congestion can occur anywhere in the network. Range: 0 to (2^{32}–1) cells.
3	Frames Txed with BECN bit already set	Frames Transmitted	Egress–13	Number of frames with the BECN bit set that are transmitted to the attached equipment. The congestion can occur anywhere in the network. Range: 0 to (2^{32}–1) cells.
4	DE Frames Transmitted	No	Egress–13	Number of DE bytes transmitted. Range: 0 to (2^{32}–1) cells.
5	DE Bytes Transmitted	No	Egress–13	Number of DE frames that are transmitted. Range: 0 to (2^{32}–1) cells.
6	Frames Transmitted tagged DE	Frames Transmitted	Egress–12	Number of frames that have the DE bit tagged. This statistic applies only to network interworking (NIW) connections with the CLP to DE mapping mode set to mapDE. If the incoming frame has the DE bit set to 0, and the CLP bit is set on any of the cells, then the DE bit is tagged for that frame. Range: 0 to (2^{32}–1) cells.
7	Bytes Transmitted tagged DE	No	Egress–13	Number of bytes transmitted which have been DE tagged at the far end ingress in excess of CIR. Range: 0 to (2^{32}–1) cells.
8	Frames Transmitted	No	Egress–13	Number of frames that are transmitted to the attached equipment after frame reassembling. Range: 0 to (2^{32}–1) cells.
9	Bytes Transmitted	No	Egress–13	Number of of bytes in the frames counted by the Frames Transmitted statistic. The count includes the frame-relay header and the FCS/CRC bytes. Range: 0 to (232–1) cells.
10	Frames Txed with invalid CPI Header	Egress Frames discarded	Egress–12	Number of frames that are not transmitted to the attached equipment because of an invalid CPI. An invalid CPI is a non zero number. Range: 0 to (2^{32}–1) cells.

Stat ID	MPSM155 FR Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
11	Egress Frames discarded	No	Egress–12, 13	Number of frames unable to be transmitted to the attached equipment. For complete descriptions of the possible reasons for discard, see FRSM12 Connection, page 4-47. Possible reasons for discard include • PVC transmit queue overflow • Incomplete frame at egress • Incorrect frame length • Invalid frame length • Frame CRC error • Port inactive • Unknown protocols • CPI error Range: 0 to (2^{32}–1) cells.

Stat ID	MPSM155 FR Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
12	Egress Bytes Discarded	No	Egress–12, 13	Number of bytes unable to be transmitted to the attached equipment. Possible reasons for discard include • PVC transmit queue overflow—The frame traversed the network successfully but encountered a full egress VC queue. These frames are counted in the PVC Tx Frames Discarded-VC-Q-Overflow statistic. • Incomplete frame at egress—No EOF cell was received. The EOF cell is missing due to discards in the network and the timer expiring. These frames are counted in the Tx Frames Discarded-Trunk Discard statistic. • Incorrect frame length—The expected frame length (recorded in the EOF cell) is different than the length of payload of that frame. This error can be caused by cells missing due to discards on a trunk, or by an EOF cell transmission bit error in the frame length field. These frames are counted in the Tx Frame Length Violation statistic. • Invalid frame length—The frame is longer than 4510 octets. The EOF cell from one frame is missing due to discards on a trunk, resulting in a concatenated frame. These frames are counted in the PVC Tx Frames Discarded Oversized SDUs statistic. • Frame CRC error—The calculated CRC does not match the original frame CRC (contained within the EOF cell). This mismatch occurs due to payload bit transmission errors on the cells or because of lost cells. These frames are counted in the PVC Tx Frames Discarded Ingress CRC. • Port inactive—Logical port is not active. These frames are not counted in any statistic. • Unknown protocols—Protocols encoded in SIW frame are not defined. These frames are counted in the PVC Tx Frames Unknown Protocols statistic. • CPI error—CPI bit in the AAL5 PDU received from the network is non-zero. These frames are counted in the PVC Tx Frames Invalid CPIs statistic. Range: 0 to (2^{32}–1) cells.
13	Egress Frames discarded - source abort	No	Egress–13	Number of frames that are discarded on the egress due to source abort. Range: 0 to (2^{32}–1) cells.
14	Egress Frames discarded - CRC Error	Egress Frames discarded	Egress–12	Number of frames that are not transmitted to the attached equipment because of an incorrect CRC. The received CRC, included in the EOF, is compared to the calculated CRC on the contents of all the cells that arrive. An incorrect CRC is caused by at least one cell missing due to discard(s) on a trunk or to a transmission bit error on a payload bit. Range: 0 to (2^{32}–1) cells.

Stat ID	MPSM155 FR Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
15	Frames Txed dropped - Unknown Protocols	Egress Frames discarded	Egress–12	Number of frames that are not transmitted to the attached equipment because the incoming PDU (routed or bridged) is not recognized or supported. This statistic applies only to SIW translation connections. Range: 0 to (2^{32}–1) cells.
16	Egress Frames discarded - Reassembly Failed	Egress Frames discarded	Egress–12	Number of frames that are not transmitted to the attached equipment because of an incorrect CRC. The received CRC, included in the EOF, is compared to the calculated CRC on the contents of all the cells that arrive. An incorrect CRC is caused by at least one cell missing due to discard(s) on a trunk or to a transmission bit error on a payload bit. Range: 0 to (2^{32}–1) cells.
17	Frames Txed with oversized SDU's	Egress Frames discarded	Egress–12	Number of frames that are not transmitted to the CPE because of an invalid length. The frame is longer than 4510 bytes. This invalid length occurs when the AAL5 EOF cell of a frame is missing due to discards on a trunk. The result is a concatenated frame. Range: 0 to (2^{32}–1) cells.
18	Frames Txed with length violations	Egress Frames discarded	Egress–12	Number of frames that are not transmitted to the CPE because the expected frame length (recorded in the AAL5 EOF cell) is different than the total payload of all the cells that arrived. A frame length error occurs for these reasons: • At least one missing packet • Transmission bit error on the frame length field in the AAL5 EOF cell Range: 0 to (2^{32}–1) cells.
19	Egress DE Bytes Disc	Egress Bytes Discarded	Egress–12	Number of of bytes in the frames marked as discard eligible that have been discarded. The count includes the frame-relay header and the FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
20	Egress Frames Disc.-queue depth exceed	Egress Frames discarded	Egress–12	Number of frames received from the CPE that are discarded because the queue (PVC ingress buffer) is full. Range: 0 to (2^{32}–1) cells.
21	Egress Bytes Disc.-queue depth exceed	Egress Bytes Discarded	Egress–12	Number of bytes in the frames counted by the Tx Frames Discarded VC-Q-Overflow statistic. The count includes the frame-relay header and the FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
22	Egress Frames Disc.-DE Thshold exceed	Egress Frames discarded	Egress–12	Number of frames discarded on the egress due to exceeded DE threshold. Range: 0 to (2^{32}–1) cells.
24	Frames Rcvd with FECN bit already set	No	Ingress–3	Number of frames that are received with FECN bit already set. Range: 0 to (2^{32}–1) cells.

Stat ID	MPSM155 FR Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
25	Frames Rcvd with BECN bit already set	No	Ingress–3	Number of frames received with BECN bit already set. Range: 0 to (2^{32}–1) cells.
26	Frames Rcvd tagged with DE bit	Frames Received	After validating the frame against errors–1	Number of frames with the DE bit set that are received from the attached equipment. Range: 0 to (2^{32}–1) cells.
27	Bytes Rcvd tagged with DE bit	No	Ingress–3	Number of bytes received that are tagged with DE bit. Range: 0 to (2^{32}–1) cells.
28	DE Frames Received	Frames Transmitted	Ingress–2	Number of frames with the DE bit set that are transmitted to the attached equipment. Range: 0 to (2^{32}–1) cells.
29	DE Bytes Received	Bytes Transmitted	Ingress–2	Number of bytes in the frames counted in the Tx Frames Tagged DE statistic. The count includes the frame-relay header and the FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
30	Frames Received	No	After validating the frame against errors–1	Number of frames received from the attached equipment. This statistic also increments when the received frame is discarded for one of these reasons: • Queue depth exceeded. • DE threshold exceeded for frames with DE bit set. • UPC discard. • Unknown protocols in SIW translation. Range: 0 to (2^{32}–1) cells.
31	Bytes Received	No	After validating the frame against errors–1	Number of of bytes in the frames counted by the Frames Received statistic. The count includes the frame-relay header and the frame check sequence (FCS)/CRC bytes. Range: 0 to (2^{32}–1) cells.
32	Ingress Frames Disc.-Excess UPC meas.	Frames Received Ingress Frames Discarded	Ingress–3	Number of frames discarded due to UPC. Both Bc and Be buckets are full, and the frames do not pass policing. Range: 0 to (2^{32}–1) cells.
33	Ingress Frames Disc.-DE Thshold exceed	No	Ingress–2	Number of frames discarded on the ingress due to exceeded DE threshold. Range: 0 to (2^{32}–1) cells.
35	Ingress Frames Disc.-queue depth exceed	Frames Received Ingress Frames Discarded	Ingress–2	Number of frames received from the CPE that are discarded because the queue (PVC ingress buffer) is full. Range: 0 to (2^{32}–1) cells.

Stat ID	MPSM155 FR Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
36	Ingress Bytes Disc.-queue depth exceed	Bytes Received Ingress Bytes Discarded	Ingress–2	Number of of bytes in the frames counted by the Rx Frames Discarded VC-Q-Overflow statistic. The count includes the frame-relay header and the FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
37	Ingress Frames Discarded	Frames Received	Ingress–2, 3	Number of discarded frames received from the attached equipment. Possible reasons for discard include • Frames are received with DE equal to 1 and the PVC ingress queue is filled at least to the DE threshold. These frames are counted in the PVC DE Frames Dropped statistic. • Frames are received with DE equal to 0, but have been DE tagged because of policing. In addition, the PVC ingress queue is filled at least to the DE threshold. These frames are counted in the PVC DE Frames Dropped statistic. • PVC ingress queue is full. The queue might fill (and overflow) due to sustained transmission above the PVC CIR. These frames are counted in the PVC Rx Frames Discarded VC Q Overflow statistic. • Frames do not pass policing. These frames are counted in the PVC Rx Frames Discarded UPC statistic. • Protocols encoded in SIW frame are unknown. These frames are counted in the PVC Rx Frames Unknown Protocols statistic. Range: 0 to (2^{32}–1) cells.
38	Ingress Bytes Discarded	Bytes Received	Ingress–2, 3	Number of of bytes in the frames counted by the Receive Frames Discarded statistic. The count includes the frame-relay header and the FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
38	Ingress DE Bytes Discarded	Bytes Received	Ingress–2, 3	Number of of bytes in the frames marked as discard eligible that have been discarded. The count includes the frame-relay header and the FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
40	Frames Rcvd dropped - Unknown Protocols	Frames Received Ingress Frames Discarded	After point 3 and before queueing	Number of frames that are discarded because the incoming PDU (routed or bridged) is not recognized or supported. This statistic applies only to SIW translation connections. Range: 0 to (2^{32}–1) cells.
41	Frames Rcvd tagged with BECN bit	No	Ingress–3	Number of frames received that are tagged with BECN bit. Range: 0 to (2^{32}–1) cells.
42	Frames Rcvd tagged with FECN bit	No	Ingress–3	Number of frames received that are tagged with FECN bit. Range: 0 to (2^{32}–1) cells.
43	Transmitted AIR in Kbps	No	Egress–13	Number of transmitted average information rate (AIR) in kbps. Range: 0 to (2^{32}–1) cells.

Stat ID	MPSM155 FR Connection Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
44	Received AIR in Kbps	No	Ingress–3	Number of received average information rate in kbps. Range: 0 to (2^{32}–1) cells.

MPSM16-T1E1 ATM Connection Statistics

This section describes the statistics contained in the MPSM16-T1E1_ATM_Conn group. The MPSM16-T1E1 ATM connection statistics apply to the MPSM16-T1E1 cards on the Cisco MGX 8850 PXM45-based and 8830 nodes. The following table lists the common attributes for MPSM16-T1E1 ATM connection statistics.

Front Card	MPSM16-T1E1
Back Card	RBBN-16T1E1, MCC-16E1, RBBN-16-T1E1-1N, MCC-16-E1-1N, RED-16-T1E1
Object Type	0
Subobject Type	22
Default Peak Interval	300 seconds

The following table includes the MPSM16-T1E1 ATM connection statistics.

Stat ID	MPSM16-T1E1 ATM Connection Statistics	Ingress/Egress Measurement Point
1	From Port: CLP0 Cells from port	Ingress
2	From Port: CLP1 Cells from port	Ingress
5	From Port: EOF1 cells from Port	Ingress
6	From Port: EFCI1 cells from port	Ingress
9	From Port: CLP0 Non-compliant cells from port	Ingress
10	From Port: CLP1 Non-compliant cells from port	Ingress
11	From Port: CLP0 tagged cells from port	Ingress
13	To Network: CLP0 cells to n/w	Ingress
14	To Network: CLP1 cells to n/w	Ingress
15	To Network: CLP0 EFCI1 Cells to n/w	Ingress
16	To Network: CLP1 EFCI1 Cells to n/w	Ingress
23	To Port: CLP0 cells to port	Egress
24	To Port: CLP1 cells to port	Egress
27	To Port: EOF=1 cells to port	Egress
28	To Port: EFCI1 cells to port	Egress
31	From Network: CLP0 cells from network	Egress
32	From Network: CLP1 cells from network	Egress

MPSM16-T1E1 Frame Relay Connection Statistics

This section describes the statistics contained in the MPSM16-T1E1_FR_Conn group. The MPSM16-T1E1 frame-relay connection statistics apply to the MPSM16-T1E1 cards on the Cisco MGX 8850 PXM45-based and 8830 nodes. The following table lists the common attributes for MPSM16-T1E1 Frame Relay connection statistics.

Front Card	MPSM16-T1E1
Back Card	RBBN-16T1E1, MCC-16E1, RBBN-16-T1E1-1N, MCC-16-E1-1N, RED-16-T1E1
Object Type	0
Subobject Type	23
Default Peak Interval	300 seconds

The following table includes the MPSM16-T1E1Frame Relay connection statistics.

Stat ID	MPSM16-T1E1 FR Connection Statistics	Ingress/Egress Measurement Point
0	Number of frames tagged with FECN to port	Egress
1	Number of frames tagged with BECN to port	Egress
2	Number of frames with FECN already set to port	Egress
3	Number of frames with BECN already set to port	Egress
4	Number of DE frames to port	Egress
5	Number of DE bytes to port	Egress
6	Number of tagged DE frames to port	Egress
7	Number of tagged DE bytes to port	Egress
8	Number of frames transmitted to port	Egress
9	Number of bytes transmitted to port	Egress
10	Frames invalid CPIs	Egress
11	Transmit frames discarded)	Egress
12	Transmit bytes discarded	Egress
14	Frames CRC Error	Egress
16	Frames discarded due to reassembly failure	Egress
17	Frames oversized SDUs	Egress
18	Frames length violation	Egress
19	Transmit DE bytes discards	Egress
20	Frames discarded due to exceed Q Depth	Egress
21	Bytes discarded due to exceed Q Depth	Egress
22	Frames discarded due to exceed DEThreshold	Egress
24	Number of FECN frames from port	Ingress

Stat ID	MPSM16-T1E1 FR Connection Statistics	Ingress/Egress Measurement Point
25	Number of BECN frames from port	Ingress
26	Number of frames tagged DE	Ingress
27	Number of bytes tagged DE	Ingress
28	Number of DE frames from port	Ingress
29	Number of DE bytes from port	Ingress
30	Number of frames received from port	Ingress
31	Number of bytes received from port	Ingress
32	Number of Frames discarded by UPC	Ingress
33	Frames discarded due to exceed DEThreshold	Ingress
35	Frames discarded due to exceed Q Depth	Ingress
36	Bytes discarded due to exceed Q Depth	Ingress
37	Frames Discarded	Ingress
38	Received Bytes discarded	Ingress
39	Receive DE bytes discards	Ingress
40	Number of frames discarded for unknown protocol from port	Ingress
41	Frames Tagged BECN	Ingress
42	Frames Tagged FECN	Ingress
43	Transmit Kbps AIR (Average Info Rate)	Egress
44	Received Kbps AIR (Average Info Rate)	Ingress
45	The time in seconds the PVC stay in service	Egress

VISM PVC Connection Statistics

The following table lists the common attributes for VISM PVC connection statistics.

Front Card	VISM
Object Type	0
Subobject Type	20
Default Peak Interval	300 seconds

The following table includes the VISM PVC connection statistics.

Stat ID	VISM PVC Connection Statistics
0	Total number of cells transmitted.
1	Total number of cells received.

Stat ID	VISM PVC Connection Statistics
2	Average number of cells transmitted per second.
3	Average number of cells received per second.
4	Peak number of cells transmitted per second.
5	Peak number of cells received per second.
6	Number of OAM end-to-end loopback cells transmitted.
7	Number of OAM end-to-end loopback cells received.
8	Number of OAM Segment loop back cells transmitted.
9	Number of OAM Segment loop back cells received.
10	Number of OAM loopback cells lost.
11	Number of OAM cells with CRC error.
12	Number of instances an ATM AIS alarm suppressed.
13	Number of instances an ATM AIS alarm transmitted.
14	Number of instances an ATM AIS alarm received.
15	Number of instances an ATM FERF alarm transmitted.
16	Number of instances an ATM FERF alarm received.
17	Number of AIS cells transmitted.
18	Number of AIS cells received.
19	Number of Ferf cells transmitted.
20	Number of Ferf cells received.
21	Number of AAL2 CPS packets transmitted.
22	Number of AAL2 CPS packets received.
23	Number of egress AAL2 CPS PDUs dropped due to HEC error.
24	Number of egress AAL2 Type3 CPS PDUs dropped due to invalid CRC-10.
25	Number of egress AAL2 cells dropped due to invalid OSF.
26	Number of egress AAL2 cells dropped due to invalid Parity bit field.
27	Number of egress AAL2 CPS packets dropped due to invalid CID.
28	Number of egress AAL2 CPS packets dropped due to invalid UUI.
29	Number of egress AAL2 CPS packets dropped due to invalid length.
30	Number of AAL5 PDUs transmitted to the network.
31	Number of AAL5 PDUs received from the network.
32	Number of egress AAL5 PDUs dropped due to invalid CPI.
33	Number AAL5 PDUs dropped due to invalid SDU.

Stat ID	VISM PVC Connection Statistics
25	Number of egress AAL2 cells dropped due to invalid OSF.
26	Number of egress AAL2 cells dropped due to invalid Parity bit field.
27	Number of egress AAL2 CPS packets dropped due to invalid CID.
28	Number of egress AAL2 CPS packets dropped due to invalid UUI.
29	Number of egress AAL2 CPS packets dropped due to invalid length.
30	Number of AAL5 PDUs transmitted to the network.
31	Number of AAL5 PDUs received from the network.
32	Number of egress AAL5 PDUs dropped due to invalid CPI.
33	Number AAL5 PDUs dropped due to invalid SDU.

VISM CID Connection Statistics

The following table lists the common attributes for VISM CID connection statistics.

Front Card	VISM
Object Type	0
Subobject Type	21
Default Peak Interval	300 seconds

The following table includes the VISM CID connection statistics.

Stat ID	VISM CID Connection Statistics
0	Average number of packets sent per secondl
1	Average number. of packets received per second
2	Total number of packets sent
3	Total number of packets received
4	Total number of bytes sent
5	Total number of bytes received
6	Peak number of packets sent per second

Stat ID	VISM CID Connection Statistics
7	Peak number of packets received per second
8	Number. of AIS aal2 Type3 pckts received
9	Number. of RAI aal2 Type3 pckts received
10	Number. of Conn AIS aal2 pckts received
11	Number. of Conn RDI aal2 pckts received
12	Number. of AIS aal2 Type3 instances
13	Number. of RAI aal2 Type3 instances
14	Number. of Conn AIS aal2 instances
15	Number. of Conn RDI aal2 instances
16	Number. of AIS aal2 Type3 pckts transmitted
17	Number. of RAI aal2 Type3 pckts transmitted

Service Line Statistics

The following service line statistics apply to CWM Release 15:

IGX T1 Service Line

This section describes the statistics contained in the T1 group. The IGX T1 service line statistics in this group apply to Switch Software Releases 9.2 and 9.2 on the UXM card. This group is also applicable to FastPAD lines. The following table lists the common attributes for IGX T1 service line statistics.

Front Cards	UXM, FTM (FastPAD)
Back Cards	UXM—BC-UAI-6-T3/E3, BC-UAI-3-T3/E3, BC-UAI-2/4-155-SMF, BC-UAI-2/4-SMFXLR, BC-UAI-4-STM1E, BC-UAI-4-155-MMF FastPAD—FPC T1, FPC E1, FPC V.35, FPC X.21.
Object Type	1
Subobject Type	0
Default Peak Interval	60 seconds (fixed setting)

The IGX T1 service line statistics are used primarily for gathering billing and performance data.

The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	IGX T1 Service Line Statistics	Description
0	Bipolar Violations	Number of bipolar violations. Range: 0 to (2^{32}–1) cells.
1	Frame Slips	Number of frame slips. Range: 0 to (2^{32}–1) cells.
2	Out of Frames	Number of out of frames. Range: 0 to (2^{32}–1) cells.
3	Losses of Signal	Number of signal losses. Range: 0 to (2^{32}–1) cells.
4	Frame Bit Errors	Number of frame bit errors. Range: 0 to (2^{32}–1) cells.
5	CRC Errors	Number of CRC errors. Range: 0 to (2^{32}–1) cells.
8	Errored blocks	Number of errored blocks. Range: 0 to (2^{32}–1) cells.
28	Line code violations	Number of line CVs. Range: 0 to (2^{32}–1) cells.

IGX E1/J1 Service Line

This section describes the statistics contained in the E1/J1 group. IGX E1/J1 service line statistics in this group apply to Switch Software Releases 9.2 and 9.3 on the UXM card. This group is also applicable to FastPAD lines. The following table lists the common attributes for IGX E1/J1 service line statistics.

Front Cards	UXM, FTM (FastPAD)
Back Cards	UXM—BC-UAI-6-T3/E3, BC-UAI-3-T3/E3, BC-UAI-2/4-155-SMF, BC-UAI-2/4-SMFXLR, BC-UAI-4-STM1E, BC-UAI-4-155-MMF FastPAD—FPC T1, FPC E1, FPC V.35, and FPC X.21.
Object Type	1
Subobject Type	1
Default Peak Interval	60 seconds (fixed setting)

The IGX E1/J1 service line statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	IGX E1/J1 Line Statistics	Description
0	Bipolar Violations	Number of bipolar violations. Range: 0 to (2^{32}–1) cells.
1	Frame Slips	Number of frame slips. Range: 0 to (2^{32}–1) cells.
2	Out of Frames	Number of out of frames. Range: 0 to (2^{32}–1) cells.
3	Losses of Signal	Number of signal losses. Range: 0 to (2^{32}–1) cells.
4	Frame Bit Errors	Number of frame bit errors. Range: 0 to (2^{32}–1) cells.
5	CRC Errors	Number of CRC errors. Range: 0 to (2^{32}–1) cells.
6	Out of Multi-Frames	Number of out of multiframes. Range: 0 to (2^{32}–1) cells.

Stat ID	IGX E1/J1 Line Statistics	Description
7	All Ones in Timeslot Sixteen	Number of all ones in timeslot 16. Range: 0 to (2^{32}–1) cells.
221	E-bit errors	Number of E-bit errors. Range: 0 to (2^{32}–1) cells.
222	Line code violations	Number of line CVs. Range: 0 to (2^{32}–1) cells.

BXM and ASI Service Line

This section describes the statistics contained in the ASI Line group. The BXM and ASI service line statistics in this group apply to Switch Software Releases 9.2 and 9.3 on the BPX switch. The following table lists the attributes that are common to the BXM and ASI service line statistics.

Front Cards	BXM T3/E3, BXM-155, BXM-622 ASI-T3/E3, ASI-155, ASI-155e
Back Cards	BXM—BPX-T3/E3-BC, MMF-155-4/8, SMF-155-4/8 SMFLR-155-4/8, SMF-622-2, SMFLR-622-2, SMFXLR-622-2, SMF-622, SMFLR-622, SMFXLR-622 ASI—LM-3T3/3E3, LM-2OC-3-SMF, LM-2OC-3-SMFLR, LM-2OC-3-MMF
Object Type	1
Subobject Type	2
Default Peak Interval	60 seconds (fixed setting)

The BXM and ASI service line statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	BXM and ASI Service Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
28	B3ZS Line Code Violations	No	Ingress–1	Number of B3ZS line CVs detected on the interface. These violations occur when more than three zeroes in a row are transmitted. Range: 0 to (2^{32}–1) cells.
29	Line Errored Seconds	No	Ingress–1	Number of line code violation errored seconds (ESs) that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
30	Line Severely Errored Seconds	Line Errored Seconds	Ingress–1	Number of line code violation severely errored seconds (SESs) that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
31	P-bit Line Parity Errors	No	Ingress–1	Number of parity bit (P-bit) CVs detected on the interface. Range: 0 to (2^{32}–1) cells.
32	Errored Seconds - Parity	No	Ingress–1	Number of parity code violation (PCV) ESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Service Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
33	Severely Errored Seconds - Parity	Errored Seconds–Parity	Ingress–1	Number of P-bit code SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
34	C-bit Parity Code Violations	No	Ingress–1	Number of C-bit CVs detected on the interface. Range: 0 to (2^{32}–1) cells.
35	Errored Seconds - Path	No	Ingress–1	Number of PCV ESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
36	Severely Errored Seconds - Path	Errored Seconds–Path	Ingress–1	Number of PCV SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
37	Severely Errored Framing Seconds	No	Ingress–1	Number of SEFSs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
39	Unavailable Seconds	No	Ingress–1	Number of unavailable seconds (UASs) that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
40	PLCP BIP-8 Errors	—	—	Number of internal BPX errors. Range: 0 to (2^{32}–1) cells.
41	BIP-8 Errored Seconds	—	—	Number of internal BPX ESs. Range: 0 to (2^{32}–1) cells.
42	BIP-8 Severely Errored Seconds	—	—	Number of internal BPX SESs. Range: 0 to (2^{32}–1) cells.
43	PLCP Severely Err Framing Secs	—	—	Number of SESs based on Physical Layer Convergence Protocol (PLCP) framing errors. Range: 0 to (2^{32}–1) cells.
44	PLCP Unavailable Seconds	—	—	Number of internal BPX UASs. Range: 0 to (2^{32}–1) cells.
45	HCS Errors	—	—	Number of header check sum errors. Range: 0 to (2^{32}–1) cells.
97	PLCP OOF Transition Counts	No	Ingress–1	Number of times the OOF is detected by the PLCP interface. Range: 0 to (2^{32}–1) cells.
142	PLCP FEBE Err Secs	No	Ingress–1	Number of far end bit error (FEBE) seconds that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
143	PLCP FEBE Severely Err Secs	PLCP FEBE Err Secs	Ingress–1	Number of FEBE SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
144	PLCP FEBE Counts	No	Ingress–1	Number of FEBEs detected on the PLCP interface. Range: 0 to (2^{32}–1) cells.
145	PLCP FE Counts	—	—	Number of PLCP fast Ethernet (FE). Range: 0 to (2^{32}–1) cells.
146	HCS Errored Seconds	—	—	Number of HCS ESs. Range: 0 to (2^{32}–1) cells.
147	HCS Severely Errored Seconds	—	—	Number of HCS SESs. Range: 0 to (2^{32}–1) cells.
150	YEL Transitions	No	Ingress–1	Number of times that yellow alarms are detected. The count includes the number of remote alarm indicator (RAI) alarms. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Service Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
151	PLCP Yellow Transition Counts	—	—	Number of times that PLCP yellow defects are detected. Range: 0 to (2^{32}–1) cells.
152	Alarm Indication Signal	—	—	Number of times that an AIS is detected. Range: 0 to (2^{32}–1) cells.
169	Loss of Cell Delineation	—	—	Number of loss of cell delineation defect states. Range: 0 to (2^{32}–1) cells.
170	Loss of Pointer	—	—	Number of loss of pointer (LOP) defect states. Range: 0 to (2^{32}–1) cells.
171	OC3 Path AIS	—	—	Number of AIS instances on the path. Range: 0 to (2^{32}–1) cells.
172	OC3 Path YEL	—	—	Number of times yellow alarms are detected on the path. Range: 0 to (2^{32}–1) cells.
173	Section BIP8	—	—	Number of section BIP-8 errors. Range: 0 to (2^{32}–1) cells.
174	Line BIP24	—	—	Number of line BIP-24 errors. Range: 0 to (2^{32}–1) cells.
175	Line FEBE	—	—	Number of line FEBEs. Range: 0 to (2^{32}–1) cells.
176	Path BIP8	—	—	Number of path BIP-8 errors. Range: 0 to (2^{32}–1) cells.
177	Path FEBE	—	—	Number of instances of path FEBE. Range: 0 to (2^{32}–1) cells.
178	Section BIP8 Err Secs	—	—	Number of seconds that have at least one section BIP-8 error occurring within the collection interval. The counter also increments during SEF or LOS failure events. Range: 0 to (2^{32}–1) cells.
179	Line BIP24 Err Secs	—	—	Number of seconds that have at least one line BIP-24 error occurring within the collection interval. The counter also increments during detection of line AISs. Range: 0 to (2^{32}–1) cells.
180	Line FEBE Err Secs	—	—	Number of seconds that have at least one line FEBE. The counter also increments during line remote defect identifications (RDIs). Range: 0 to (2^{32}–1) cells.
181	Path BIP8 Err Secs	—	—	Number of seconds that have at least one path BIP-8 error. The counter also increments during detection of LOP and AIS events. Range: 0 to (2^{32}–1) cells.
182	Path FEBE Err Secs	—	—	Number of seconds that have at least one instance of path FEBE. The counter also increments during detection of RDI events. Range: 0 to (2^{32}–1) cells.
183	Section BIP8 Severely Err Secs	—	—	Number of section BIP-8 SESs that occur within the collection interval. SESs are classified as at least 2500 instances (for OC3 lines) of section BIP-8 ESs. The counter also increments during SEF and LOS failure events. Range: 0 to (2^{32}–1) cells.
184	Section Sev Err Framing Secs	—	—	Number of section seconds that have at least 2500 instances (for OC3 lines) of out of frame (OOF). Range: 0 to (2^{32}–1) cells.
185	Line BIP24 Severely Err Secs	—	—	Number of BIP-24 SESs that occur within the collection interval. (The counter also increments during detection of line AISs.) Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Service Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
33	Severely Errored Seconds - Parity	Errored Seconds–Parity	Ingress–1	Number of P-bit code SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
34	C-bit Parity Code Violations	No	Ingress–1	Number of C-bit CVs detected on the interface. Range: 0 to (2^{32}–1) cells.
35	Errored Seconds - Path	No	Ingress–1	Number of PCV ESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
36	Severely Errored Seconds - Path	Errored Seconds–Path	Ingress–1	Number of PCV SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
37	Severely Errored Framing Seconds	No	Ingress–1	Number of SEFSs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
39	Unavailable Seconds	No	Ingress–1	Number of unavailable seconds (UASs) that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
40	PLCP BIP-8 Errors	—	—	Number of internal BPX errors. Range: 0 to (2^{32}–1) cells.
41	BIP-8 Errored Seconds	—	—	Number of internal BPX ESs. Range: 0 to (2^{32}–1) cells.
42	BIP-8 Severely Errored Seconds	—	—	Number of internal BPX SESs. Range: 0 to (2^{32}–1) cells.
43	PLCP Severely Err Framing Secs	—	—	Number of SESs based on Physical Layer Convergence Protocol (PLCP) framing errors. Range: 0 to (2^{32}–1) cells.
44	PLCP Unavailable Seconds	—	—	Number of internal BPX UASs. Range: 0 to (2^{32}–1) cells.
45	HCS Errors	—	—	Number of header check sum errors. Range: 0 to (2^{32}–1) cells.
97	PLCP OOF Transition Counts	No	Ingress–1	Number of times the OOF is detected by the PLCP interface. Range: 0 to (2^{32}–1) cells.
142	PLCP FEBE Err Secs	No	Ingress–1	Number of far end bit error (FEBE) seconds that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
143	PLCP FEBE Severely Err Secs	PLCP FEBE Err Secs	Ingress–1	Number of FEBE SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
144	PLCP FEBE Counts	No	Ingress–1	Number of FEBEs detected on the PLCP interface. Range: 0 to (2^{32}–1) cells.
145	PLCP FE Counts	—	—	Number of PLCP fast Ethernet (FE). Range: 0 to (2^{32}–1) cells.
146	HCS Errored Seconds	—	—	Number of HCS ESs. Range: 0 to (2^{32}–1) cells.
147	HCS Severely Errored Seconds	—	—	Number of HCS SESs. Range: 0 to (2^{32}–1) cells.
150	YEL Transitions	No	Ingress–1	Number of times that yellow alarms are detected. The count includes the number of remote alarm indicator (RAI) alarms. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Service Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
151	PLCP Yellow Transition Counts	—	—	Number of times that PLCP yellow defects are detected. Range: 0 to (2^{32}–1) cells.
152	Alarm Indication Signal	—	—	Number of times that an AIS is detected. Range: 0 to (2^{32}–1) cells.
169	Loss of Cell Delineation	—	—	Number of loss of cell delineation defect states. Range: 0 to (2^{32}–1) cells.
170	Loss of Pointer	—	—	Number of loss of pointer (LOP) defect states. Range: 0 to (2^{32}–1) cells.
171	OC3 Path AIS	—	—	Number of AIS instances on the path. Range: 0 to (2^{32}–1) cells.
172	OC3 Path YEL	—	—	Number of times yellow alarms are detected on the path. Range: 0 to (2^{32}–1) cells.
173	Section BIP8	—	—	Number of section BIP-8 errors. Range: 0 to (2^{32}–1) cells.
174	Line BIP24	—	—	Number of line BIP-24 errors. Range: 0 to (2^{32}–1) cells.
175	Line FEBE	—	—	Number of line FEBEs. Range: 0 to (2^{32}–1) cells.
176	Path BIP8	—	—	Number of path BIP-8 errors. Range: 0 to (2^{32}–1) cells.
177	Path FEBE	—	—	Number of instances of path FEBE. Range: 0 to (2^{32}–1) cells.
178	Section BIP8 Err Secs	—	—	Number of seconds that have at least one section BIP-8 error occurring within the collection interval. The counter also increments during SEF or LOS failure events. Range: 0 to (2^{32}–1) cells.
179	Line BIP24 Err Secs	—	—	Number of seconds that have at least one line BIP-24 error occurring within the collection interval. The counter also increments during detection of line AISs. Range: 0 to (2^{32}–1) cells.
180	Line FEBE Err Secs	—	—	Number of seconds that have at least one line FEBE. The counter also increments during line remote defect identifications (RDIs). Range: 0 to (2^{32}–1) cells.
181	Path BIP8 Err Secs	—	—	Number of seconds that have at least one path BIP-8 error. The counter also increments during detection of LOP and AIS events. Range: 0 to (2^{32}–1) cells.
182	Path FEBE Err Secs	—	—	Number of seconds that have at least one instance of path FEBE. The counter also increments during detection of RDI events. Range: 0 to (2^{32}–1) cells.
183	Section BIP8 Severely Err Secs	—	—	Number of section BIP-8 SESs that occur within the collection interval. SESs are classified as at least 2500 instances (for OC3 lines) of section BIP-8 ESs. The counter also increments during SEF and LOS failure events. Range: 0 to (2^{32}–1) cells.
184	Section Sev Err Framing Secs	—	—	Number of section seconds that have at least 2500 instances (for OC3 lines) of out of frame (OOF). Range: 0 to (2^{32}–1) cells.
185	Line BIP24 Severely Err Secs	—	—	Number of BIP-24 SESs that occur within the collection interval. (The counter also increments during detection of line AISs.) Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Service Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
186	Line FEBE Severely Err Secs	—	—	Number of FEBE SESs. The counter also increments during line RDIs. Range: 0 to (2^{32}–1) cells.
187	Path BIP8 Severely Err Secs	—	—	Number of BIP-8 SESs that occur within the collection interval. The counter also increments during detection of LOP and AIS events. Range: 0 to (2^{32}–1) cells.
188	Path FEBE Severely Err Secs	—	—	Number of FEBE SESs. SESs are at least 2400 instances of path FEBEs. The counter also increments during detection of RDI events. Range: 0 to (2^{32}–1) cells.
189	Line Unavailable Secs	—	—	Number of seconds that the line is unavailable after the occurrence of 10 contiguous line SESs. Range: 0 to (2^{32}–1) cells.
190	Line Farend Unavailable Secs	—	—	Number of far end UASs. Range: 0 to (2^{32}–1) cells.
191	Path Unavailable Secs	—	—	Number of seconds that the line is unavailable after the occurrence of 10 contiguous path SESs. Range: 0 to (2^{32}–1) cells.
192	Path Farend Unavailable Secs	—	—	Number of seconds that the line is unavailable after the occurrence of 10 contiguous path far end SESs. Range: 0 to (2^{32}–1) cells.
193	HCS Correctable Error	—	—	Number of header checksum errors (HCS) that are corrected. Range: 0 to (2^{32}–1) cells.
194	HCS Correctable Error Err Secs	—	—	Number of cell header checksum ESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
195	HCS Correctable Error SevErr Secs	—	—	Number of cell header checksum SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
196	Transmit NTS Cells Discarded	—	—	Number of non-time-stamped cells discarded before being added to the transmit queue. These cells are discarded due to errors within the cells. Range: 0 to (2^{32}–1) cells.
197	Transmit HP Cells Discarded	—	—	Number of high priority (HP) cells discarded in the transmit direction. High-priority cells include OAM and RM traffic. Range: 0 to (2^{24}–1) cells.
198	Transmit Voice Cells Discarded	—	—	Number of voice cells discarded in the transmit direction. Range: 0 to (2^{24}–1) cells.
199	Transmit TS Cells Discarded	—	—	Number of time-stamped cells discarded in the transmit direction. Range: 0 to (2^{24}–1) cells.
200	Transmit BData A Cells Discarded	—	—	Number of bursty data A cells discarded in the transmit direction. Range: 0 to (2^{24}–1) cells.
201	Transmit BData B Cells Discarded	—	—	Number of bursty data B cells discarded in the transmit direction. Range: 0 to (2^{24}–1) cells.
202	Transmit CBR Cells Discarded	—	—	Number of CBR cells discarded in the transmit direction. Range: 0 to (2^{24}–1) cells.
203	Transmit ABR Cells Discarded	—	—	Number of ABR cells discarded in the transmit direction. Range: 0 to (2^{24}–1) cells.
204	Transmit VBR Cells Discarded	—	—	Number of nrt-VBR cells discarded in the transmit direction. Range: 0 to (2^{24}–1) cells.

Stat ID	BXM and ASI Service Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
205	Egress NTS Cells Rx	—	—	Number of non-time-stamped cells received from the bus. Range: 0 to (2^{24}–1) cells.
206	Egress HP Cells Rx	—	—	Number of high-priority cells (congestion control traffic) received in the egress direction. High-priority cells include OAM and RM traffic. Range: 0 to (2^{24}–1) cells.
207	Egress Voice Cells Rx	—	—	Number of voice. Range: 0 to (2^{24}–1) cells.
208	Egress TS Cells Rx	—	—	Number of time-stamped cells received from the bus. Range: 0 to (2^{24}–1) cells.
209	Egress BData A Cells Rx	—	—	Number of bursty data A cells received by the Qbin in the transmit direction. Range: 0 to (2^{24}–1) cells.
210	Egress BData B Cells Rx	—	—	Number of bursty data B cells received by the Qbin in the transmit direction. Range: 0 to (2^{24}–1) cells.
211	Egress CBR Cells Rx	—	—	Number of CBR cells received by the Qbin in the transmit direction. Range: 0 to (2^{24}–1) cells.
212	Egress ABR Cells Rx	—	—	Number of ABR cells received by the Qbin in the transmit direction. Range: 0 to (2^{24}–1) cells.
213	Egress VBR Cells Rx	—	—	Number of nrt-VBR cells received from the bus. Range: 0 to (2^{24}–1) cells.

CESM and FRSM E1/T1 Service Line

This section describes the statistics contained in the MGX-E1/T1 group. The CESM and FRSM service line statistics apply to the Cisco MGX 8230, 8250, and 8850 PXM1-based nodes. The following table lists the common attributes for CESM and FRSM MGX E1/T1 service line statistics.

Front Cards	AX-CESM-8T1, AX-CESM-8E1, MGX-CESM-T3, MGX-CESM-E3, FRSM-8T1, FRSM-8E1, FRSM-2CT3, FRSM-2T3, FRSM-2E3, FRSM-HS2, FRSM-HS1
Back Cards	RJ48-8T1, RJ48-8E1, SMB-8E1, BNC-2T3, BNC-2E3, SCSC2-2HSSI
Object Type	1
Subobject Type	3
Default Peak Interval	60 seconds (fixed setting)

The CESM and FRSM MGX E1/T1 service line statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	CESM and FRSM E1/T1 Service Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
2	Out of Frames	No	Ingress–1	Number of times an OOF bit is detected. Range: 0 to (2^{32}–1) cells.
3	Losses of Signal	No	Ingress–1	Number of times an LOS is detected. Range: 0 to (2^{32}–1) cells.
4	Frame Bit Errors	—	—	Number of frame bit errors. Range: 0 to (2^{32}–1) cells.
5	ACP Cells Received	No	Not applicable	Number of ATM control protocol (ACP) cells received from the line for an IMA group. Range: 0 to (2^{32}–1) cells.
6	ACP Cells Transmitted	No	Not applicable	Number of total ACP cells transmitted to the line for an IMA group. Range: 0 to (2^{32}–1) cells.
7	Number of times line dropped from port	—	—	Number of times that the line is dropped from the port. Range: 0 to (2^{32}–1) cells.
51	ICP violations	—	—	Number of IMA control protocol (ICP) cell violations that are received from the line. Range: 0 to (2^{32}–1) cells.
52	Near-end Severely Errored Seconds	—	Ingress–1	Number of line code violation SESs that occur at the near end line. Range: 0 to (2^{32}–1) cells.
53	Near-end Tx Unusable Seconds	—	—	Number of seconds that the near end is not transmitting. Range: 0 to (2^{32}–1) cells.
54	Near-end Rx Unusable Seconds	—	—	Number of seconds that the near end is not receiving. Range: 0 to (2^{32}–1) cells.
55	Near-end Tx Failure Alarms	—	—	Number of failure alarms transmitted by the near end. Range: 0 to (2^{32}–1) cells.
56	Near-end Rx Failure Alarms	—	—	Number of failure alarms that are received by the near end. Range: 0 to (2^{32}–1) cells.
57	Near-end Unavailable Seconds	No	Ingress–1	Number of UASs that occur within the collection interval at the near end of the line. Range: 0 to (2^{32}–1) cells.

AUSM Service

This section describes the statistics contained in the MGX_ATM group. The statistics in this group apply to the AUSM card on the Cisco MGX 8220, Cisco MGX 8230, 8250, and 8850 PXM1-based nodes. The following table lists the attributes that are common to the AUSM service statistics.

Front Cards	AUSM-8T1E1 Revision B
Back Cards	LM-RJ48-8T1/LM-RJ48-8E1, OC-3, OC-121
Object Type	1 (Interface Service)
Subobject Type	4
Default Peak Interval	60 seconds (fixed setting)

The AUSM service statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	AUSM Service Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
1	T3/E3 Cells Rx	No	Ingress–1	Number of cells received. Range: 0 to (2^{32}–1) cells.
2	T3/E3 Cells Tx	No	Egress–13	Number of cells transmitted. Range: 0 to (2^{32}–1) cells.
3	T3/E3 Invalid Cells Rx	T3/E3/ Cells Rx	Ingress–1	Number of invalid cells received. Range: 0 to (2^{32}–1) cells.
45	ATM Cell Header HEC Errors	T3/E3 Cells Rx	Ingress–1	Number of cells with header error control (HEC) errors. Range: 0 to (2^{32}–1) cells.
146	ATM HEC Errored Seconds	No	Ingress–1	Number of HEC ESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
147	ATM HEC Severely Errored Seconds	ATM HEC Errored Seconds	Ingress–1	Number of HEC severely errored seconds that occur within the collection interval. Range: 0 to (2^{32}–1) cells.

CESM, FRSM, SRM, and SRME T3/E3 Service

This section describes the statistics contained in the MGX-T3/E3 group. The CESM, FRSM, SRM, and SRME T3/E3 service line statistics apply to the Cisco MGX 8230, 8250, and 8850 PXM1-based nodes. The following table lists the common attributes for CESM, FRSM, SRM, and SRME T3/E3 service line statistics.

Front Cards	AX-CESM-8T1, AX-CESM-8E1, MGX-CESM-T3, MGX-CESM-E3, FRSM-8T1, FRSM-8E1, FRSM-2CT3, FRSM-2T3, FRSM-2E3, FRSM-HS2, FRSM-HS1, SRM-3T3, SRME-3T3
Back Cards	RJ48-8T1, RJ48-8E1, SMB-8E1, BNC-2T3, BNC-2E3, SCSC2-2HSSI
Object Type	1
Subobject Type	6
Default Peak Interval	60 seconds (fixed setting)

The CESM, FRSM, SRM, and SRME T3/E3 service line statistics are used primarily for gathering billing and performance. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	CESM, FRSM, SRM, and SRME T3/E3 Service Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
2	Out of Frames	No	Ingress–1	Number of times an is detected. Range: 0 to (2^{32}–1) cells.
3	Losses of Signal	No	Ingress–1	Number of times a loss of signal (LOS) is detected. Range: 0 to (2^{32}–1) cells.
28	B3ZS Line Code Violations	No	Ingress–1	Number of B3ZS line CVs detected on the interface. Range: 0 to (2^{32}–1) cells.
29	Line Errored Seconds	No	Ingress–1	Number of line code violation ESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
30	Line Severely Errored Seconds	Line Errored Seconds	Ingress–1	Number of line code violation SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
31	P-bit Line Parity Errors	No	Ingress–1	Number of parity bit (P-bit) CVs detected on the interface. Range: 0 to (2^{32}–1) cells.
32	Errored Seconds–Parity	No	Ingress–1	Number of PCV ESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
33	Severely Errored Seconds–Parity	Errored Seconds–Parity	Ingress–1	Number of P-bit code SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
34	C-bit Parity Code Violations	No	Ingress–1	Number of C Bit CVs detected on the interface. Range: 0 to (2^{32}–1) cells.
35	Errored Seconds–Path	No	Ingress–1	Number of PCV ESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.

Stat ID	CESM, FRSM, SRM, and SRME T3/E3 Service Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
36	Severely Errored Seconds–Path	Errored Seconds–Path	Ingress–1	Number of PCV SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
37	Severely Errored Framing Seconds	No	Ingress–1	Number of SEFSs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
38	Alarm Indication Signal Seconds	No	Ingress–1	Number of alarm seconds that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
39	Unavailable Seconds	No	Ingress–1	Number of UASs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
144	FEBE Counts	No	Ingress–1	Number of far end block errors (FEBEs) that are detected. Range: 0 to (2^{32}–1) cells.
145	FE Counts	No	Ingress–1	Number of framing pattern errors detected on a DS3/E3 interface. Range: 0 to (2^{32}–1) cells.
150	YEL Transitions	No	Ingress–1	Number of times yellow alarms are detected. Range: 0 to (2^{32}–1) cells.
220	Excessive Zero Counts	No	Ingress–1	Number of excessive zero bits detected on the interface. Range: 0 to (2^{32}–1) cells.
221	PLCP OOF Transition Counts	No	Ingress–1	Number of times the OOF is detected by the PLCP interface. Range: 0 to (2^{32}–1) cells.
222	PLCP Remote Alarm Indication	No	Ingress–1	Number of remote alarms that are detected by the PLCP interface. Range: 0 to (2^{32}–1) cells.
223	PLCP Framing Errors	No	Ingress–1	Number of framing errors that are detected by the PLCP interface. Range: 0 to (2^{32}–1) cells.
224	PLCP FEBE Counts	No	Ingress–1	Number of FEBEs detected on the PLCP interface. Range: 0 to (2^{32}–1) cells.
225	PLCP FEBE Err Secs	No	Ingress–1	Number of FEBE seconds that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
226	PLCP FEBE Severely Err Secs	PLCP FEBE Err Secs	Ingress–1	Number of FEBE SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
227	PLCP HCS Errors	No	Ingress–1	Number of cell header checksum errors detected on the PLCP interface. Range: 0 to (2^{32}–1) cells.
228	PLCP HCS Errored Secs	No	Ingress–1	Number of cell header checksum ESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
229	PLCP HCS Severely Errored Secs	PLCP HCS Err Secs	Ingress–1	Number of cell header checksum SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
230	PLCP BIP-8 Code Violations	No	Ingress–1	Number of BIP-8 CVs detected on the interface. Range: 0 to (2^{32}–1) cells.
231	PLCP BIP8 CV Err Secs	No	Ingress–1	Number of BIP-8 code violation ESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.

Stat ID	CESM, FRSM, SRM, and SRME T3/E3 Service Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
232	PLCP BIP8 CV Severely Err Secs	PLCP BIP8 CV Err Secs	Ingress–1	Number of BIP-8 code violation SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
233	PLCP Severely Err Framing Secs	No	Ingress–1	Number of SEFSs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
234	PLCP Unavailable Secs	No	Ingress–1	Number of UASs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
235	Alarm Indication Signal Severely Seconds	No	Ingress–1	Number of AIS SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.

SRM and SRME SONET Service Line

This section describes the statistics contained in the SONET group. The SONET line statistics apply to the SRM and SRME cards on the Cisco MGX 8230, Cisco MGX 8250, and Cisco MGX 8850 PXM1-based nodes. The following table lists the common attributes for SONET line statistics.

Front Card	SRM, SRME
Back Card	SRM-3T3-NOBC
Object Type	1
Subobject Type	10
Default Peak Interval	60 seconds (fixed setting)

The SRM and SRME SONET line statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	SRM and SRME SONET Line Statistics	Description
236	SONET Loss of Signal	Number of times an LOS is detected. Range: 0 to (2^{32}–1) cells.
237	SONET Loss of Frames	Number of LOFs detected on a SONET line. Range: 0 to (2^{32}–1) cells.
238	SONET Path alarm Indictn sgnl secs	Number of AISs on the path. Range: 0 to (2^{32}–1) cells.
239	SONET Remote Failure Indication	Number of remote failure indications (RFIs) that occur. Range: 0 to (2^{32}–1) cells.
240	SONET Line Alarm indication signal	Number of times that an AIS is detected on the line. Range: 0 to (2^{32}–1) cells.
241	SONET Line Remote Far end Indicatn	Number of remote failure indications (RFIs) detected on a SONET line. Range: 0 to (2^{32}–1) cells.

AXSM Line

This section describes the ATM line statistics contained in the AXSM_ATM_line group. The AXSM ATM line statistics apply to the Cisco MGX 8850 PXM45-based switch. The following table lists the common attributes for AXSM line statistics.

Front Card	MGX-AXSM-16-T3E3, MGX-AXSM-16-155, MGX-AXSM-4-622, MGX-AXSM-1-2488
Back Cards	MGX-SMB-8-T3, MGX-SMB-8-E3, MGX-SMB-4-155, MGX-SMFIR-8-155, MGX-SMFLR-8-155, MGX-MMF-8-155, MGX-SMFLR-2-622, MGX-SMFIR-2-622, MGX-SMFSR-1-2488, MGX-SMFLR-1-2488, MGX-SMFXLR-1-2488
Object Type	1
Subobject Type	11
Default Peak Interval	300 seconds

The AXSM line statistics are used primarily for gathering billing data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	AXSM Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 Cells From Port	Ingress CLP0+1 cells	Ingress–2, 8	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{40}–1) cells.
1	Ingress CLP1 Cells From Port	Ingress CLP0+1 cells	Ingress–2, 8	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{40}–1) cells.
2	Ingress CLP0+1 Cells From Port	No	Ingress–2, 8	Number of ingress cells with a CLP (0+1) cells. that are received. Range: 0 to (2^{40}–1) cells.
3	Ingress UPC CLP0 Discards	Ingress UPC CLP0+1 Discards	Ingress–2, 8	Number of cells with a CLP equal to 0 that are discarded due to UPC. Range: 0 to (2^{40}–1) cells.
4	Ingress UPC CLP0+1 Discards	No	Ingress–2, 8	Number of cells with CLP (0+1) cells. that are discarded due to UPC. Range: 0 to (2^{40}–1) cells.
5	Ingress Non-Compliant CLP0+1	No	Ingress–2, 8	Number of cells with CLP (0+1) cells. that are noncompliant or discarded due to policing. Range: 0 to (2^{40}–1) cells.
6	Ingress Total Valid OAM Cells	No	Ingress–2, 8	Number of ingress OAM cells that have a valid cell type and function type. Range: 0 to (2^{40}–1) cells.
7	Ingress Total Valid RM Cells	No	Ingress–2, 8	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{40}–1) cells.

Stat ID	AXSM Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
8	Ingress Total Errored OAM/RM cells	No	Ingress–2, 8	Number of total errored OAM and RM cells in the ingress direction. The errored cells include OAM cells with an incorrect CRC-10, an undefined OAM or function type, and RM cells with an incorrect CRC-10. Range: 0 to (2^{40}–1) cells.
9	Ingress non-zero GFC cells	No	Ingress–2, 8	Number of cells with a non-zero generic flow control (GFC) field. This statistic applies only to UNI and ingress directions. Range: 0 to (2^{40}–1) cells.
10	Ingress Invalid VPI/VCI cells	No	Ingress–2, 8	Number of ingress cells with an unassigned or invalid virtual path identifier (VPI) or virtual channel identifier (VCI). Range: 0 to (2^{40}–1) cells.
11	Ingress Last Unknown VPI.VCI (invalid)	No	Ingress–2, 8	Last unknown VPI.VCI value on the line. Range: VPI/VCI value
12	Ingress HEC Errored Cells Discarded	Ingress Total HEC-errored Cells	Ingress–2, 8	Number of header error control (HEC) errored cells discarded on the line. Range: 0 to (2^{40}–1) cells.
13	Ingress HEC Errored Cells Corrected	Ingress Total HEC-errored Cells	Ingress–2, 8	Number of HEC errored cells corrected on the line. Range: 0 to (2^{40}–1) cells.
14	Ingress Total HEC-errored cells	No	Ingress–2, 8	Number of total HEC errored cells received on the line. Range: 0 to (2^{40}–1) cells.
15	Egress CLP0 Cells to Port	Egress CLP0+1 Cells	Egress–7, 13	Number of egress cells with a CLP equal to 0. Range: 0 to (2^{40}–1) cells.
16	Egress CLP1 Cells to Port	Egress CLP0+1 Cells	Egress–7, 13	Number of egress cells with a CLP equal to 1. Range: 0 to (2^{40}–1) cells.
17	Egress CLP0+1 Cells to Port	No	Egress–7, 13	Number of egress cells with CLP (0+1) cells.. Range: 0 to (2^{40}–1) cells.
18	Egress OAM Valid cells	No	Egress–7, 13	Number of egress valid OAM cells. Range: 0 to (2^{40}–1) cells.
19	Egress RM Valid Cells	No	Egress–7, 13	Number of egress RM valid cells. Range: 0 to (2^{40}–1) cells.
20	Egress OAM/RM Errored Cells	No	Egress–7, 13	Number of errored OAM and RM cells in the egress direction. The errored cells include OAM cells with an incorrect CRC-10, an undefined OAM or function type, and RM cells with an incorrect CRC-10. Range: 0 to (2^{40}–1) cells.
21	Egress Invalid VPI/VCI Cells	No	Egress–7, 13	Number of egress cells with errored headers. This count includes cells with an unassigned or invalid VPI or VCI. Range: 0 to (2^{40}–1) cells.

AXSM-E Line

This section describes the ATM statistics contained in the AXSME_ATM_line group. The AXSM-E line statistics in this group apply to the Cisco MGX 8850 PXM45-based switch. The following table lists the attributes that are common to the AXSM-E line statistics.

Front Cards	AXSM-2-622-E, AXSM-8-155-E, AXSM-16-T3E3-E
Back Cards	SMFLR-1-622, SMFIR-1-622, SMFLR-4-155, SMFIR-4-155, MMF-4-155, SMB-4-155, SMB-8-T3, SMB-8-E3
Object Type	1
Subobject Type	12
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The AXSM-E line statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1. ()AXSM-E statistics are only collected at measurement points 1, 2, and 13.

Stat ID	AXSM-E Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Cells received	Ingress–1	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{40}–1) cells.
1	Ingress CLP1 cells received	Cells received	Ingress–1	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{40}–1) cells.
2	Ingress valid OAM cells received	No	Ingress–1	Number of OAM that are received at the port. Range: 0 to (2^{40}–1) cells.
3	Ingress valid RM cells received	No	Ingress–1	Number of RM cells received at the port. Range: 0 to (2^{40}–1) cells.
4	UNI only cells received	No	Ingress–1	Number of cells tagged as UNI. These cells are received at the port. Range: 0 to (2^{40}–1) cells.
5	Error OAM cells received	No	Ingress–1	Number of errored OAM cells received. The errored cells include OAM cells with an incorrect CRC-10 and an undefined OAM or function type. Range: 0 to (2^{40}–1) cells.
6	Ingress Invalid VPI/VCI cells	No	Ingress–2, 8	Number of ingress cells with an unassigned or invalid VPI or VCI. Range: 0 to (2^{40}–1) cells.
7	Egress CLP0 cells received	Cells transmitted	After 13	Number of cells with a CLP equal to 0 that are received at the port in the egress direction. Range: 0 to (2^{40}–1) cells.
8	Egress CLP1 cells received	Cells transmitted	After 13	Number of cells with a CLP equal to 1 that are received at the port in the egress direction. Range: 0 to (2^{40}–1) cells.
9	Egress valid OAM cells received	Cells transmitted	After 13	Number of OAM cells received at the port in the egress direction. Range: 0 to (2^{40}–1) cells.

Stat ID	AXSM-E Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
10	Egress valid RM cells received	Cells transmitted	After 13	Number of RM cells received at the port in the egress direction. Range: 0 to (2^{40}–1) cells.
11	Egress OAM cells received with errors	No	After 13	Number of errored OAM cells received at the port in the egress direction. The errored cells include OAM cells with an incorrect CRC-10 and an undefined OAM or function type. Range: 0 to (2^{40}–1) cells.
12	Uncorrectable header errors	No	Before 1	Number of cells discarded due to uncorrectable header errors. Range: 0 to (2^{40}–1) cells.
13	Corrected header errors	No	Before 1	Number of cells with header errors that are corrected. Range: 0 to (2^{40}–1) cells.
14	Idle/unassigned cells	No	Before 1	Number of idles or unassigned cells received. Range: 0 to (2^{40}–1) cells.
15	Cells received	No	Ingress–1	Number of cells received at the port. Range: 0 to (2^{40}–1) cells.
16	Cells transmitted	No	After 13	Number of cells transmitted. Range: 0 to (2^{40}–1) cells.

PXM1E Service Line

This section describes the statistics contained in the PXM1E group. The PXM1E connection statistics in this group apply to the Cisco MGX 8830 and Cisco MGX 8850 nodes. The following table lists the attributes that are common to the PXM1E service line statistics.

Front Cards	PXM1E-8-T3E3, PXM1E-8-155, PXM1E-2-622, PXM1E-T3E3-155 (combo card)
Back Cards	MGX-SMB-8T3, MGX-SMB-8E3, MGX-SMFIR-8-155LC/B, MGX-SMFLR-8-155LC/B, MGB-MMF-8-155/B, MGX-SMFIR-8-155LC/C, MGX-SMFLR-8-155LC/C, MGB-MMF-8-155/C, MGX-SMFIR-2-622/B, MGX-SMFLR-2-622/B, MGX-SMFIR-2-622/C, MGX-SMFLR-2-622/C, MGX-FRU-T3E3-155
Object Type	1
Subobject Type	13
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The PXM1E service line statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	PXM1E Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	CLP0 Cells before Policing (Ingress)	No	Ingress–2, 8	Number of ingress cells with a CLP equal to 0 that are received before policing. Range: 0 to (2^{40}–1) cells.
1	CLP1 Cells before Policing (Ingress)	No	Ingress–2, 8	Number of ingress cells with a CLP equal to 1 that are received before policing. Range: 0 to (2^{40}–1) cells.
2	Total Valid OAM Cells (Ingress)	No	Ingress–2, 8	Number of ingress OAM cells that have a valid cell type and function type. Range: 0 to (2^{40}–1) cells.
3	Total Valid RM Cells (Ingress)	No	Ingress–2, 8	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{40}–1) cells.
4	Non-zero GFC Cells (Ingress)	No	Ingress–2, 8	Number of cells with a non-zero generic flow control (GFC) field. This statistic applies only to UNI and ingress directions. Range: 0 to (2^{40}–1) cells.
5	Invalid OAM+RM Cells (Ingress)	No	Ingress–2, 8	Number of ingress invalid OAM and RM cells. Range: 0 to (2^{40}–1) cells.
6	Invalid Header Cells (Ingress)	No	Ingress–2, 8	Number of invalid header error control errored cells received on the line. Range: 0 to (2^{40}–1) cells.
7	CLP0 cells (Egress)	Egress CLP0+1 Cells	Egress–7, 13	Number of egress cells with a CLP equal to 0. Range: 0 to (2^{40}–1) cells.
8	CLP1 cells (Egress)	Egress CLP0+1 Cells	Egress–7, 13	Number of egress cells with a CLP equal to 1. Range: 0 to (2^{40}–1) cells.
9	Valid OAM cells (Egress)	No	Egress–7, 13	Number of egress valid OAM cells. Range: 0 to (2^{40}–1) cells.
10	Valid RM cells (Egress)	No	Egress–7, 13	Number of egress RM valid cells. Range: 0 to (2^{40}–1) cells.
11	InValid OAM cells (Egress)	No	Egress–7, 13	Number of egress invalid OAM cells. Range: 0 to (2^{40}–1) cells.
12	Uncorrectable Header cells (Ingress)	No	Ingress–2, 8	Number of header error control errored cells not corrected on the line. Range: 0 to (2^{40}–1) cells.
13	Corrected Header cells (Ingress)	No	Ingress–2, 8	Number of HEC errored cells corrected on the line. Range: 0 to (2^{40}–1) cells.
14	Idle cells (Ingress)	Total cells (Ingress)	Ingress–2, 8	Number of total idle cells received in the ingress direction. Range: 0 to (2^{40}–1) cells.
15	Total cells (Ingress)	No	Ingress–2, 8	Number of cells received in the ingress direction. Range: 0 to (2^{40}–1) cells.
16	Total cells (Egress)	No	Egress–7, 13	Number of cells received in the egress direction. Range: 0 to (2^{40}–1) cells.

AXSM-XG STS Line

This section describes the statistics contained in the AXSM-XG_Line group. The AXSM-XG STS line statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for AXSM-XG STS line statistics.

Front Card	AXSM-XG, AXSM-4-2488CH
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	15
Default Peak Interval	300 seconds

The following table includes the AXSM-XG service line statistics.

Stat ID	AXSM-XG Service Line Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
10	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
12	Ingress uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the line. Range: 0 to (2^{64}–1) cells.
13	Ingress corrected header errors	Ingress	Number of HEC errored cells corrected on the line. Range: 0 to (2^{64}–1) cells.
15	Ingress Cells received	Ingress	Number of cells received in the ingress direction. Range: 0 to (2^{64}–1) cells.
18	Egress Cells received	Egress	Number of cells received in the egress direction. Range: 0 to (2^{64}–1) cells.

AXSM-XG DS3 Path Physical Interface Statistics

This section describes the statistics contained in the AXSM-XG_DS3 Path group. The AXSM-XG DS3 path physical interface statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for AXSM-XG DS3 path physical statistics.

Front Card	AXSM-XG, AXSM-4-2488CH
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	16
Default Peak Interval	300 seconds

The following table includes the AXSM-XG ingress DS3 path physical interface statistics.

Stat ID	AXSM-XG DS3 Path Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Uncorrectable header errors	—	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Corrected header errors	—	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.
15	Cells received	—	Number of cells received. Range: 0 to (2^{64}–1) cells.
16	Cells transmitted	—	Number of cells transmitted. Range: 0 to (2^{64}–1) cells.

MPSM DS3 Physical Interface Statistics

This section describes the statistics contained in the MPSM DS3 group. The MPSM DS3 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS3 physical statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	20
Default Peak Interval	300 seconds

The following table includes the MPSM DS3 physical interface statistics.

Stat ID	MPSM DS3 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM STS1 Physical Interface Statistics

This section describes the statistics contained in the MPSM STS1 group. The MPSM STS1 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM STS1 physical interface statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	21
Default Peak Interval	300 seconds

The following table includes the MPSM STS1 physical interface statistics.

Stat ID	MPSM STS1 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM STM1 Physical Interface Statistics

This section describes the statistics contained in the MPSM STM1 group. The MPSM STM1 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and Cisco MGX 8950 nodes. The following table lists the common attributes for MPSM STM1 physical interface statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	22
Default Peak Interval	300 seconds

The following table includes the MPSM STM1 physical interface statistics.

Stat ID	MPSM STM1 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM DS3 STS1 Physical Interface Statistics

This section describes the statistics contained in the MPSM DS3 STS1 group. The MPSM DS3 STS1 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM STS1 physical interface statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	23
Default Peak Interval	300 seconds

The following table includes the MPSM DS3 STS1 physical interface statistics.

Stat ID	MPSM DS3 STS1 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM E3 STS1 Physical Interface Statistics

This section describes the statistics contained in the MPSM E3 STS1 group. The MPSM E3 STS1 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM E3 STS1 physical interface statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	24
Default Peak Interval	300 seconds

The following table includes the MPSM E3 STS1 physical interface statistics.

Stat ID	MPSM E3 STS1 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM DS3 AU4 Physical Interface Statistics

This section describes the statistics contained in the MPSM DS3 AU4 group. The MPSM DS3 AU4 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS3 AU4 physical interface statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	25
Default Peak Interval	300 seconds

The following table includes the MPSM DS3 AU4 physical interface statistics.

Stat ID	MPSM DS3 AU4 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM DS3 AU3 Physical Interface Statistics

This section describes the statistics contained in the MPSM DS3 AU3 group. The MPSM DS3 AU3 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS3 AU3 physical interface statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	26
Default Peak Interval	300 seconds

The following table includes the MPSM DS3 AU3 physical interface statistics.

Stat ID	MPSM DS3 AU3 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM E3 AU4 Physical Interface Statistics

This section describes the statistics contained in the MPSM E3 AU4 group. The MPSM E3 AU4 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM E3 AU4 physical interface statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	27
Default Peak Interval	300 seconds

The following table includes the MPSM E3 AU4 physical interface statistics.

Stat ID	MPSM E3 AU4 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM E3 AU3 Physical Interface Statistics

This section describes the statistics contained in the MPSM E3 AU3 group. The MPSM E3 AU3 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and Cisco MGX 8950 nodes. The following table lists the common attributes for MPSM E3 AU3 physical interface statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	28
Default Peak Interval	300 seconds

The following table includes the MPSM E3 AU3 physical interface statistics.

Stat ID	MPSM E3 AU3 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM DS1 VT STS1 Physical Interface Statistics

This section describes the statistics contained in the MPSM DS1 VT STS1 group. The MPSM DS1 VT STS1 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS1 VT STS1 physical interface statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	29
Default Peak Interval	300 seconds

The following table includes the MPSM DS1 VT STS1 physical interface statistics.

Stat ID	MPSM DS1 VT STS1 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM E1 VT STS1 Physical Interface Statistics

This section describes the statistics contained in the MPSM E1 VT STS1 group. The MPSM E1 VT STS1 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and Cisco MGX 8950 nodes. The following table lists the common attributes for MPSM E1 VT STS1 physical statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	30
Default Peak Interval	300 seconds

The following table includes the MPSM E1 VT STS1 physical interface statistics.

Stat ID	MPSM E1 VT STS1 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM DS1 DS3 STS1 Physical Interface Statistics

This section describes the statistics contained in the MPSM DS1 DS3 STS1 group. The MPSM DS1 DS3 STS1 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS1 DS3 STS1 physical statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	31
Default Peak Interval	300 seconds

The following table includes the MPSM DS1 DS3 STS1 physical interface statistics.

Stat ID	MPSM DS1 DS3 STS1 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM DS1 DS3 Line Physical Interface Statistics

This section describes the statistics contained in the MPSM DS1 DS3 Line group. The MPSM DS1 DS3 Line physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS1 DS3 Line physical statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	32
Default Peak Interval	300 seconds

The following table includes the MPSM DS1 DS3 Line physical interface statistics.

Stat ID	MPSM DS1 DS3 Line Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM DS1 TU11 AU4 Physical Interface Statistics

This section describes the statistics contained in the MPSM DS1 TU11 AU4 group. The MPSM DS1 TU11 AU4 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS1 TU11 AU4 physical statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	33
Default Peak Interval	300 seconds

The following table includes the MPSM DS1 TU11 AU4 physical interface statistics.

Stat ID	MPSM DS1 TU11 AU4 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM DS1 TU11 AU3 Physical Interface Statistics

This section describes the statistics contained in the MPSM DS1 TU11 AU3 group. The MPSM DS1 TU11 AU3 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS1 TU11 AU3 physical statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	34
Default Peak Interval	300 seconds

The following table includes the MPSM DS1 TU11 AU3 physical interface statistics.

Stat ID	MPSM DS1 TU11 AU3 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM E1 TU11 AU4 Physical Interface Statistics

This section describes the statistics contained in the MPSM E1 TU11 AU4 group. The MPSM E1 TU11 AU4 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM E1 TU11 AU4 physical statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	35
Default Peak Interval	300 seconds

The following table includes the MPSM E1 TU11 AU4 physical interface statistics.

Stat ID	MPSM E1 TU11 AU4 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM E1 TU11 AU3 Physical Interface Statistics

This section describes the statistics contained in the MPSM E1 TU11 AU3 group. The MPSM E1 TU11 AU3 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM E1 TU11 AU3 physical statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	36
Default Peak Interval	300 seconds

The following table includes the MPSM E1 TU11 AU3 physical interface statistics.

Stat ID	MPSM E1 TU11 AU3 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

MPSM IMA Group Physical Interface Statistics

This section describes the statistics contained in the MPSM IMA group. The MPSM IMA Group physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM155 IMA Group physical statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	37
Default Peak Interval	300 seconds

The following table includes the MPSM IMA Group physical interface statistics.

Stat ID	MPSM IMA Group Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

AXSM-XG STM16 Path Physical Interface Statistics

This section describes the statistics contained in the AXSM-XG_STM16 Path group. The AXSM-XG STM16 path physical interface statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for AXSM-XG STM16 path physical statistics.

Front Card	AXSM-XG-4OC48
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	38
Default Peak Interval	300 seconds

The following table includes the AXSM-XG ingress STM16 path physical interface statistics.

Stat ID	AXSM-XG STM16 Path Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.
15	Ingress Cells received	Ingress	Number of cells received. Range: 0 to (2^{64}–1) cells.
18	Egress Cells transmitted	Egress	Number of cells transmitted. Range: 0 to (2^{64}–1) cells.

AXSM-XG STM64 Path Physical Interface Statistics

This section describes the statistics contained in the AXSM-XG_STM64 Path group. The AXSM-XG STM64 path physical interface statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for AXSM-XG STM64 path physical statistics.

Front Card	AXSM-XG-1OC192
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	39
Default Peak Interval	300 seconds

The following table includes the AXSM-XG ingress STM64 path physical interface statistics.

Stat ID	AXSM-XG STM64 Path Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.
15	Ingress Cells received	Ingress	Number of cells received. Range: 0 to (2^{64}–1) cells.
18	Egress Cells transmitted	Egress	Number of cells transmitted. Range: 0 to (2^{64}–1) cells.

AXSM-XG DS3 Path in STM16 Path Physical Interface Statistics

This section describes the statistics contained in the AXSM-XG_STM16 Path group. The AXSM-XG STM16 path physical interface statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for DS3 path in AXSM-XG STM16 path physical statistics.

Front Card	AXSM-XG-1OC192
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	40
Default Peak Interval	300 seconds

The following table includes the AXSM-XG DS3 path in STM16 path physical interface statistics.

Stat ID	AXSM-XG DS3 Path in STM16 Path Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.
15	Ingress Cells received	Ingress	Number of cells received. Range: 0 to (2^{64}–1) cells.
18	Egress Cells transmitted	Egress	Number of cells transmitted. Range: 0 to (2^{64}–1) cells.

MPSM DS1/DS3/AU3 Physical Interface Statistics

This section describes the statistics contained in the MPSM DS1/DS3/AU3 group. The MPSM DS1/DS3/AU3 physical interface statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS1/DS3/AU3 physical statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	41
Default Peak Interval	300 seconds

The following table includes the MPSM DS1/DS3/AU3 physical interface statistics.

Stat ID	MPSM DS1/DS3/AU3 Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.

AXSM-XG STM1 Path Physical Interface Statistics

This section describes the statistics contained in the AXSM-XG_STM1 Path group. The AXSM-XG STM1 path physical interface statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for AXSM-XG STM16 path physical statistics.

Front Card	AXSM-XG-4OC48
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	42
Default Peak Interval	300 seconds

The following table includes the AXSM-XG STM1 path physical interface statistics.

Stat ID	AXSM-XG STM1 Path Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.
15	Ingress Cells received	Ingress	Number of cells received. Range: 0 to (2^{64}–1) cells.
18	Egress Cells transmitted	Egress	Number of cells transmitted. Range: 0 to (2^{64}–1) cells.

AXSM-XG STM4 Path Physical Interface Statistics

This section describes the statistics contained in the AXSM-XG_STM4 Path group. The AXSM-XG STM4 path physical interface statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for AXSM-XG STM4 path physical statistics.

Front Card	AXSM-XG-4OC48
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	43
Default Peak Interval	300 seconds

The following table includes the AXSM-XG STM1 path physical interface statistics.

Stat ID	AXSM-XG STM4 Path Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.
15	Ingress Cells received	Ingress	Number of cells received. Range: 0 to (2^{64}–1) cells.
18	Egress Cells transmitted	Egress	Number of cells transmitted. Range: 0 to (2^{64}–1) cells.

AXSM-XG DS3 Path in STM4 Path Physical Interface Statistics

This section describes the statistics contained in the AXSM-XG_STM4 Path group. The AXSM-XG STM4 path physical interface statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for DS3 path in AXSM-XG STM4 path physical statistics.

Front Card	AXSM-XG-1OC192
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	1
Subobject Type	44
Default Peak Interval	300 seconds

The following table includes the AXSM-XG DS3 path in STM4 path physical interface statistics.

Stat ID	AXSM-XG DS3 Path in STM4 Path Physical Interface Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
2	Ingress valid OAM cells received	Ingress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
3	Ingress valid RM cells received	Ingress	Number of ingress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
7	Egress CLP0 cells received	Egress	Number of egress cells with a CLP equal to 0 that are received. Range: 0 to (2^{64}–1) cells.
8	Egress CLP1 cells received	Egress	Number of egress cells with a CLP equal to 1 that are received. Range: 0 to (2^{64}–1) cells.
9	Egress valid OAM cells received	Egress	Number of valid OAM cells received. Range: 0 to (2^{64}–1) cells.
10	Egress valid RM cells received	Egress	Number of egress RM cells that have a valid cell type and function type. Range: 0 to (2^{64}–1) cells.
12	Ingress Uncorrectable header errors	Ingress	Number of header error control errored cells not corrected on the path. Range: 0 to (2^{64}–1) cells.
13	Ingress Corrected header errors	Ingress	Number of HEC errored cells corrected on the path. Range: 0 to (2^{64}–1) cells.
15	Ingress Cells received	Ingress	Number of cells received. Range: 0 to (2^{64}–1) cells.
18	Egress Cells transmitted	Egress	Number of cells transmitted. Range: 0 to (2^{64}–1) cells.

MPSM16-T1E1 ATM Cell Layer Statistics Subobject Type 45

This section describes the statistics contained in the MPSM16-T1E1_Cell_Layer_stats group. The MPSM16-T1E1 ATM Cell Layer statistics apply to the MPSM16-T1E1 cards on the Cisco MGX 8850 PXM45-based and 8830 nodes. The following table lists the common attributes for MPSM16-T1E1 ATM connection statistics.

Front Card	MPSM16-T1E1
Back Card	RBBN-16T1E1, MCC-16E1, RBBN-16-T1E1-1N, MCC-16-E1-1N, RED-16-T1E1
Object Type	1
Subobject Type	45
Default Peak Interval	300 seconds

The following table includes the MPSM16-T1E1 ATM Cell Layer statistics.

Stat ID	MPSM16-T1E1 ATM Cell Layer Statistics	Ingress/Egress Measurement Point
0	All CLP0 cells from PIF	Ingress
1	All CLP1 cells from PIF	Ingress
2	All valid OAM cells from PIF	Ingress
3	All valid RM Cells from PIF	Ingress
7	All CLP0 cells to PIF	Egress
8	All CLP1 cells to PIF	Egress
9	All valid OAM cells to PIF	Egress
10	All valid RM cells to PIF	Egress
12	ATM Uncorrectable header errors from PIF	Ingress
13	ATM corrected header errors from PIF	Ingress

MPSM16-T1E1 ATM Cell Layer Statistics Subobject Type 46

This section describes the statistics contained in the MPSM16-T1E1_Cell_Layer_stats group. The MPSM16-T1E1 ATM connection statistics apply to the MPSM16-T1E1 cards on the Cisco MGX 8850 PXM45-based and 8830 nodes. The following table lists the common attributes for MPSM16-T1E1 ATM connection statistics.

Front Card	MPSM16-T1E1
Back Card	RBBN-16T1E1, MCC-16E1, RBBN-16-T1E1-1N, MCC-16-E1-1N, RED-16-T1E1
Object Type	1
Subobject Type	46
Default Peak Interval	300 seconds

The following table includes the MPSM16-T1E1 ATM Cell Layer statistics.

Stat ID	MPSM16-T1E1 ATM Cell Layer Statistics	Ingress/Egress Measurement Point
0	All CLP0 cells from PIF	Ingress
1	All CLP1 cells from PIF	Ingress
2	All valid OAM cells from PIF	Ingress
3	All valid RM Cells from PIF	Ingress
7	All CLP0 cells to PIF	Egress
8	All CLP1 cells to PIF	Egress
9	All valid OAM cells to PIF	Egress
10	All valid RM cells to PIF	Egress
12	ATM Uncorrectable header errors from PIF	Ingress
13	ATM corrected header errors from PIF	Ingress

MPSM16-T1E1 ATM Cell Layer Statistics Subobject Type 47

This section describes the statistics contained in the MPSM16-T1E1_Cell_Layer_stats group. The MPSM16-T1E1 ATM connection statistics apply to the MPSM16-T1E1 cards on the Cisco MGX 8850 PXM45-based and 8830 nodes. The following table lists the common attributes for MPSM16-T1E1 ATM Cell Layer statistics.

Front Card	MPSM16-T1E1
Back Card	RBBN-16T1E1, MCC-16E1, RBBN-16-T1E1-1N, MCC-16-E1-1N, RED-16-T1E1
Object Type	1
Subobject Type	47
Default Peak Interval	300 seconds

The following table includes the MPSM16-T1E1 ATM Cell Layer statistics.

Stat ID	MPSM16-T1E1 ATM Cell Layer Statistics	Ingress/Egress Measurement Point
0	All CLP0 cells from PIF	Ingress
1	All CLP1 cells from PIF	Ingress
2	All valid OAM cells from PIF	Ingress
3	All valid RM Cells from PIF	Ingress
7	All CLP0 cells to PIF	Egress
8	All CLP1 cells to PIF	Egress
9	All valid OAM cells to PIF	Egress
10	All valid RM cells to PIF	Egress
12	ATM Uncorrectable header errors from PIF	Ingress
13	ATM corrected header errors from PIF	Ingress

Trunk Statistics

The following trunk statistics are supported in CWM Release 15:

- Narrowband ATM, page 4-117
- IPX ATM, page 4-119
- BXM and BNI ATM Trunk, page 4-126
- MGX Narrowband, page 4-132
- PXM1 and BNM ATM, page 4-133
- BNM SONET, page 4-134
- FastPAD Trunk, page 4-134
- UXM Trunk, page 4-135

Narrowband ATM

This section describes the statistics contained in the Narrowband group. The statistics in this group apply to the NTC card on the Cisco IPX switch. The following table lists the common attributes for narrowband ATM statistics.

Front Cards	NTC
Back Cards	BC-T1/E1
Object Type	2
Subobject Type	0
Default Peak Interval	300 seconds

The narrowband ATM statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	Narrowband ATM Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Bipolar Violations	—	—	Number of bipolar violations. Range: 0 to (2^{32}–1) cells.
1	Frame Slips	—	—	Number of frame slips. Range: 0 to (2^{32}–1) cells.
2	Out of Frames	No	Ingress–1	Number of times an OOF is detected. Range: 0 to (2^{32}–1) cells.
3	Losses of Signal	No	Ingress–1	Number of times an LOS is detected. Range: 0 to (2^{32}–1) cells.
4	Frame Bit Errors	—	—	Number of frame bit errors. Range: 0 to (2^{32}–1) cells.
5	CRC Errors	—	—	Number of CRC errors. Range: 0 to (2^{32}–1) cells.
8	Packet Out of Frames	—	—	Number of out of frame packets. Range: 0 to (2^{32}–1) cells.
9	Packet CRC Errors	No	Ingress–1	Number of packets received from the CPE with an invalid CRC. The calculated CRC does not match the CRC provided by the CPE. Range: 0 to (2^{32}–1) cells.
10	Bad Clock Errors	—	—	Number of bad clock errors. Range: 0 to (2^{32}–1) cells.
11	Voice Packets Dropped	No	Egress–13	Number of total voice packets dropped before transmitting onto the line. Range: 0 to (2^{32}–1) cells.
12	TS Packets Dropped	No	Egress–6, 7	Number of time-stamped packets dropped before the packets in the queue are transmitted. Range: 0 to (2^{32}–1) cells.
13	Non-TS Packets Dropped	No	Egress–6, 7	Number of non-time-stamped packets dropped before the packets in the queue are transmitted. Range: 0 to (2^{32}–1) cells.
14	PCC Packets Dropped	—	—	Number of PCC packets dropped. Range: 0 to (2^{32}–1) cells.
15	BData A Packets Dropped	No	Egress–6, 7	Number of bursty data A packets dropped before the packets in the queue are transmitted. Range: 0 to (2^{32}–1) cells.
16	BData B Packets Dropped	No	Egress–6, 7	Number of bursty data B packets dropped before the packets in the queue are transmitted. Range: 0 to (2^{32}–1) cells.
17	Voice Packets Transmitted	Total Packets Transmitted	Egress–13	Number of total voice packets transmitted to the line. Range: 0 to (2^{32}–1) cells.
18	TS Packets Transmitted	Total Packets Transmitted	Egress–7	Number of packets transmitted from the time-stamped queue. Range: 0 to (2^{32}–1) cells.
19	Non-TS Packets Transmitted	Total Packets Transmitted	Egress–7	Number of packets transmitted from the non-time-stamped queue. Range: 0 to (2^{32}–1) cells.
20	PCC Packets Transmitted	—	—	Number of PCC packets transmitted. Range: 0 to (2^{32}–1) cells.

Stat ID	Narrowband ATM Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
21	BData A Packets Transmitted	Total Packets Transmitted	Egress–7	Number of packets transmitted from the bursty data A queue. Range: 0 to (2^{32}–1) cells.
22	BData B Packets Transmitted	Total Packets Transmitted	Egress–7	Number of packets transmitted from the bursty data B queue. Range: 0 to (2^{32}–1) cells.
23	Total Packets Transmitted	No	Egress–7, 13	Number of total packets transmitted. Range: 0 to (2^{32}–1) cells.
24	BData A CLP Packets Dropped	No	Egress–7, 13	Number of bursty data A packets with a CLP equal to 1 that are dropped. These packets are dropped before transmitting onto the line. Range: 0 to (2^{32}–1) cells.
25	BData B CLP Packets Dropped	No	Egress–7, 13	Number of bursty data B packets with a CLP equal to 1 that are dropped. These packets are dropped before transmitting onto the line. Range: 0 to (2^{32}–1) cells.
26	BData A EFCN Packets Transmitted	Total Packets Transmitted	Egress–13	Number of bursty data A packets with an explicit forward congestion notification (EFCN) bit equal to 1 that are transmitted to the port. This statistic is collected after the packets are received from the bus and have passed egress queuing and servicing. Range: 0 to (2^{32}–1) cells.
27	BData B EFCN Packets Transmitted	Total Packets Transmitted	Egress–13	Number of bursty data B packets with an EFCN bit equal to 1 that are transmitted to the port. This statistic is collected after the packets are received from the bus and have passed egress queuing and servicing. Range: 0 to (2^{32}–1) cells.
148	BDataA CLP Packets Transmitted	No	Egress–7, 13	Number of bursty data A packets with a CLP equal to 1 that are transmitted from the queue. Range: 0 to (2^{32}–1) cells.
149	BDataB CLP Packets Transmitted	No	Egress–7, 13	Number of bursty data B packets with a CLP equal to 1 that are transmitted from the queue. Range: 0 to (2^{32}–1) cells.

IPX ATM

This section describes the statistics contained in the IPX_ATM group. The statistics in this group apply to the Cisco IPX switch. The following table lists the common attributes for IPX ATM statistics.

Front Card	BTM
Back Cards	AIT-E2, AIT-E3
Object Type	2
Subobject Type	1
Default Peak Interval	300 seconds

The IPX ATM statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	IPX ATM Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
2	Out of Frames	No	Ingress–1	Number of times an OOF is detected. Range: 0 to (2^{32}–1) cells.
3	Losses of Signal	No	Ingress–1	Number of times an LOS is detected. Range: 0 to (2^{32}–1) cells.
9	Packet CRC Errors	No	Ingress–1	Number of packets received from the CPE with an invalid CRC. The calculated CRC does not match the CRC provided by the CPE. Range: 0 to (2^{32}–1) cells.
11	Voice Packets Dropped	No	Egress–13	Number of total voice packets dropped before transmitting onto the line. Range: 0 to (2^{32}–1) cells.
12	TS Packets Dropped	No	Egress–6, 7	Number of time-stamped packets dropped before the packets in the queue are transmitted. Range: 0 to (2^{32}–1) cells.
13	Non-TS Packets Dropped	No	Egress–6, 7	Number of non-time-stamped packets dropped before the packets in the queue are transmitted. Range: 0 to (2^{32}–1) cells.
14	High Priority Packets Dropped	No	Egress–6, 7	Number of high priority packets dropped before the packets in the queue are transmitted. Range: 0 to (2^{32}–1) cells.
15	BData A Packets Dropped	No	Egress–6, 7	Number of bursty data A packets dropped before the packets in the queue are transmitted. Range: 0 to (2^{32}–1) cells.
16	BData B Packets Dropped	No	Egress–6, 7	Number of bursty data B packets dropped before the packets in the queue are transmitted. Range: 0 to (2^{32}–1) cells.
17	Voice Packets Transmitted	Total Packets Transmitted	Egress–13	Number of total voice packets transmitted to the line. Range: 0 to (2^{32}–1) cells.
18	TS Packets Transmitted	Total Packets Transmitted	Egress–7	Number of packets transmitted from the time-stamped queue. Range: 0 to (2^{32}–1) cells.
19	Non-TS Packets Transmitted	Total Packets Transmitted	Egress–7	Number of packets transmitted from the non-time-stamped queue. Range: 0 to (2^{32}–1) cells.
20	High Priority Packets Transmitted	Total Packets Transmitted	Egress–7	Number of packets transmitted from the high priority queue. Range: 0 to (2^{32}–1) cells.
21	BData A Packets Transmitted	Total Packets Transmitted	Egress–7	Number of packets transmitted from the bursty data A queue. Range: 0 to (2^{32}–1) cells.
22	BData B Packets Transmitted	Total Packets Transmitted	Egress–7	Number of packets transmitted from the bursty data B queue. Range: 0 to (2^{32}–1) cells.
23	Total Packets Transmitted	No	Egress–7, 13	Number of total packets transmitted. Range: 0 to (2^{32}–1) cells.

Stat ID	IPX ATM Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
24	BData A CLP Packets Dropped	No	Egress–7, 13	Number of bursty data A packets with a CLP equal to 1 that are dropped. These packets are dropped before transmitting onto the line. Range: 0 to (2^{32}–1) cells.
25	BData B CLP Packets Dropped	No	Egress–7, 13	Number of bursty data B packets with a CLP equal to 1 that are dropped. These packets are dropped before transmitting onto the line. Range: 0 to (2^{32}–1) cells.
26	BData A EFCN Packets Transmitted	Total Packets Transmitted	Egress–13	Number of bursty data A packets with an explicit forward congestion notification (EFCN) bit equal to 1 that are transmitted to the port. This statistic is collected after the packets are received from the bus and have passed egress queuing and servicing. Range: 0 to (2^{32}–1) cells.
27	BData B EFCN Packets Transmitted	Total Packets Transmitted	Egress–13	Number of bursty data B packets with an EFCN bit equal to 1 that are transmitted to the port. This statistic is collected after the packets are received from the bus and have passed egress queuing and servicing. Range: 0 to (2^{32}–1) cells.
28	Line Code Violations	No	Ingress–1	Number of line CVs detected on the interface. These violations occur when more than three zeroes in a row are transmitted. Range: 0 to (2^{32}–1) cells.
29	Line Errored Seconds	No	Ingress–1	Number of line code violation ESs. Range: 0 to (2^{32}–1) cells.
30	Line Severely Errored Seconds	Line Errored Seconds	Ingress–1	Number of line code violation SESs detected on the interface. Range: 0 to (2^{32}–1) cells.
31	P-bit Parity Code Violations	No	Ingress–1	Number of P-bit parity codes that do not match the locally calculated parity code. Range: 0 to (2^{32}–1) cells.
32	Errored Seconds - Parity	No	Ingress–1	Number of seconds with at least one P-bit PCV. Range: 0 to (2^{32}–1) cells.
33	Severely Errored Seconds - Parity	Line Errored Seconds	Ingress–1	Number of P-bit PCV SESs detected on the interface. Range: 0 to (2^{32}–1) cells.
34	C-bit Parity Code Violations	No	Ingress–1	Number of C-bit parity CVs that do not match the locally calculated parity code. Range: 0 to (2^{32}–1) cells.
35	Errored Seconds - Path	No	Ingress–1	Number of C-bit PCV ESs detected on the interface. Range: 0 to (2^{32}–1) cells.
36	Severely Errored Seconds - Path	Errored Seconds–Path	Ingress–1	Number of C-bit PCV SESs detected on the interface. Range: 0 to (2^{32}–1) cells.
37	Severely Errored Framing Seconds	No	Ingress–1	Number of SEFSs detected on the interface. Range: 0 to (2^{32}–1) cells.
38	Alarm Indication Signal Seconds	No	Ingress–1	Number of AIS seconds detected on the interface. Range: 0 to (2^{32}–1) cells.
39	Unavailable Seconds	No	Ingress–1	Number of seconds that service is not available because of LOS, OOF, AIS, or a yellow alarm. Range: 0 to (2^{32}–1) cells.

Stat ID	IPX ATM Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
45	ATM Cell Header HEC Errors	No	Ingress-1	Number of header error checksum mismatches that are detected. Range: 0 to (2^{32}–1) cells.
47	Tx Voice Cells Dropped	No	Egress–7, 13	Number of voice cells discarded in the transmit direction. Range: 0 to (2^{32}–1) cells.
48	Tx TS Cells Dropped	No	Egress–7, 13	Number of time-stamped cells discarded in the transmit direction. Range: 0 to (2^{32}–1) cells.
49	Tx Non-TS Cells Dropped	No	Egress–7, 13	Number of non-time-stamped cells discarded in the transmit direction. Range: 0 to (2^{32}–1) cells.
50	Tx High Priority Cells Dropped	No	Egress–7, 13	Number of high-priority cells discarded in the transmit direction. Range: 0 to (2^{32}–1) cells.
51	Tx BData A Cells Dropped	No	Egress–7, 13	Number of bursty data A cells discarded in the transmit direction. Range: 0 to (2^{32}–1) cells.
52	Tx BData B Cells Dropped	No	Egress–7, 13	Number of bursty data B cells discarded in the transmit direction. Range: 0 to (2^{32}–1) cells.
53	Voice Cells Tx to Line	Total Cells Tx to Line	Egress–7, 13	Number of cells transmitted from the voice queue. Range: 0 to (2^{32}–1) cells.
54	TS Cells Tx to Line	Total Cells Tx to Line	Egress–7, 13	Number of cells transmitted from the time-stamped queue. Range: 0 to (2^{32}–1) cells.
55	Non-TS Cells Tx to Line	Total Cells Tx to Line	Egress–7, 13	Number of cells transmitted from the non-time-stamped queue. Range: 0 to (2^{32}–1) cells.
56	High Priority Cells Tx to Line	Total Cells Tx to Line	Egress–7, 13	Number of cells transmitted from the high priority queue. Range: 0 to (2^{32}–1) cells.
57	BData A Cells Tx to Line	Total Cells Tx to Line	Egress–7, 13	Number of cells transmitted from the bursty data A cells queue. Range: 0 to (2^{32}–1) cells.
58	BData B Cells Tx to Line	Total Cells Tx to Line	Egress–7, 13	Number of cells transmitted from the bursty data B cells queue. Range: 0 to (2^{32}–1) cells.
59	Half Full Cells Tx to Line	Total Cells Tx to Line	Egress–7, 13	Number of cells containing one packet that are transmitted. Range: 0 to (2^{32}–1) cells.
60	Full Cells Tx to Line	Total Cells Tx to Line	Egress–7, 13	Number of cells containing two packets transmitted. Range: 0 to (2^{32}–1) cells.
61	Total Cells Tx to Line	No	Egress–7, 13	Number of cells transmitted. Range: 0 to (2^{32}–1) cells.
62	Tx BData A CLP Cells Dropped	No	Egress–7, 13	Number of bursty data A cells with a CLP equal to 1 that are discarded. Range: 0 to (2^{32}–1) cells.
63	Tx BData B CLP Cells Dropped	No	Egress–7, 13	Number of bursty data B cells with a CLP equal to 1 that are discarded. Range: 0 to (2^{32}–1) cells.
64	BData A EFCN Cells Tx to Line	No	Egress–7, 13	Number of bursty data A cells with EFCN equal to 1 that are transmitted. Range: 0 to (2^{32}–1) cells.
65	BData B EFCN Cells Tx to Line	No	Egress–7, 13	Number of bursty data B cells with EFCN equal to 1 that are transmitted. Range: 0 to (2^{32}–1) cells.
66	Half Full Cells Rx from Line	Total Cells Rx from Line	Ingress–1, 8	Number of cells containing one packet that are received. Range: 0 to (2^{32}–1) cells.

Stat ID	IPX ATM Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
67	Full Cells Rx from Line	Total Cells Rx from Line	Ingress–1, 8	Number of cells containing two packets received. Range: 0 to (2^{32}–1) cells.
68	Total Cells Rx from Line	No	Ingress–1	Number of cells received. Range: 0 to (2^{32}–1) cells.
69	Total Packets Rx from Line	No	Ingress–1	Number of total packets received. Range: 0 to (2^{32}–1) cells.
70	Rx Voice Packets Dropped	No	Ingress–4	Number of total voice packets dropped before the queue is sent to the bus. Range: 0 to (2^{32}–1) cells.
71	Rx TS Packets Dropped	No	Ingress–4	Number of time-stamped packets dropped before the queue is sent to the bus. Range: 0 to (2^{32}–1) cells.
72	Rx Non-TS Packets Dropped	No	Ingress–4	Number of non-time-stamped packets dropped before the queue is sent to the bus. Range: 0 to (2^{32}–1) cells.
73	Rx High Priority Packets Dropped	No	Ingress–4	Number of high priority packets dropped before the queue is sent to the bus. Range: 0 to (2^{32}–1) cells.
74	Rx BData A Packets Dropped	No	Ingress–4	Number of bursty data A packets dropped before the queue is sent to the bus. Range: 0 to (2^{32}–1) cells.
75	Rx BData B Packets Dropped	No	Ingress–4	Number of bursty data B packets dropped before the queue is sent to the bus. Range: 0 to (2^{32}–1) cells.
82	Rx BData A CLP Packets Dropped	No	Ingress–4	Number of bursty data A packets with a CLP equal to 1 that are dropped. These packets are dropped before the queue is sent to the bus. Range: 0 to (2^{32}–1) cells.
83	Rx BData B CLP Packets Dropped	No	Ingress–4	Number of bursty data B packets with a CLP equal to 1 that are dropped. These packets are dropped before the queue is sent to the bus. Range: 0 to (2^{32}–1) cells.
87	Rx Voice Cells Dropped	No	Ingress–4	Number of voice cells discarded in the receive direction. These cells are dropped before the queue is sent to the bus. Range: 0 to (2^{32}–1) cells.
88	Rx TS Cells Dropped	No	Ingress–4	Number of time-stamped cells discarded in the receive direction. These cells are dropped before the queue is sent to the bus. Range: 0 to (2^{32}–1) cells.
89	Rx Non-TS Cells Dropped	No	Ingress–4	Number of non-time-stamped cells discarded in the receive direction. These cells are dropped before the queue is sent to the bus. Range: 0 to (2^{32}–1) cells.
90	Rx High Priority Cells Dropped	No	Ingress–4	Number of high-priority cells discarded in the receive direction. These cells are dropped before the queue is sent to the bus. Range: 0 to (2^{32}–1) cells.
91	Rx BData A Cells Dropped	No	Egress–7, 13	Number of bursty data A cells discarded in the receive direction. These cells are dropped before the queue is sent to the bus. Range: 0 to (2^{32}–1) cells.
92	Rx BData B Cells Dropped	No	Egress–7, 13	Number of bursty data B cells discarded in the receive direction. These cells are dropped before the queue is sent to the bus. Range: 0 to (2^{32}–1) cells.

Stat ID	IPX ATM Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
93	Rx BData A CLP Cells Dropped	No	Ingress–4	Number of cells with a CLP equal to 1 that are dropped from the bursty data A queue. Range: 0 to (2^{32}–1) cells.
94	Rx BData B CLP Cells Dropped	No	Ingress–4	Number of cells with a CLP equal to 1 that are dropped from the bursty data B queue. Range: 0 to (2^{32}–1) cells.
140	FEBE Counts	No	Ingress–1	Number of far end block errors (FEBEs) that are detected. Range: 0 to (2^{32}–1) cells.
141	FERR Counts (M-bit or F-bit)	No	Ingress–2	Number of framing errors in the frame received from the line. Range: 0 to (2^{32}–1) cells.
142	PLCP FEBE Err Secs	No	Ingress–1	Number of seconds that the physical layer convergence procedure (PLCP) FEBEs are received. Range: 0 to (2^{32}–1) cells.
143	PLCP FEBE Severely Err Secs	PLCP FEBE Err Secs	Ingress–1	Number of PLCP severely errored FEBE seconds. Range: 0 to (2^{32}–1) cells.
144	PLCP FEBE Counts	No	Ingress–1	Number of PLCP FEBEs that are detected in the frame. Range: 0 to (2^{32}–1) cells.
145	PLCP FE Counts	No	Ingress–1	Number of PLCP framing pattern errors detected on a DS3/E3 interface. Range: 0 to (2^{32}–1) cells.
146	ATM HEC Errored Seconds	No	Ingress–1	Number of seconds that ATM header errored checksum errors are received from the line. Range: 0 to (2^{32}–1) cells.
147	ATM HEC Severely Errored Seconds	No	Ingress–1	Number of seconds that ATM header errored checksum severe errors are received from the line. Range: 0 to (2^{32}–1) cells.
148	BData A CLP Packets Transmitted	No	Egress–7, 13	Number of bursty data A packets with a CLP equal to 1 that are transmitted from the queue. Range: 0 to (2^{32}–1) cells.
149	BData B CLP Packets Transmitted	No	Egress–7, 13	Number of bursty data B packets with a CLP equal to 1 that are transmitted from the queue. Range: 0 to (2^{32}–1) cells.
160	CGW Packets Rx From IPX Net	No	—	Number of Complex Gateway packets (CGW) that are received. Range: 0 to (2^{32}–1) cells.
161	CGW Cells Tx To Line	No	—	Number of CGWs that are transmitted. Range: 0 to (2^{32}–1) cells.
162	CGW Frames Relayed To Line	No	—	Number of CGW frames that are transmitted. Range: 0 to (2^{32}–1) cells.
163	CGW Aborted Frames Tx To Line	No	—	Number of CGW frames that are aborted during transmission. Range: 0 to (2^{32}–1) cells.
166	CGW Packets Tx To IPX Net	No	—	Number of CGW packets transmitted. Range: 0 to (2^{32}–1) cells.
167	CGW Cells Rx From Line	No	—	Number of CGW cells received. Range: 0 to (2^{32}–1) cells.
171	CGW Bad CRC-32 Frames Rx From Line	No	—	Number of CGW frames with bad CRC-32 bit that are received. Range: 0 to (2^{32}–1) cells.
173	CGW Bad CRC-16 Frames Rx From IPX	No	—	Number of CGW frames with bad CRC-16 bit that are received. Range: 0 to (2^{32}–1) cells.

Stat ID	IPX ATM Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
177	OAM Loopback Cells Tx	No	After 13	Number of OAM segment loopback cells transmitted to the port. Range: 0 to (2^{32}–1) cells.
178	OAM AIS Cells Tx	No	After 13	Number of OAM AIS cells transmitted to the port. Range: 0 to (2^{32}–1) cells.
179	OAM FERF Cells Tx	No	After 13	Number of OAM cells transmitted to the port. Range: 0 to (2^{32}–1) cells.
180	OAM RTD Cells Tx	No	—	Number of OAM cells measuring round trip delay that are transmitted. Range: 0 to (2^{32}–1) cells.
181	OAM RA Cells Tx	No	—	Number of OAM cells with remote alarm (RA) code that are transmitted. Range: 0 to (2^{32}–1) cells.
183	OAM CC Cells Tx	No	—	Number of OAM cells with internode controller communications (CC) that are transmitted. Range: 0 to (2^{32}–1) cells.
185	OAM Loopback Cells Rx	No	Before 1	Number of OAM segment loopback cells received from the port. Range: 0 to (2^{32}–1) cells.
186	OAM AIS Cells Rx	No	Before 1	Number of OAM AIS cells received from the port. Range: 0 to (2^{32}–1) cells.
187	OAM FERF Cells Rx	No	Before 1	Number of OAM FERF cells received from the port. Range: 0 to (2^{32}–1) cells.
188	OAM RTD Cells Rx	No	—	Number of OAM cells measuring round trip delay that are received. Range: 0 to (2^{32}–1) cells.
189	OAM RA Cells Rx	No	—	Number of OAM cells with RA code that are received. Range: 0 to (2^{32}–1) cells.
191	OAM CC Cells Rx	No	—	Number of OAM cells with internode CC that are received. Range: 0 to (2^{32}–1) cells.

BXM and BNI ATM Trunk

This section describes the BXM and BNI statistics contained in the BPX_ATM group. The statistics in this group apply to Switch Software Releases 9.2 and 9.3 on the Cisco BPX switch. The following table lists the common attributes for BXM and BNI trunk statistics.

Front Cards	BXM- T3/E3, BXM-155, BXM-622 BNI-T3/E3, BNI-OC-3
Back Cards	BXM—BPX-T3/E3-BC, MMF-155-4/8, SMF-155-4/8 SMFLR-155-4/8, SMF-622-2, SMFLR-622-2, SMFXLR-622-2, SMF-622, SMFLR-622, SMFXLR-622 BNI—LM-3T3/3E, LM-OC-3-SMF/MMF/SMFL
Object Type	2
Subobject Type	2
Default Peak Interval	300 seconds

The BXM and BNI ATM trunk statistics are used primarily for gathering billing and performance data. However, the multilevel statistics listed in this section are typically used for troubleshooting. (Some of the BXM and BNI trunk statistics are measured from different Qbins on the BXM.)

Each Qbin supports these types of traffic:

- Qbin 1—High priority
- Qbin 2—Time-stamped
- Qbin 3—Non-time-stamped
- Qbin 4—Bursty Data A
- Qbin 5—Bursty Data B
- Qbin 6—CBR
- Qbin 7—VBR-rt and Voice
- Qbin 8—VBR-nrt
- Qbin 9—ABR
- Qbin 10—UBR
- Qbin 11–15—Not assigned service traffic

The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Note The statistics IDs in this section do not correspond to the IDs in the statistic file collected by the switch. For the mapping of these statistics IDs, see Appendix B, "BPX Trunk Statistics Mapping".

Stat ID	BXM and BNI Trunk Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
47	Tx Voice Cells Dropped	No	Egress–6, 7	Number of voice cells dropped before the cells in the queue are transmitted onto the line. These cells are dropped due to policing. Range: 0 to (2^{32}–1) cells.
48	Tx TS Cells Dropped	No	Egress–6, 7	Number of time-stamped cells dropped before the cells in the queue are transmitted onto the line. These cells are dropped due to policing. Range: 0 to (2^{32}–1) cells.
49	Tx Non-TS Cells Dropped	No	Egress–6, 7	Number of non-time-stamped cells dropped before the cells in the queue are transmitted onto the line. These cells are dropped due to policing. Range: 0 to (2^{32}–1) cells.
50	Tx High Priority Cell Dropped	No	Egress–6, 7	Number of high-priority cells dropped before the cells in the queue are transmitted onto the line. These cells are dropped due to policing. High-priority cells include OAM and RM traffic. Range: 0 to (2^{32}–1) cells.
51	Tx BData A Cells Dropped	No	Egress–6, 7	Number of bursty data A cells dropped before the cells in the queue are transmitted onto the line. These cells are dropped due to policing. Range: 0 to (2^{32}–1) cells.
52	Tx BData B Cells Dropped	No	Egress–6, 7	Number of bursty data B cells dropped before the cells in the queue are transmitted onto the line. These cells are dropped due to policing. Range: 0 to (2^{32}–1) cells.
53	Voice Cells Tx to Line	No	Egress–6, 7	Number of cells transmitted from the voice queue onto the line. Range: 0 to (2^{32}–1) cells.
54	TS Cells Tx to Line	Total Cells Tx to Line	Egress–7	Number of cells transmitted from the time-stamped queue onto the line. Range: 0 to (2^{32}–1) cells.
55	Non-TS Cells Tx to Line	Total Cells Tx to Line	Egress–7	Number of cells transmitted from the non-time-stamped queue onto the line. Range: 0 to (2^{32}–1) cells.
56	High Priority Cells Tx to Line	Total Cells Tx to Line	Egress–7	Number of cells transmitted from the high priority queue onto the line. High-priority cells include OAM and RM traffic. Range: 0 to (2^{32}–1) cells.
57	BData A Cells Tx to Line	Total Cells Tx to line	Egress–7	Number of cells transmitted from the bursty data A queue onto the line. Range: 0 to (2^{32}–1) cells.
58	BData B Cells Tx to Line	Total Cells Tx to line	Egress–7	Number of cells transmitted from the bursty data B queue onto the line. Range: 0 to (2^{32}–1) cells.
61	Total Cells Tx to line	No	Egress–7	Number of cells transmitted to the line. Range: 0 to (2^{32}–1) cells.
62	Tx Bdata A CLP Cells Dropped	Tx BData A Cells Dropped	Egress–6, 7	Number of cells with a a CLP equal to 1 that are dropped before being added to the bursty data A transmit queue. The count includes cells dropped due to an overflow or selective discard at the egress B-data A Qbin. Range: 0 to (2^{32}–1) cells.
63	Tx BData B CLP Cells Dropped	Tx BData B Cells Dropped	Egress–6, 7	Number of cells with CLP bit set that are dropped before being added to the bursty data B transmit queue. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and BNI Trunk Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
155	Tx Voice CLP Cells Dropped	Tx Voice Cells Dropped	Egress–6, 7	Number of voice cells with CLP bit set that are dropped before being added to the voice transmit queue. Range: 0 to (2^{32}–1) cells.
156	Tx TS CLP Cells Dropped	Tx TS Cells Dropped	Egress–6, 7	Number of time-stamped cells with CLP bit set that are dropped before being added to the time-stamp transmit queue. Range: 0 to (2^{32}–1) cells.
157	Tx Non-TS CLP Cells Dropped	Tx Non-TS Cells Dropped	Egress–6, 7	Number of non-time-stamped cells with the CLP bit set that are dropped before the queue is transmitted. Range: 0 to (2^{32}–1) cells.
158	Tx High Priority CLP Cell Dropped	Tx High Priority Cell Dropped	Egress–6, 7	Number of high-priority cells with the CLP bit set dropped before being added to the transmit queue. High-priority cells include OAM and RM traffic. Range: 0 to (2^{32}–1) cells.
160	Tx CBR Cells Served	No	Egress–6, 7	Number of transmitted cells with the constant bit rate (CBR) set. Range: 0 to (2^{32}–1) cells.
161	Tx VBR Cells Served	No	Egress–6, 7	Number of transmitted cells with the variable bit rate (VBR) set. Range: 0 to (2^{32}–1) cells.
162	Tx ABR Cells Served	No	Egress–6, 7	Number of transmitted cells with the available bit rate (ABR) set. Range: 0 to (2^{32}–1) cells.
163	Tx CBR CLP Drpd Cells	No	Egress–6, 7	Number of CBR cells with the CLP bit set that are dropped before being added to the CBR transmit queue. Range: 0 to (2^{32}–1) cells.
164	Tx VBR CLP Drpd Cells	No	Egress–6, 7	Number of VBR cells with the CLP bit set that are dropped before being added to the VBR transmit queue. Range: 0 to (2^{32}–1) cells.
165	Tx ABR CLP Drpd Cells	No	Egress–6, 7	Number of ABR cells with the CLP bit set that are dropped before being added to the ABR transmit queue. Range: 0 to (2^{32}–1) cells.
166	Tx CBR Overflow Drpd Cells	No	Egress–6, 7	Number of CBR cells dropped due to overflow before being added to the CBR transmit queue. These cells are dropped due to policing. Range: 0 to (2^{32}–1) cells.
167	Tx VBR Overflow Drpd Cells	No	Egress–6, 7	Number of VBR cells dropped due to overflow before being added to the VBR transmit queue. These cells are dropped due to policing. Range: 0 to (2^{32}–1) cells.
168	Tx ABR Overflow Drpd Cells	No	Egress–6, 7	Number of ABR cells dropped due to overflow before being added to the ABR transmit queue. (This statistic cannot be enabled on the BNI card.) These cells are dropped due to policing. Range: 0 to (2^{32}–1) cells.
196	Tx NTS Cells Discarded	No	Egress–6, 7	Number of non-time-stamped cells discarded before being added to the transmit queue. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and BNI Trunk Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
197	Tx Hi-Pri Cells Discarded	No	Egress–6, 7	Number of high-priority cells discarded before being added to the transmit queue. High-priority cells include OAM and RM traffic. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
198	Tx Voice Cells discarded	No	Egress–6, 7	Number of voice cells discarded before being added to the voice transmit queue. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
199	Tx TS Cells discarded	No	Egress–6, 7	Number of time-stamped cells discarded before being added to the time-stamped transmit queue. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
200	Tx BData A Cells discarded	No	Egress–6, 7	Number of bursty data A cells discarded before being added to the bursty data A transmit queue. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
201	Tx BData B Cells discarded	No	Egress–6, 7	Number of bursty data B cells discarded before being added to the bursty data B transmit queue. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
202	Tx CBR Cells discarded	No	Egress–6, 7	Number of cells with the CBR bit set that are discarded. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
203	Tx ABR Cells discarded	No	Egress–6, 7	Number of cells with the ABR bit set that are discarded. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
204	Tx VBR Cells discarded	No	Egress–6, 7	Number of cells with the VBR bit set that are discarded. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
205	Egress NTS Cells Rx	Total Cells Rx	Egress–5	Number of cells received from the non-time-stamped queue onto the line. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
206	Egress Hi-Pri Cells Rx	Total Cells Rx	Egress–5	Number of high-priority cells received. High-priority cells include OAM and RM traffic. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
207	Egress TS Cells Rx	Total Cells Rx	Egress–5	Number of time-stamped cells received. This statistic cannot be enabled on the BNI card. Range: 0 to (2^{32}–1) cells.
208	Egress BData A Cells Rx	Total Cells Rx	Egress–5	Number of cells received from the bursty data A queue. This statistic cannot be enabled on the BNI card. Range: 0 to (2^{32}–1) cells.
209	Egress BData B Cells Rx	Total Cells Rx	Egress–5	Number of cells received from the bursty data B queue. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and BNI Trunk Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
210	Egress CBR Cells Rx	Total Cells Rx	Egress–5	Number of CBR cells received. Range: 0 to (2^{32}–1) cells.
211	Egress ABR Cells Rx	Total Cells Rx	Egress–5	Number of number ABR cells received.(This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
212	Egress VBR Cells Rx	Total Cells Rx	Egress–5	Number of VBR cells received. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
213	CLP0 cells Rx	Total Cells Rx	Ingress–1	Number of cells with a CLP equal to 0 that are received from the port. (This statistic cannot be enabled on the BNI card.) This statistic is Level 1 in the multilevel statistics. Range: 0 to (2^{32}–1) cells.
214	CLP1 cells Rx	Total Cells Rx	Ingress–1	Number of cells with a CLP equal to 1 that are received from the port. (This statistic cannot be enabled on the BNI card.) This statistic is Level 1 in the multilevel statistics. ange: 0 to (2^{32}–1) cells.
215	CLP0 cells congestion discard	CLP0 cells Rx	Ingress–1	Number of cells with a CLP equal to 0 that are received from the port and discarded due to congestion. (This statistic cannot be enabled on the BNI card.) This statistic is Level 1 in the multilevel statistics. Range: 0 to (2^{32}–1) cells.
216	CLP1 cells congestion discard	CLP1 cells Rx	Ingress–1	Number of cells with a CLP equal to 1 that are received from the port and discarded due to congestion. (This statistic cannot be enabled on the BNI card.) This statistic is Level 1 in the multilevel statistics. Range: 0 to (2^{32}–1) cells.
217	CLP0 cells Tx	Total Cells Tx to line	Egress–7	Number of cells with a CLP equal to 0 that are transmitted. (This statistic cannot be enabled on the BNI card.) This statistic is Level 1 in the multilevel statistics. Range: 0 to (2^{32}–1) cells.
218	CLP1 cells Tx	Total Cells Tx to line	Egress–7	Number of cells with a CLP equal to 1 that are transmitted. (This statistic cannot be enabled on the BNI card.) This statistic is Level 1 in the multilevel statistics. Range: 0 to (2^{32}–1) cells.
219	Total Cells Rx	No	Ingress–1	Number of cells received at the port. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
220	Ingress OAM cell count	Total Cells Rx	Ingress–3	Number of OAM cells received from the port. (This statistic cannot be enabled on the BNI card.) This statistic is Level 3 in the multilevel statistics. Range: 0 to (2^{32}–1) cells.
221	Egress OAM cell count	Total Cells Tx to line	Egress–13	Number of OAM cells transmitted on the egress port. (This statistic cannot be enabled on the BNI card.) This statistic is Level 3 in the multilevel statistics. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and BNI Trunk Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
222	Ingress RM cell count	Total Cells Rx	Ingress–3	Number of RM cells received from the port. (This statistic cannot be enabled on the BNI card.) This statistic is Level 3 in the multilevel statistics. Range: 0 to (2^{32}–1) cells.
223	Egress RM cell count	Total Cells Tx to line	Egress–13	Number of RM cells transmitted to the port. (This statistic cannot be enabled on the BNI card.) This statistic is Level 3 in the multilevel statistics. Range: 0 to (2^{32}–1) cells.
224	Egress Voice Cells Rx	Total Cells Rx	Egress–5	Number of voice cells received. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9057	Cells served out of Qbin10	Total Cells Tx to Line	Egress–7	Number of cells transmitted out of Qbin 10. (This statistic cannot be enabled on the BNI card.) Qbin 10 is assigned to multiprotocol label switching (MPLS) traffic. Range: 0 to (2^{32}–1) cells.
9058	Cells discarded by Qbin10	Cells RX by Qbin10	Ingress–8	Number of cells discarded on Qbin 10. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9059	Cells RX by Qbin10	Total Cells Rx	Ingress–8	Number of cells received on Qbin 10. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9060	Cells served out of Qbin11	Total Cells Tx to Line	Egress–7	Number of cells transmitted out of Qbin 11. If Qbin 11 is not assigned a traffic service, the count returns a value of 0. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9061	Cells discarded by Qbin11	Cells RX by Qbin11	Ingress–8	Number of cells discarded on Qbin 11. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9062	Cells RX by Qbin11	Total Cells Rx from Line	Ingress–8	Number of cells received on Qbin 11. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9063	Cells served out of Qbin12	Total Cells Tx to Line	Egress–7	Number of cells transmitted out of Qbin 12. If Qbin 12 is not assigned a traffic service, the count returns a value of 0. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9064	Cells discarded by Qbin12	Cells RX by Qbin12	Ingress–8	Number of cells discarded on Qbin 12. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9065	Cells RX by Qbin12	Total Cells Rx	Ingress–8	Number of cells received on Qbin 12. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9066	Cells served out of Qbin13	Total Cells Tx to Line	Egress–7	Number of cells transmitted out of Qbin 13. If Qbin 13 is not assigned a traffic service, the count returns a value of 0. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and BNI Trunk Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
9067	Cells discarded by Qbin13	Cells RX by Qbin13	Ingress–8	Number of cells discarded on Qbin 13. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9068	Cells RX by Qbin13	Total Cells Rx	Ingress–8	Number of cells received on Qbin 13. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9069	Cells served out of Qbin14	Total Cells Tx to Line	Egress–7	Number of cells transmitted out of Qbin 14. If Qbin 14 is not assigned a traffic service, the count returns a value of 0. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9070	Cells discarded by Qbin14	Cells RX by Qbin14	Ingress–8	Number of cells discarded on Qbin 14. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9071	Cells RX by Qbin14	Total Cells Rx	Ingress–8	Number of cells received on Qbin 14. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9072	Cells served out of Qbin15	Total Cells Tx to Line	Egress–7	Number of cells transmitted out of Qbin 15. If Qbin 15 is not assigned a traffic service, the count returns a value of 0. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9073	Cells discarded by Qbin15	Cells RX by Qbin15	Ingress–8	Number of cells discarded on Qbin 15. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.
9074	Cells RX by Qbin15	Total Cells Rx	Ingress–8	Number of cells received on Qbin 15. (This statistic cannot be enabled on the BNI card.) Range: 0 to (2^{32}–1) cells.

MGX Narrowband

The statistics contained in the MGX Narrowband group are not used by any cards in SCM but are listed in the database. These statistics are contained in this group: out of frames (OOFs), losses of signal (LOSs), and frame bit errors.

PXM1 and BNM ATM

This section describes the statistics contained in the MGX_ATM group. The statistics in this group apply to the PXM1 and BNM cards on the Cisco MGX 8220, 8230, 8250, and 8850 (PXM1) cells. nodes. The following table lists the attributes that are common to the PXM1 and BNM ATM statistics.

Front Cards	PXM1, BNM-T3E3
Back Cards	PXM—UI - RJ-45/48, BNC, DB-15 BNM—T3E3-D-BC, T3E3-B-BC
Object Type	2 (Trunks)
Subobject Type	4 (Basis PLCP trunk)
Default Peak Interval	60 seconds (Fixed setting)

The PXM1 and BNM ATM statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	PXM1 and BNM ATM Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
2	Out of Frames	No	Ingress–1	Number of times an OOF is detected. Range: 0 to (2^{32}–1) cells.
3	Losses of Signal	No	Ingress–1	Number of times an LOS is detected. Range: 0 to (2^{32}–1) cells.
45	ATM Cell Header HEC Errors	No	Ingress–1	Number of header checksum errors that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
51	Tx BData A Cells Dropped	No	Egress–13	Number of transmitted bursty data A cells dropped. Range: 0 to (2^{32}–1) cells.
142	PLCP FEBE Err Secs	No	Ingress–1	Number of PLCP far end block error (FEBE) seconds that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
143	PLCP FEBE Severely Err Secs	PLCP FEBE Err Secs	Ingress–1	Number of severely errored FEBE seconds that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
144	PLCP FEBE Counts	No	Ingress–1	Number of FEBEs that are detected. Range: 0 to (2^{32}–1) cells.
145	PLCP FE Counts	No	Ingress–1	Number of framing errors that are detected. Range: 0 to (2^{32}–1) cells.
150	DS3 Yellow Transition Counts	No	Ingress–1	Number of times a remote alarm indicator (RAI) is detected. Range: 0 to (2^{32}–1) cells.

BNM SONET

This section describes the statistics contained in the SONET group. The statistics in this group apply to the BNM card on the Cisco MGX 8220 switch. The following table lists the common attributes for BNM SONET statistics.

Front Card	BNM-155
Back Card	SMF-155
Object Type	2 (Trunks)
Subobject Type	5 (Basis SONET trunk)
Default Peak Interval	60 seconds (Fixed setting)

The BNM SONET path interface statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	BNM SONET Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
2	sonetSectionLOFCounter	No	Ingress–1	Number of LOFs detected in in a SONET/SDH section. Range: 0 to (2^{32}–1) cells.
3	sonetSectionLOSCounter	No	Ingress–1	Number of LOSs detected in a SONET/SDH. Range: 0 to (2^{32}–1) cells.
171	sonetPathAISCounter	No	Ingress–1	Number of alarm indicator signals (AIS) detected on a SONET/SDH. Range: 0 to (2^{32}–1) cells.
196	LNsonetLineCounterAISs	No	Ingress–1	Number of AIS encountered by a SONET/SDH. Range: 0 to (2^{32}–1) cells.
197	LNsonetLineCounterRFIs	No	Ingress–1	Number of remote failure indications (RFIs) detected on a SONET/SDH line. Range: 0 to (2^{32}–1) cells.
198	LNsonetPathCounterRFIs	No	Ingress–1	Number of RFIs detected on a SONET/SDH line. Range: 0 to (2^{32}–1) cells.

FastPAD Trunk

This section describes the FastPAD trunk statistics contained in the FTC Trunk group. The following table lists the common attributes for FastPAD trunk statistics.

Front Cards	—
Back Cards	—
Object Type	2
Subobject Type	6
Default Peak Interval	60 seconds (fixed setting)

The FastPAD trunk statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	FastPAD Trunk Statistics	Description
205	Packets Received	Number of packets received. Range: 0 to (2^{32}–1) cells.
206	Packets Transmitted	Number of packets transmitted. Range: 0 to (2^{32}–1) cells.
207	Bytes Received	Number of frame bytes that are received. Range: 0 to (2^{32}–1) cells.
208	Bytes Transmitted	Number of frame bytes that are received from the bus and then transmitted. Range: 0 to (2^{32}–1) cells.
209	FTC Management packets Received	Number of operation, maintenance, and administration (OAM) and RM cells received. Range: 0 to (2^{32}–1) cells.
210	FTC Management packets Transmitted	Number of OAM and RM cells transmitted. Range: 0 to (2^{32}–1) cells.
211	Tx Cells dropped, Q Overflow	Number of cells dropped during transmission due to an overflow in the Qbin. Range: 0 to (2^{32}–1) cells.
212	Tx Cells dropped, No Destination	Number of cells dropped during transmission due to an unspecified destination. Range: 0 to (2^{32}–1) cells.
213	Rx Cells dropped, Unknown DLCI/mux-byte	Number of cells dropped due to an unknown DLCI or mux-byte. Range: 0 to (2^{32}–1) cells.

UXM Trunk

This section describes the statistics contained in the IGX_ATM group. The UXM trunk statistics apply to Switch Software Releases 9.2 and above on the Cisco IGX switch. The UXM trunk statistics also apply to the UXM-E card. The following table lists the common attributes for UXM trunk statistics.

Front Card	UXM
Back Cards	BC-UAI-6-T3/E3, BC-UAI-3-T3/E3, BC-UAI-2/4-155-SMF, BC-UAI-2/4-SMFXLR, BC-UAI-4-STM1E, BC-UAI-4-155-MMF
Object Type	2
Subobject Type	7
Default Peak Interval	300 seconds

The UXM trunk statistics are used primarily for gathering billing, performance, and troubleshooting data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	UXM Trunk Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Voice Cells Transmitted To Line	Total Cells Transmitted	Egress–7, 13	Number of voice cells transmitted. Range: 0 to (2^{24}–1) cells.
1	TS Cells Transmitted To Line	Total Cells Transmitted	Egress–7, 13	Number of time-stamped cells transmitted. Range: 0 to (2^{24}–1) cells.
2	Non-TS Cells Transmitted To Line	Total Cells Transmitted	Egress–7, 13	Number of non-time-stamped cells transmitted. Range: 0 to (2^{24}–1) cells.
3	High Priority Cells Tx to Line	Total Cells Transmitted	Egress–7, 13	Number of high-priority cells transmitted. High-priority cells include OAM and RM traffic. Range: 0 to (2^{24}–1) cells.
4	BData A Cells Transmitted To Line	Total Cells Transmitted	Egress–7, 13	Number of bursty data A cells transmitted. Range: 0 to (2^{24}–1) cells.
5	BData B Cells Transmitted To Line	Total Cells Transmitted	Egress–7, 13	Number of bursty data B cells transmitted. Range: 0 to (2^{24}–1) cells.
6	CBR Cells Transmitted To Line	Total Cells Transmitted	Egress–7, 13	Number of CBR ATM cells transmitted. The count includes OAM cells. Range: 0 to (2^{24}–1) cells.
7	VBR Cells Transmitted To Line	Total Cells Transmitted	Egress–7, 13	Number of non-real-time variable bit rate (nrt-VBR) cells transmitted. Range: 0 to (2^{24}–1) cells.
8	ABR Cells Transmitted To Line	Total Cells Transmitted	Egress–7, 13	Number of available bit rate (ABR) ATM cells transmitted. The count includes OAM cells. Range: 0 to (2^{24}–1) cells.
9	Transmit Non-TS Cells Discarded	No	Egress–7, 13	Number of non-time-stamped cells discarded in the transmit direction. Range: 0 to (2^{24}–1) cells.
10	Transmit HP Cells Discarded	No	Egress–7, 13	Number of high priority (HP) cells discarded in the transmit direction. High-priority cells include OAM and RM traffic. Range: 0 to (2^{24}–1) cells.
11	Transmit Voice Cells Discarded	No	Egress–7, 13	Number of voice cells discarded in the transmit direction. Range: 0 to (2^{24}–1) cells.
12	Transmit TS Cells Discarded	No	Egress–7, 13	Number of time-stamped cells discarded in the transmit direction. Range: 0 to (2^{24}–1) cells.
13	Transmit BData A Cells Discarded	No	Egress–7, 13	Number of bursty data A cells discarded in the transmit direction. Range: 0 to (2^{24}–1) cells.
14	Transmit BData B Cells Discarded	No	Egress–7, 13	Number of bursty data B cells discarded in the transmit direction. Range: 0 to (2^{24}–1) cells.
15	Transmit CBR Cells Discarded	No	Egress–7, 13	Number of CBR cells discarded in the transmit direction. Range: 0 to (2^{24}–1) cells.
16	Transmit ABR Cells Discarded	No	Egress–7, 13	Number of ABR cells discarded in the transmit direction. Range: 0 to (2^{24}–1) cells.

Stat ID	UXM Trunk Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
17	Transmit VBR Cells Discarded	No	Egress–7, 13	Number of nrt-VBR cells discarded in the transmit direction. Range: 0 to (2^{24}–1) cells.
18	Egress Non-TS Cells Received	No	Egress–5, 11	Number of non-time-stamped cells received from the bus. Range: 0 to (2^{24}–1) cells.
19	Egress HP Cells Received	No	Egress–5, 11	Number of high-priority cells (congestion control traffic) received in the egress direction. High-priority cells include OAM and RM traffic. Range: 0 to (2^{24}–1) cells.
20	Egress Voice Cells Received	No	Egress–5, 11	Number of voice cells received from the bus. Range: 0 to (2^{24}–1) cells.
21	Egress TS Cells Received	No	Egress–5, 11	Number of time-stamped cells received from the bus. Range: 0 to (2^{24}–1) cells.
22	Egress BData A Cells Received	No	Egress–5, 11	Number of bursty data A cells received by the Qbin in the transmit direction. Range: 0 to (2^{24}–1) cells.
23	Egress BData B Cells Received	No	Egress–5, 11	Number of bursty data B cells received by the Qbin in the transmit direction. Range: 0 to (2^{24}–1) cells.
24	Egress CBR Cells Received	No	Egress–5, 11	Number of CBR cells received by the Qbin in the transmit direction. Range: 0 to (2^{24}–1) cells.
25	Egress ABR Cells Received	No	Egress–5, 11	Number of ABR cells received by the Qbin in the transmit direction. Range: 0 to (2^{24}–1) cells.
26	Egress VBR Cells Received	No	Egress–5, 11	Number of nrt-VBR cells received from the bus. Range: 0 to (2^{24}–1) cells.
27	VI Cells Received With CLP Set	Total Cells Received	Ingress–1, 8	Number of virtual interface (VI) cells with a CLP equal to 1 that are received. Range: 0 to (2^{32}–1) cells.
28	VI OAM Cells Received	Total Cells Received	Ingress–1, 8	Number of VI OAM cells received. Range: 0 to (2^{32}–1) cells.
29	VI Cells Transmitted With CLP Set	Total Cells Transmitted	Egress–7, 13	Number of VI cells with a CLP equal to 1 that are transmitted. Range: 0 to (2^{32}–1) cells.
30	VI Cells Received With CLP0	Total Cells Received	Ingress–1, 8	Number of VI cells with a CLP equal to 0 that are received. Range: 0 to (2^{32}–1) cells.
31	VI Cells Discarded With CLP0	VI Cells Received With CLP0	Ingress–1, 8	Number of VI cells with a CLP equal to 0 that are discarded. Range: 0 to (2^{32}–1) cells.
32	VI Cells Discarded With CLP Set	VI Cells Received With CLP Set	Ingress–1, 8	Number of VI cells with the CLP bit set (equal to 1) cells. that are discarded. Range: 0 to (2^{32}–1) cells.
33	VI Cells Transmitted With CLP0	Total Cells Transmitted	Egress–7, 13	Number of VI cells with a CLP equal to 0 that are transmitted. Range: 0 to (2^{32}–1) cells.
34	Egress OAM Cells Count	Total Cells Transmitted	Egress–7, 13	Number of OAM cells transmitted. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM Trunk Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
35	Ingress RM Cells Count	Total Cells Received	Ingress–1, 8	Number of RM cells received. Range: 0 to (2^{32}–1) cells.
36	Egress RM Cells Count	Total Cells Transmitted	Egress–7, 13	Number of RM cells transmitted. Range: 0 to (2^{32}–1) cells.
37	Total Cells Transmitted	No	Egress–7, 13	Number of cells transmitted. Range: 0 to (2^{32}–1) cells.
38	Total Cells Received	No	Ingress–1, 8	Number of cells received. Range: 0 to (2^{32}–1) cells.
39	Egress FP From Cellbus	No	Egress–5, 11	Number of Fastpackets received from the bus. Range: 0 to (2^{32}–1) cells.
40	Egress Cells Transmitted	No	Egress–7, 13	Number of network-interworking Fastpackets transmitted. Range: 0 to (2^{32}–1) cells.
41	Egress NIW FP Transmitted	No	Egress–7, 13	Number of service-interworking Fastpackets transmitted. Range: 0 to (2^{32}–1) cells.
42	Egress SIW FP Transmitted	No	Egress–5, 11	Number of aborted Fastpackets received from the bus. FastPackets are aborted due to a problem with the cellbus that causes a failure with the FastPacket. Range: 0 to (2^{24}–1) cells.
43	Egress Aborted FP From Cellbus	No	Egress–5, 11	Number of aborted Fastpackets received from the bus. Range: 0 to (2^{24}–1) cells.
44	Egress Discarded FP	No	Egress–7, 13	Number of Fastpackets discarded in the egress direction. Range: 0 to (2^{32}–1) cells.
45	Egress Zero Length FP From Cellbus	No	Egress–5, 11	Number of zero-length Fastpackets received from the bus. Range: 0 to (2^{32}–1) cells.
46	Egress Bad CRC16 From Cellbus	No	Egress–5, 11	Number of frames with bad CRC 16 bit that are received from the cellbus. Range: 0 to (2^{32}–1) cells.
47	Egress Bad Length FP From Cellbus	No	Egress–5, 11	Number of bad length Fastpackets received from the cellbus. Range: 0 to (2^{32}–1) cells.
48	Egress ForeSight Cells Transmitted	ABR Cells Transmitted To Line Egress Cells Transmitted	Egress–7, 13	Number of ForeSight cells transmitted. Range: 0 to (2^{32}–1) cells.
49	Egress CF FP Sequence Error	No	Egress–7, 13	Number of egress cell forwarding FastPacket sequence errors. Range: 0 to (2^{32}–1) cells.
50	Egress CF Bad HEC From Cellbus	No	Egress–5, 11	Number of forwarding cells with bad header error control (HEC) that are received from the bus. Range: 0 to (2^{32}–1) cells.
51	Egress CF From Cellbus	No	Egress–7, 13	Number of forwarding cells received from the bus. Range: 0 to (2^{32}–1) cells.
52	Egress CF Cells Transmitted	Total Cells Transmitted	Egress–7, 13	Number of forwarding cells transmitted. Range: 0 to (2^{32}–1) cells.
53	Ingress FP To Cellbus	No	Ingress–4, 10	Number of Fastpackets sent to the bus. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM Trunk Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
54	Ingress Cells Received	Total Cells Received	Ingress–1, 8	Number of cells received. Range: 0 to (2^{32}–1) cells.
55	Ingress NIW FP Received	No	Ingress–1, 8	Number of network-interworking Fastpackets received. Range: 0 to (2^{32}–1) cells.
56	Ingress SIW FP Received	No	Ingress–1, 8	Number of service-interworking Fastpackets received. Range: 0 to (2^{32}–1) cells.
57	Ingress Aborted FP To Cellbus	Ingress FP From Cellbus	Egress–5, 11	Number of cells that contain aborted Fastpackets received from the cellbus. Although the statistic name indicates ingress, the count is actually taken on the egress side. Range: 0 to (2^{32}–1) cells.
58	Ingress Discarded FP	No	Ingress–1, 8	Number of Fastpackets discarded. Range: 0 to (2^{32}–1) cells.
59	Ingress Zero Length FP Received	No	Ingress–1, 8	Number of zero length Fastpackets received. Zero length frames do not have payload. Range: 0 to (2^{32}–1) cells.
60	Ingress Bad CRC32 Received	No	Ingress–1, 8	Number of frames with bad CRC 32 bit that are received. Range: 0 to (2^{32}–1) cells.
61	Ingress Bad Length FP Received	No	Ingress–1, 8	Number of bad length Fastpackets received. Range: 0 to (2^{32}–1) cells.
62	Ingress ForeSight Cells To Cellbus	No	Egress–5, 11	Number of ForeSight cells sent to the cellbus. Range: 0 to (2^{32}–1) cells.
63	Ingress Bad CRC10 OAM/RM Cells	No	Ingress–1, 8	Number of OAM or RM cells with a bad CRC 10 value. Range: 0 to (2^{32}–1) cells.
72	Cells served out of egress Qbin10	Total Cells Tx to Line	Egress–7	Number of cells transmitted out of Qbin 10. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
73	Cells discarded by egress Qbin10	Cells received by egress Qbin10	Ingress–8	Number of cells discarded on Qbin 10. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
74	Cells received by egress Qbin 10	Total Cells Rx	Ingress–8	Number of cells received on Qbin 10. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
75	Cells served out of egress Qbin11	Total Cells Tx to Line	Egress–7	Number of cells transmitted out of Qbin 11. If Qbin 11 is not assigned a traffic service, the count returns a value of 0. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
76	Cells discarded by egress Qbin11	Cells received by egress Qbin11	Ingress–8	Number of cells discarded on Qbin 11. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
77	Cells received by egress Qbin11	Total Cells Rx from Line	Ingress–8	Number of cells received on Qbin 11. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM Trunk Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
78	Cells served out of egress Qbin12	Total Cells Tx to Line	Egress–7	Number of cells transmitted out of Qbin 12. If Qbin 12 is not assigned a traffic service, the count returns a value of 0. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
79	Cells discarded by egress Qbin12	Cells received by egress Qbin12	Ingress–8	Number of cells discarded on Qbin 12. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
80	Cells received by egress Qbin12	Total Cells Rx	Ingress–8	Number of cells received on Qbin 12. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
81	Cells served out of egress Qbin13	Total Cells Tx to Line	Egress–7	Number of cells transmitted out of Qbin 13. If Qbin 13 is not assigned a traffic service, the count returns a value of 0. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
82	Cells discarded by egress Qbin13	Cells received by egress Qbin13	Ingress–8	Number of cells discarded on Qbin 13. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
83	Cells received by egress Qbin13	Total Cells Rx	Ingress–8	Number of cells received on Qbin 13. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
84	Cells served out of egress Qbin14	Total Cells Tx to Line	Egress–7	Number of cells transmitted out of Qbin 14. If Qbin 14 is not assigned a traffic service, the count returns a value of 0. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
85	Cells discarded by egress Qbin14	Cells received by egress Qbin14	Ingress–8	Number of cells discarded on Qbin 14. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
86	Cells received by egress Qbin14	Total Cells Rx	Ingress–8	Number of cells received on Qbin 14. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
87	Cells served out of egress Qbin 15	Total Cells Tx to Line	Egress–7	Number of cells transmitted out of Qbin 15. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
88	Cells discarded by egress Qbin 15	Cells received by egress Qbin15	Ingress–8	Number of cells discarded on Qbin 15. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
89	Cells received by egress Qbin 15	Total Cells Rx	Ingress–8	Number of cells received on Qbin 15. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.

Port Statistics

The following port statistics are supported in CWM Release 15:

IGX Frame Relay Port

This section describes the statistics contained in the Frame Relay Port group. The statistics in this group apply to the FRM and UFM cards on the IGX switch. The following table lists the common attributes for IGX Frame Relay port statistics.

Front Cards	FRM, UFM-4C, UFM-8C, UFM-U
Back Cards	FRI-T1, FRI-E1, UFI-8T1-DB-15, UFI-8E1-DB-15, UFI-8E1-BNC, UFI-12V.35, UFI-12X.21, UFI-4HSSI
Object Type	3
Subobject Type	0
Default Peak Interval	300 seconds

The IGX Frame Relay port statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1, with the exception of these ingress points: 1, 2, 3, and 4.

Stat ID	IGX Frame Relay Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Frames Received	No	Ingress–1	Number of frames received from the customer premises equipment (CPE). The count includes signaling protocol frames that are received from the CPE. This statistic also increments when the received frame is invalid or discarded for any reason. Range: 0 to (2^{32}–1) cells.
1	Frames Transmitted	No	Egress–13	Number of frames that are transmitted to the CPE. The count includes signaling protocol frames transmitted to the CPE. Range: 0 to (2^{32}–1) cells.
2	Bytes Received	No	Ingress–1	Number of of bytes in the frames counted in the port Frames Received statistic. Range: 0 to (2^{32}–1) cells.
3	Bytes Transmitted	No	Egress–13	Number of of bytes in the frames counted in the port Frames Transmitted statistic. Range: 0 to (2^{32}–1) cells.
4	Frames Transmitted with FECN	Frames Transmitted	Egress–13	Number of frames with the FECN bit set that are transmitted to the CPE. The congestion can occur anywhere in the network. Range: 0 to (2^{32}–1) cells.
5	Frames Transmitted with BECN	Frames Transmitted	Egress–13	Number of frames with the BECN bit set that are transmitted to the CPE. The congestion can occur anywhere in the network. Range: 0 to (2^{32}–1) cells.
6	Receive Frames CRC Errors	Frames Received	Ingress–1	Number of frames with an invalid CRC that are received from the CPE. The CRC calculated by the FRSM card does not match the CRC provided by the CPE. The count includes inconsistencies in the last two bytes of the Frame Relay header. Any frame with an incorrect CRC is discarded by the network. If the CRC is incorrect because of a bit error in the DLCI field, then the error is also recorded in the Receive Frame with Undefined DLCI Err statistic. Range: 0 to (2^{32}–1) cells.
7	Invalid Format Receive Frames	Frames Received	Ingress–1	Number of frames with incorrect extended address (EA) bits (the least significant bits in the two Frame Relay header bytes) that are received from the CPE. The first octet equals 0, and the second octet equals 1. Any frame received with an incorrect EA bit is discarded. Range: 0 to (2^{32}–1) cells.

Stat ID	IGX Frame Relay Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
8	Receive Frames Alignment Errors	Frames Received	Ingress–1	Number of frames with an incorrect total frame length that are received from the CPE. Any frame received with an incorrect alignment is discarded by the network. Range: 0 to (2^{32}–1) cells.
9	Illegal Length Receive Frames	Frames Received	Ingress–1	Number of frames with the total frame length more than 4510 bytes that are received from the CPE. The frame length includes the Frame Relay header and the FCS/CRC bytes. Any frame received with an invalid length is discarded by the network. Range: 0 to (2^{32}–1) cells.
10	Number of DMA Overruns	—	—	Number of direct memory access (DMA) overruns. Range: 0 to (2^{32}–1) cells.
11	LMI Status Enquiries	Frames Received	Ingress–1	Number of status enquiry frames that are received from the CPE as part of the selected signaling protocol. This statistic is valid for the signaling protocol chosen (StrataLMI, Annex A UNI, Annex D UNI, Annex A NNI, or Annex D NNI). If the configuration of the T391 timer on the CPE and the card is equal, the count is the same as the Received Status Counter statistic for NNI Annex A and Annex D. Range: 0 to (2^{32}–1) cells.
12	LMI Status Transmit Count	Frames Transmitted	Egress–13	Number of status frames that are transmitted to the CPE as part of the signaling protocol. This statistic is valid for the signaling protocol chosen (StrataLMI, Annex A UNI, Annex D UNI, Annex A NNI, or Annex D NNI). If the configuration of the T391 timer on the CPE and the card is equal, the count is the same as the Transmit Status Enquiries statistic for NNI Annex A and Annex D. Range: 0 to (2^{32}–1) cells.
13	LMI Status Update Count	Frames Received	Ingress–1	Number of asynchronous status update frames that are received from the CPE as part of the selected signaling protocol. This statistic is valid for both NNI signaling protocols (Annex A and Annex D). Range: 0 to (2^{32}–1) cells.
14	LMI Invalid Status Enquiries	Frames Received	Ingress–1	Number of status enquiry frames with an invalid format that are received from the CPE as part of the selected signaling protocol. This statistic is valid for the signaling protocol chosen (StrataLMI, Annex A UNI, Annex D UNI, Annex A NNI, or Annex D NNI). Range: 0 to (2^{32}–1) cells.
15	LMI Link Timeout Errors	No	Not applicable	Number of times that the T392 polling verification timer expires before receiving a status enquiry frame. This statistic is valid for the signaling protocol chosen (StrataLMI, Annex A UNI, Annex D UNI, Annex A NNI, or Annex D NNI). Range: 0 to (2^{32}–1) cells.
16	LMI Keepalive Sequence Errors	—	—	Number of polling device detects keepalive sequence errors. Range: 0 to (2^{32}–1) cells.

Stat ID	IGX Frame Relay Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
17	Receive Frames Undefined DLCI Err	Frames Received	Ingress–1	Number of frames received that have a DLCI without a PVC provisioned on the port. The count includes frames received with an incorrect or disabled signaling protocol. For example, the StrataLMI signaling protocol is enabled while the CPE is generating Annex A or Annex D signaling protocol frames, or vice versa. Any frame received with an undefined DLCI is discarded. Range: 0 to (2^{32}–1) cells.
18	DE Frames Dropped	Frames Received	Ingress–2	Number of frames received from the CPE that are dropped because the DE bit is set, and the PVC ingress buffer reached the DE threshold. Range: 0 to (2^{32}–1) cells.
19	Transmit Status Enquiries	Frames Transmitted	Egress–13	Number of status enquiry frames that are transmitted to the CPE as part of the selected signaling protocol. This statistic is valid for both NNI signaling protocols (Annex A and Annex D). If the configuration of the T391 timer on the CPE and the card is equal, the count is the same as the LMI Status Transmit Count statistic for NNI Annex A and Annex D. Range: 0 to (2^{32}–1) cells.
20	Received Status Counter	Frames Received	Not applicable	Number of status frames received from the CPE that are part of the selected signaling protocol. This statistic is valid for both NNI signaling protocols (Annex A and Annex D). If the configuration of the T391 timer on the CPE and the card is equal, the count is the same as the LMI Status Enquiries statistic for NNI Annex A and Annex D. Range: 0 to (2^{32}–1) cells.
21	Asynchronous Status Counter	Frames Received	Not applicable	Number of asynchronous status update frames received from the CPE that are part of the selected signaling protocol. This statistic is valid for both NNI signaling protocols (Annex A and Annex D). Range: 0 to (2^{32}–1) cells.
22	Invalid Sequence Number Count	No	Not applicable	Number of times discontinuity occurs with the sequence numbers contained in the status enquiry frames received from the CPE. This statistic is valid for the signaling protocol chosen (StrataLMI, Annex A UNI, Annex D UNI, Annex A NNI, or Annex D NNI). Range: 0 to (2^{32}–1) cells.
23	Transmit Protocol Timeout Count	No	Not applicable	Number of times that the T392 polling verification timer expires without receiving a status frame from the CPE. This statistic is valid for both NNI signaling protocols (Annex A NNI and Annex D NNI). Range: 0 to (2^{32}–1) cells.

Stat ID	IGX Frame Relay Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
24	CLLM Message Frames Transmitted	—	—	Number of consolidated link layer message (CLLM) frames transmitted over the NNI port. Range: 0 to (2^{32}–1) cells.
25	CLLM Message Bytes Transmitted	—	—	Number of CLLM bytes transmitted over the NNI port. Range: 0 to (2^{32}–1) cells.
26	CLLM Message Frames Received	—	—	Number of CLLM frames received by the NNI port. Range: 0 to (2^{32}–1) cells.
27	CLLM Message Bytes Received	—	—	Number of CLLM bytes received by the NNI port. Range: 0 to (2^{32}–1) cells.
28	CLLM Failures	—	—	Number of CLLM timeouts with no messages that are received. Range: 0 to (2^{32}–1) cells.
29	Tx Frames Discarded-Q-Overflow	No	Egress–12	Number of total frames that are discarded due to an overflow in the queue. Range: 0 to (2^{32}–1) cells.
30	Tx Bytes Discarded-Q-Overflow	No	Egress–12	Number of of bytes in the frames counted in the Tx Frames Discarded-Q-Overflow statistic. The count includes Frame Relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
31	Tx Frames while Ingress LMI Fail	No	Egress–13	Number of frames that are discarded while the LMI signaling protocol on the local port is in a failed state. Range: 0 to (2^{32}–1) cells.
32	Tx Bytes while Ingress LMI Fail	Bytes Transmitted	Egress–13	Number of of bytes in the frames counted in the Tx Frames while Ingress LMI Fail statistic. The count includes Frame Relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.

UXM and URM Port

This section describes the statistics contained in the ASI Port group. The UXM and URM statistics apply to Switch Software Releases 9.2 and 9.3 on the Cisco IGX switch. The UXM port statistics in this section also apply to the UXM-E card. The following table lists the attributes that are common to the UXM and URM port statistics.

Front Cards	UXM, URM
Back Cards	UXM—BC-UAI-6-T3/E3, BC-UAI-3-T3/E3, BC-UAI-2/4-155-SMF, BC-UAI-2/4-SMFXLR, BC-UAI-4-STM1E, BC-UAI-4-155-MMF URM—BC-URI-2FE2V-T1/E1
Object Type	3
Subobject Type	1
Default Peak Interval	300 seconds

The UXM and URM port statistics are used primarily for gathering billing data. Some of the port statistics are measured from different Qbins on the cards. Each Qbin supports these types of traffic:

- Qbin 0—CBR
- Qbin 1—UBR/ABR
- Qbin 2—nrt-VBR
- Qbin 3—ATM
- Qbins 4–8—SVC
- Qbin 9—rt-VBR
- Qbins 10–15—Virtual switch interface (VSI)

The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	UXM and URM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Unknown VPI/VCI	No	Ingress–2, 3	Provides the last unknown virtual path indicator (VPI)/virtual channel indicator (VCI) value on the port. Range: VPI/VCI value. This statistic is only available on the UXM card.
7	Number of Cells Rx	No	Ingress–1	Number of cells received at the port before policing and VC queuing. The count is the sum of a CLP cells (0+1) cells.. Range: 0 to (2^{32}–1) cells.. This statistic is only available on the UXM card.
8	Number of Cells Rx w/CLP set	Number of Cells Rx	Ingress–2	Number of cells received with a CLP equal to 1. Range: 0 to (2^{32}–1) cells.
11	Number of Cells Tx	No	Egress–12, 13	Number of cells transmitted to the port after VC queuing. The count includes both data and OAM cells. Range: 0 to (2^{32}–1) cells.. This statistic is only available on the UXM card.
12	OAM Cells Rx Count	Number of Cells Rx	Ingress–2	Number of total OAM cells received from the port. Range: 0 to (2^{32}–1) cells.
14	Number of Cells Tx w/CLP set	Number of Cells Tx	Egress–12	Number of cells with a CLP equal to 1 that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
17	Get Request Rx	No	Ingress–3	Number of Integrated Local Management Interface (ILMI) GetRequest messages that are received from the port. The count is measured after segmentation and reassembly (SAR) processing. Range: 0 to (2^{32}–1) cells.
18	GetNext Request Rx	No	Measured after SAR processing–3	Number of ILMI GetNextRequest messages that are received from the port. Range: 0 to (2^{32}–1) cells.
19	GetNext Request Tx	No	Measured after SAR processing–12	Number of ILMI GetNextRequest messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM and URM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
20	SetRequest Rx	No	Measured after SAR processing–3	Number of ILMI SetRequest messages that are received from the port. Range: 0 to (2^{32}–1) cells.
21	Trap Rx	No	Measured after SAR processing–3	Number of traps that are received from the port. Range: 0 to (2^{32}–1) cells.
22	Get Response Rx	No	Measured after SAR processing–3	Number of ILMI GetResponse messages that are received from the port. Range: 0 to (2^{32}–1) cells.
23	Get Request Tx	No	Measured after SAR processing–12	Number of ILMI GetRequest messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
24	Get Response Tx	No	Measured after SAR processing–12	Number of ILMI GetResponse messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
25	Trap Tx	No	Measured after SAR processing–12	Number of traps that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
27	Status Tx	No	Measured after SAR processing–12	Number of LMI status messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.. This statistic is only available on the UXM card.
28	Update Status Tx	No	Measured after SAR processing–12	Number of LMI UpdateStatus messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.. This statistic is only available on the UXM card.
29	Status Ack Tx	No	Measured after SAR processing–12	Number of LMI Status Acknowledgement (StatusAck) messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.. This statistic is only available on the UXM card.
30	Status Enq Rx	No	Measured after SAR processing–3	Number of LMI StatusEnquiry messages that are received from the port. Range: 0 to (2^{32}–1) cells.. This statistic is only available on the UXM card.
31	Status Enq Tx	No	Measured after SAR processing–12	Number of LMI StatusEnquiry messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.. This statistic is only available on the UXM card.
32	Status Rx	No	Measured after SAR processing–3	Number of LMI status messages that are received from the port. Range: 0 to (2^{32}–1) cells.. This statistic is only available on the UXM card.
33	Update Status Rx	No	Measured after SAR processing–3	Number of LMI UpdateStatus messages that are received from the port. Range: 0 to (2^{32}–1) cells.. This statistic is only available on the UXM card.
34	Status Ack Rx	No	Measured after SAR processing–3	Number of LMI Status Acknowledgement (StatusAck) messages that are received from the port. Range: 0 to (2^{32}–1) cells.. This statistic is only available on the UXM card.

Stat ID	UXM and URM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
35	Invalid LMI Rx	No	Measured after SAR processing–3	Number of invalid LMI protocol data units (PDUs) that are received from the port. Range: 0 to (2^{32}–1) cells.. This statistic is only available on the UXM card.
36	Invalid LMI length Rx	Invalid LMI Rx	Measured after SAR processing–3	Number of invalid LMI PDU lengths that are received from the port. This statistic is only available on the UXM card.Range: 0 to (2^{32}–1) cells.
37	Unknown LMI Rx	Invalid LMI Rx	Measured after SAR processing–3	Number of unknown LMI PDUs that are received from the port. This statistic is only available on the UXM card. Range: 0 to (2^{32}–1) cells.
38	Invalid LMI IE Rx	Invalid LMI Rx	Measured after SAR processing–3	Number of LMI information elements (IEs) that are received from the port. This statistic is only available on the UXM card. Range: 0 to (2^{32}–1) cells.
39	Invalid Transaction IDs	Invalid LMI Rx	Measured after SAR processing–3	Number of invalid LMI transaction IDs that are received from the port. This statistic is only available on the UXM card. Range: 0 to (2^{32}–1) cells.
40	Cells Rx w/CLP=0	Number of Cells RX	Ingress–2	Number of cells with a CLP equal to 0 that are received from the port. Range: 0 to (2^{32}–1) cells.
41	Cells Rx w/CLP=0 discarded	Cells Rx w/CLP=0	Ingress–2	Number of cells with a CLP equal to 0 that are received from the port and then discarded. Range: 0 to (2^{32}–1) cells.
42	Cells Rx w/CLP discarded	Number of Cells Rx w/CLP set	Ingress–2	Number of cells with a CLP equal to 1 that are received from the port and then discarded. Range: 0 to (2^{32}–1) cells.
43	Cells Tx w/CLP=0	Number of Cells Tx	Egress–12	Number of cells with a CLP equal to 0 that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
44	Egress OAM Cell Count	Number of Cells Tx	Egress–13	Number of valid OAM cells transmitted to the port. Range: 0 to (2^{32}–1) cells.
45	Ingress RM Cell Count	Number of Cells Rx	Ingress–1	Number of valid RM cells received from the port. Range: 0 to (2^{32}–1) cells.
46	Egress RM Cell Count	Number of Cells Tx	Egress–13	Number of valid RM cells transmitted to the port. Range: 0 to (2^{32}–1) cells.
49	Maximum Diff Delay	—	—	Provides the maximum tolerance delay for cells. This statistic is only available on the UXM card. Range: 0 to (2^{32}–1) cells.
50	HEC Cell Errors	—	—	Number of cells that have header error control (HEC) errors. This statistic is only available on the UXM card. Range: 0 to (2^{32}–1) cells.
51	LCP Cell Errors	—	—	Number of LCP cell errors. This statistic is only available on the UXM card. Range: 0 to (2^{32}–1) cells.
52	Cell Hunt Count	—	—	Number of cell hunts on the port. This statistic is only available on the UXM card.Range: 0 to (2^{32}–1) cells.
53	Bandwidth Change Count	—	—	Number of bandwidth changes. This statistic is only available on the UXM card. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM and URM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
69	SetRequest Tx	No	Measured after SAR processing–3	Number of ILMI Set Request messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
70	Last known VPI/VCI	No	Ingress–2, 3	Provides the last known VPI.VCI value on the port. Range: VPI/VCI value
71	Unknown ILMI Rx	No	Measured after SAR processing–3	Number of unknown ILMI PDUs that are received from the port. Range: 0 to (2^{32}–1) cells.
78	Unavailable Seconds	—	—	Number of UASs. This statistic is only available on the UXM card. Range: 0 to (2^{32}–1) cells.
79	Near End Fail Count	—	—	Number of times that the near end goes from an active state to a fail state. This statistic is only available on the UXM card. Range: 0 to (2^{32}–1) cells.
80	Last Proto Fail Code	—	—	Provides the last protocol failure code on the port. This statistic is only available on the UXM card. Range: 0 to (2^{32}–1) cells.
81	Slowest Link	—	—	Number of slowest links on the port. This statistic is only available on the UXM card. Range: 0 to (2^{32}–1) cells.
9054	Cells served out of egress Qbin 2	Number of Cells Tx	Egress–7	Number of cells transmitted out of Qbin 2. Qbin 2 is assigned to VBR-nrt traffic. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9055	Cells discarded by egress Qbin 2	Cells received by egress Qbin 2	Ingress–8	Number of cells discarded on Qbin 2. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9056	Cells received by egress Qbin 2	Number of Cells Rx	Ingress–8	Number of cells received on Qbin 2. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9057	Cells served out of egress Qbin 3	Number of Cells Tx	Egress–7	Number of cells transmitted out of Qbin 3. Qbin 3 is assigned to ATM traffic. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9058	Cells discarded by egress Qbin 3	Cells received by egress Qbin 3	Ingress–8	Number of cells discarded on Qbin 3. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9059	Cells received by egress Qbin 3	Number of Cells Rx	Ingress–8	Number of cells received on Qbin 3. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM and URM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
9069	Cells served out of egress Qbin 7	Number of Cells Tx	Egress–7	Number of cells transmitted out of Qbin 7. Qbin 7 is assigned to SVC traffic. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9070	Cells discarded by egress Qbin 7	Cells received by egress Qbin 7	Ingress–8	Number of cells discarded on Qbin 7. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9071	Cells received by egress Qbin 7	Number of Cells Rx	Ingress–8	Number of cells received on Qbin 7. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9072	Cells served out of egress Qbin 8	Number of Cells Tx	Egress–7	Number of cells transmitted out of Qbin 8. Qbin 8 is assigned to SVC traffic. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9073	Cells discarded by egress Qbin 8	Cells received by egress Qbin 8	Ingress–8	Number of cells discarded on Qbin 8. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9074	Cells received by egress Qbin 8	Number of Cells Rx	Ingress–8	Number of cells received on Qbin 8. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9075	Cells served out of egress Qbin 9	Number of Cells Tx	Egress–7	Number of cells transmitted out of Qbin 9. Qbin 9 is assigned to rt-VBR traffic. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9076	Cells discarded by egress Qbin 9	Cells received by egress Qbin 9	Ingress–8	Number of cells discarded on Qbin 9. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9077	Cells received by egress Qbin 9	Number of Cells Rx	Ingress–8	Number of cells received on Qbin 9. This statistic is only available on the UXM card in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9078	Cells served out of egress Qbin10	Number of Cells Tx	Egress–7	Number of cells transmitted out of Qbin 10. Qbin 10 is assigned to MPLS traffic. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9079	Cells discarded by egress Qbin10	Cells received by egress Qbin10	Ingress–8	Number of cells discarded on Qbin 10. Qbin 10 is assigned to MPLS traffic. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9080	Cells received by egress Qbin 10	Number of Cells Rx	Ingress–8	Number of cells received on Qbin 10. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM and URM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
9081	Cells served out of egress Qbin11	Number of Cells Tx	Egress–7	Number of cells transmitted out of Qbin 11. If Qbin 11 is not assigned a traffic service, the count returns a value of 0. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9082	Cells discarded by egress Qbin11	Cells received by egress Qbin11	Ingress–8	Number of cells discarded on Qbin 11. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9083	Cells received by egress Qbin11	Number of Cells Rx	Ingress–8	Number of cells received on Qbin 11. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9084	Cells served out of egress Qbin12	Number of Cells Tx	Egress–7	Number of cells transmitted out of Qbin 12. If Qbin 12 is not assigned a traffic service, the count returns a value of 0. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9085	Cells discarded by egress Qbin12	Cells received by egress Qbin12	Ingress–8	Number of cells discarded on Qbin 12. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9086	Cells received by egress Qbin12	Number of Cells Rx	Ingress–8	Number of cells received on Qbin 12. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9087	Cells served out of egress Qbin13	Number of Cells Tx	Egress–7	Number of cells transmitted out of Qbin 13. If Qbin 13 is not assigned a traffic service, the count returns a value of 0. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9088	Cells discarded by egress Qbin13	Cells received by egress Qbin13	Ingress–8	Number of cells discarded on Qbin 13. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9089	Cells received by egress Qbin13	Number of Cells Rx	Ingress–8	Number of cells received on Qbin 13. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9090	Cells served out of egress Qbin14	Number of Cells Tx	Egress–7	Number of cells transmitted out of Qbin 14. If Qbin 14 is not assigned a traffic service, the count returns a value of 0. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9091	Cells discarded by egress Qbin14	Cells received by egress Qbin14	Ingress–8	Number of cells discarded on Qbin 14. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9092	Cells received by egress Qbin14	Number of Cells Rx	Ingress–8	Number of cells received on Qbin 14. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM and URM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
9093	Cells served out of egress Qbin 15	Number of Cells Tx	Egress–7	Number of cells transmitted out of Qbin 15. If Qbin 15 is not assigned a traffic service, the count returns a value of 0. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9094	Cells discarded by egress Qbin 15	Cells received by egress Qbin15	Ingress–8	Number of cells discarded on Qbin 15. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9095	Cells received by egress Qbin 15	Number of Cells Rx	Ingress–8	Number of cells received on Qbin 15. This statistic is only available in Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.

BXM and ASI Port

This section describes the BXM and ASI statistics contained in the ASI Port group. These statistics apply to Switch Software Releases 9.2 and 9.3 on the Cisco BPX switch. The following table lists the attributes that are common to the BXM and ASI port statistics.

Front Cards	BXM-T3/E3, BXM-155, BXM-622 ASI-T3/E3, ASI-155, ASI-155e
Back Cards	BXM—BPX-T3/E3-BC, MMF-155-4/8, SMF-155-4/8 SMFLR-155-4/8, SMF-622-2, SMFLR-622-2, SMFXLR-622-2, SMF-622, SMFLR-622, SMFXLR-622 ASI—LM-3T3/3E3, LM-2OC-3-SMF, LM-2OC-3-SMFLR, LM-2OC-3-MMF
Object Type	3
Subobject Type	1
Default Peak Interval	300 seconds

The BXM and ASI port statistics are used primarily for gathering billing data. Some of the port statistics are measured from different Qbins on the cards. Each Qbin supports these traffic types:

- Qbin 0—CBR
- Qbin 1—UBR/ABR
- Qbin 2—nrt-VBR
- Qbin 3—ATM
- Qbins 4–8—SVC
- Qbin 9—rt-VBR
- Qbins 10–15—Virtual switch interface (VSI)

The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	BXM and ASI Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Unknown VPI/VCI	No	Ingress–2, 3	Provides the last unknown virtual path indicator (VPI)/virtual channel indicator (VCI) value on the port. Range: VPI/VCI value
1	Cell Buffer Overflow	—	—	Number of cells received and dropped due to an overflow in the ingress buffer. Range: 0 to (2^{32}–1) cells.
2	Non-zero GFC Count	—	—	Number of cells received from the port that have a non-zero value for the generic flow control (GFC) field. Range: 0 to (2^{32}–1) cells.
5	Rx AIS Cell	—	—	Number of OAM AIS cells received from the port. Range: 0 to (2^{32}–1) cells.
6	Rx FERF Cell	—	—	Number of OAM cells received from the port. Range: 0 to (2^{32}–1) cells.
7	Number of Cells Rx	No	Ingress–1	Number of cells received at the port before policing and VC queuing. The count is the sum of a CLP cells (0+1) cells.. Range: 0 to (2^{32}–1) cells.
8	Number of Cells Rx w/CLP set	Number of Cells Rx	Ingress–2	Number of cells received with a CLP equal to 1. Range: 0 to (2^{32}–1) cells.
9	Number of Cells Rx w/EFCI Set	—	—	Number of cells with the EFCI bit set to 1 that are received from the ingress side (from equipment connected to the port). Range: 0 to (2^{32}–1) cells.
10	Number of BCM Cell Rx	—	—	Number of bit compression multiplexor (BCM) cells received at the port. Range: 0 to (2^{32}–1) cells.
11	Number of Cells Tx	No	Egress–12, 13	Number of cells transmitted to the port after VC queuing. The count includes both data and OAM cells. Range: 0 to (2^{32}–1) cells.
12	OAM Cells Rx Count	Number of Cells Rx	Ingress–2	Number of total OAM cells received from the port. Range: 0 to (2^{32}–1) cells.
13	Tx Payload Err Due to BIP-16 Err	—	—	Number of transmitted errors due to BIP-16 errors. Range: 0 to (2^{32}–1) cells.
14	Number of Cells Tx w/CLP set	Number of Cells Tx	Egress–12	Number of cells with a CLP equal to 1 that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
15	Number of Cells Tx w/EFCI set	—	—	Number of cells with an EFCI bit equal to 1that are transmitted to the port (to the equipment connected to the port). This statistic is collected after the cells are received from the bus and have passed egress queuing and servicing. Range: 0 to (2^{32}–1) cells.
16	Tx Header Err Discard	—	—	Number of transmitted cells discarded due to errors in the header. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
17	Get Request Rx	No	Ingress–3	Number of Integrated Local Management Interface (ILMI) GetRequest messages that are received from the port. The count is measured after segmentation and reassembly (SAR) processing. Range: 0 to (2^{32}–1) cells.
18	GetNext Request Rx	No	Measured after SAR processing–3	Number of ILMI GetNextRequest messages that are received from the port. Range: 0 to (2^{32}–1) cells.
19	GetNext Request Tx	No	Measured after SAR processing–12	Number of ILMI GetNextRequest messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
20	SetRequest Rx	No	Measured after SAR processing–3	Number of ILMI SetRequest messages that are received from the port. Range: 0 to (2^{32}–1) cells.
21	Trap Rx	No	Measured after SAR processing–3	Number of traps that are received from the port. Range: 0 to (2^{32}–1) cells.
22	Get Response Rx	No	Measured after SAR processing–3	Number of ILMI GetResponse messages that are received from the port. Range: 0 to (2^{32}–1) cells.
23	Get Request Tx	No	Measured after SAR processing–12	Number of ILMI GetRequest messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
24	Get Response Tx	No	Measured after SAR processing–12	Number of ILMI GetResponse messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
25	Trap Tx	No	Measured after SAR processing–12	Number of traps that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
26	Unknown LMI Tx	—	—	Number of LMI status messages that are transmitted to the port that are not understood. Range: 0 to (2^{32}–1) cells.
27	Status Tx	No	Measured after SAR processing–12	Number of LMI status messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
28	Update Status Tx	No	Measured after SAR processing–12	Number of LMI UpdateStatus messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
29	Status Ack Tx	No	Measured after SAR processing–12	Number of LMI Status Acknowledgement (StatusAck) messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
30	Status Enq Rx	No	Measured after SAR processing–3	Number of LMI StatusEnquiry messages that are received from the port. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
31	Status Enq Tx	No	Measured after SAR processing–12	Number of LMI StatusEnquiry messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
32	Status Rx	No	Measured after SAR processing–3	Number of LMI status messages that are received from the port. Range: 0 to (2^{32}–1) cells.
33	Update Status Rx	No	Measured after SAR processing–3	Number of LMI UpdateStatus messages that are received from the port. Range: 0 to (2^{32}–1) cells.
34	Status Ack Rx	No	Measured after SAR processing–3	Number of LMI Status Acknowledgement (StatusAck) messages that are received from the port. Range: 0 to (2^{32}–1) cells.
35	Invalid LMI Rx	No	Measured after SAR processing–3	Number of invalid LMI protocol data units (PDUs) that are received from the port. Range: 0 to (2^{32}–1) cells.
36	Invalid LMI length Rx	Invalid LMI Rx	Measured after SAR processing–3	Number of invalid LMI PDU lengths that are received from the port. Range: 0 to (2^{32}–1) cells.
37	Unknown LMI Rx	Invalid LMI Rx	Measured after SAR processing–3	Number of unknown LMI PDUs that are received from the port. Range: 0 to (2^{32}–1) cells.
38	Invalid LMI IE Rx	Invalid LMI Rx	Measured after SAR processing–3	Number of LMI information elements (IEs) that are received from the port. Range: 0 to (2^{32}–1) cells.
39	Invalid Transaction IDs	Invalid LMI Rx	Measured after SAR processing–3	Number of invalid LMI transaction IDs that are received from the port. Range: 0 to (2^{32}–1) cells.
40	Cells Rx w/CLP=0	Number of Cells RX	Ingress–2	Number of cells with a CLP equal to 0 that are received from the port. Range: 0 to (2^{32}–1) cells.
41	Cells Rx w/CLP=0 discarded	Cells Rx w/CLP=0	Ingress–2	Number of cells with a CLP equal to 0 that are received from the port and then discarded. Range: 0 to (2^{32}–1) cells.
42	Cells Rx w/CLP discarded	Number of Cells Rx w/CLP set	Ingress–2	Number of cells with a CLP equal to 1 that are received from the port and then discarded. Range: 0 to (2^{32}–1) cells.
43	Cells Tx w/CLP=0	Number of Cells Tx	Egress–12	Number of cells with a CLP equal to 0 that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
44	Egress OAM Cell Count	Number of Cells Tx	Egress–13	Number of valid OAM cells transmitted to the port. Range: 0 to (2^{32}–1) cells.
45	Ingress RM Cell Count	Number of Cells Rx	Ingress–1	Number of valid RM cells received from the port. Range: 0 to (2^{32}–1) cells.
46	Egress RM Cell Count	Number of Cells Tx	Egress–13	Number of valid RM cells transmitted to the port. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
9048	Cells served out of egress Qbin 0	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 0. Qbin 0 is assigned to CBR traffic. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9049	Cells discarded by egress Qbin 0	Cells received by egress Qbin 0	Egress–13	Number of cells discarded on Qbin 0. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9050	Cells received by egress Qbin 0	Number of Cells Rx	Egress–13	Number of cells received on Qbin 0. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9051	Cells served out of egress Qbin 1	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 1. Qbin 1 is assigned to UBR/ABR traffic. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9052	Cells discarded by egress Qbin 1	Cells received by egress Qbin 1	Egress–13	Number of cells discarded on Qbin 1. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9053	Cells received by egress Qbin 1	Number of Cells Rx	Egress–13	Number of cells received on Qbin 1. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9054	Cells served out of egress Qbin 2	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 2. Qbin 2 is assigned to nrt-VBR traffic. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9055	Cells discarded by egress Qbin 2	Cells received by egress Qbin 2	Egress–13	Number of cells discarded on Qbin 2. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9056	Cells received by egress Qbin 2	Number of Cells Rx	Egress–13	Number of cells received on Qbin 2. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9057	Cells served out of egress Qbin 3	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 3. Qbin 3 is assigned to ATM traffic. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9058	Cells discarded by egress Qbin 3	Cells received by egress Qbin 3	Egress–13	Number of cells discarded on Qbin 3. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9059	Cells received by egress Qbin 3	Number of Cells Rx	Egress–13	Number of cells received on Qbin 3. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
9075	Cells served out of egress Qbin 9	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 9. Qbin 9 is assigned to rt-VBR traffic. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9076	Cells discarded by egress Qbin 9	Cells received by egress Qbin 9	Egress–13	Number of cells discarded on Qbin 9. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9077	Cells received by egress Qbin 9	Number of Cells Rx	Egress–13	Number of cells received on Qbin 9. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9078	Cells served out of egress Qbin10	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 10. Qbin 10 is assigned to MPLS traffic. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9079	Cells discarded by egress Qbin10	Cells received by egress Qbin10	Egress–13	Number of cells discarded on Qbin 10. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9080	Cells received by egress Qbin 10	Number of Cells Rx	Egress–13	Number of cells received on Qbin 10. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9081	Cells served out of egress Qbin11	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 11. If Qbin 11 is not assigned a traffic service, the count returns a value of 0. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9082	Cells discarded by egress Qbin11	Cells received by egress Qbin11	Egress–13	Number of cells discarded on Qbin 11. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9083	Cells received by egress Qbin11	Number of Cells Rx	Egress–13	Number of cells received on Qbin 11. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9084	Cells served out of egress Qbin12	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 12. If Qbin 12 is not assigned a traffic service, the count returns a value of 0. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9085	Cells discarded by egress Qbin12	Cells received by egress Qbin12	Egress–13	Number of cells discarded on Qbin 12. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9086	Cells received by egress Qbin12	Number of Cells Rx	Egress–13	Number of cells received on Qbin 12. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
9087	Cells served out of egress Qbin13	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 13. If Qbin 13 is not assigned a traffic service, the count returns a value of 0. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9088	Cells discarded by egress Qbin13	Cells received by egress Qbin13	Egress–13	Number of cells discarded on Qbin 13. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9089	Cells received by egress Qbin13	Number of Cells Rx	Egress–13	Number of cells received on Qbin 13. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9090	Cells served out of egress Qbin14	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 14. If Qbin 14 is not assigned a traffic service, the count returns a value of 0. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9091	Cells discarded by egress Qbin14	Cells received by egress Qbin14	Egress–13	Number of cells discarded on Qbin 14. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9092	Cells received by egress Qbin14	Number of Cells Rx	Egress–13	Number of cells received on Qbin 14. I This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9093	Cells served out of egress Qbin 15	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 15. If Qbin 15 is not assigned a traffic service, the count returns a value of 0. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9094	Cells discarded by egress Qbin 15	Cells received by egress Qbin15	Egress–13	Number of cells discarded on Qbin 15. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.
9095	Cells received by egress Qbin 15	Number of Cells Rx	Egress–13	Number of cells received on Qbin 15. This statistic applies only to Switch Software Release 9.3 and later. Range: 0 to (2^{32}–1) cells.

FastPAD Port

This section describes the statistics contained in the FastPAD Port group. The following table lists the attributes that are common to the FastPAD port statistics.

Front Card	FTM
Back Cards	FPC-T1, FPC-E1, FPC-V35, FPC-X21
Object Type	3
Subobject Type	2
Default Peak Interval	300 seconds

The FastPAD port statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	FastPAD Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Frames Received	No	Ingress–1	Number of frames received by the FastPAD port. This statistic also increments when the received frame is invalid or discarded for any reason. Range: 0 to (2^{32}–1) cells.
1	Frames Transmitted	No	Egress–13	Number of frames that are transmitted out of the FastPAD port. Range: 0 to (2^{32}–1) cells.
2	Bytes Received	No	Ingress–1	Number of of bytes in the frames counted in the port Frames Received statistic. Range: 0 to (2^{32}–1) cells.
3	Bytes Transmitted	No	Egress–13	Number of of bytes in the frames counted in the port Frames Transmitted statistic. Range: 0 to (2^{32}–1) cells.
4	Frames Transmitted with FECN	Frames Transmitted	Egress–13	Number of frames with the FECN bit set that are transmitted to the CPE. The congestion can occur anywhere in the network. Range: 0 to (2^{32}–1) cells.
5	Frames Transmitted with BECN	Frames Transmitted	Egress–13	Number of frames with the BECN bit set that are transmitted to the CPE. The congestion can occur anywhere in the network. Range: 0 to (2^{32}–1) cells.
6	Receive Frames CRC Errors	Frames Received	Ingress–1	Number of frames with an invalid CRC that are received from the CPE. The count includes inconsistencies in the last two bytes of the Frame Relay header. Any frame with an incorrect CRC is discarded by the network. If the CRC is incorrect because of a bit error in the DLCI field, then the error is also recorded in the Receive Frame Undefined DLCI Err statistic. Range: 0 to (2^{32}–1) cells.

Stat ID	FastPAD Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
7	Invalid Format Receive Frames	Frames Received	Ingress–1	Number of frames with incorrect extended address (EA) bits (the least significant bits in the two Frame Relay header bytes) that are received from the CPE. Any frame received with incorrect EA bit is discarded. Range: 0 to (2^{32}–1) cells.
8	Receive Frames Alignment Errors	Frames Received	Ingress–1	Number of frames with an incorrect total frame length that are received from the CPE. Any frame received with an incorrect alignment is discarded by the network. Range: 0 to (2^{32}–1) cells.
9	Illegal Length Receive Frames	Frames Received	Ingress–1	Number of frames with the total frame length more than 4510 bytes that are received from the CPE. The frame length includes Frame Relay header and FCS/CRC bytes. Any frame received with an invalid length is discarded by the network. Range: 0 to (2^{32}–1) cells.
10	Number of DMA Overruns	No	Not applicable	Number of direct memory access (DMA) overruns on the port. Range: 0 to (2^{32}–1) cells.
11	LMI Status Enquiries	Frames Received	Ingress–1	Number of status enquiry frames that are received by the FastPAD port from the CPE as part of the selected signaling protocol. Range: 0 to (2^{32}–1) cells.
12	LMI Status Transmit Count	Frames Transmitted	Egress–13	Number of status frames that are transmitted from the FastPAD port to the CPE as part of the signaling protocol. Range: 0 to (2^{32}–1) cells.
13	LMI Status Update Count	Frames Received	Ingress–1	Number of asynchronous status update frames that are received by the FastPAD port as part of the selected signaling protocol. Range: 0 to (2^{32}–1) cells.
14	LMI Invalid Status Enquiries	Frames Received	Ingress–1	Number of status enquiry frames with an invalid format that are received from the FastPAD port as part of the selected signaling protocol. Range: 0 to (2^{32}–1) cells.
15	LMI Link Timeout Errors	No	Not applicable	Number of times that the T392 polling verification timer expires before receiving a status enquiry frame. Range: 0 to (2^{32}–1) cells.
16	LMI Keepalive Sequence Errors	No	Ingress–1	Number of LMI keepalive sequence errors on the FastPAD port. Range: 0 to (2^{32}–1) cells.
17	Receive Frames Undefined DLCI Err	Frames Received	Ingress–1	Number of frames received that have a DLCI without a PVC provisioned on the FastPAD port. Any frame received with an undefined DLCI is discarded. Range: 0 to (2^{32}–1) cells.
18	DE Frames Dropped	Frames Received	Ingress–2	Number of frames received on the FastPAD port that are dropped because the DE bit is set, and the PVC ingress buffer reached the DE threshold. Range: 0 to (2^{32}–1) cells.

Stat ID	FastPAD Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
19	Transmit Status Enquiries	Frames Transmitted	Egress–13	Number of status enquiry frames that are transmitted to the remote network as part of the selected signaling protocol. Range: 0 to (2^{32}–1) cells.
20	Received Status Counter	Frames Received	Not applicable	Number of status frames received from the remote network that are part of the selected signaling. Range: 0 to (2^{32}–1) cells.
21	Asynchronous Status Counter	Frames Received	Not applicable	Number of asynchronous status update frames received from the remote network that are part of the selected signaling protocol. Range: 0 to (2^{32}–1) cells.
22	Invalid Sequence Number Count	No	Not applicable	Number of times discontinuity occurs with the sequence numbers contained in the status enquiry frames received from the CPE. Range: 0 to (2^{32}–1) cells.
23	Transmit Protocol Timeout Count	No	Not applicable	Number of times that the T392 polling verification timer expires without receiving a status frame from the CPE. Range: 0 to (2^{32}–1) cells.
24	CLLM Message Frames Transmitted	No	Egress–13	Number of consolidated link layer message (CLLM) frames transmitted over the NNI port. Range: 0 to (2^{32}–1) cells.
25	CLLM Message Bytes Transmitted	No	Egress–13	Number of CLLM bytes transmitted over the NNI port. Range: 0 to (2^{32}–1) cells.
26	CLLM Message Frames Received	No	Ingress–1	Number of CLLM frames received by the NNI port. Range: 0 to (2^{32}–1) cells.
27	CLLM Message Bytes Received	No	Ingress–1	Number of CLLM bytes received by the NNI port. Range: 0 to (2^{32}–1) cells.
28	CLLM Failures	No	Ingress–1	Number of CLLM timeouts with no messages that are received. Range: 0 to (2^{32}–1) cells.
29	Tx Frames Discarded-Q-Overflow	No	Egress–12	Number of total frames that are discarded due to an overflow in the queue. Range: 0 to (2^{32}–1) cells.
30	Tx Bytes Discarded-Q-Overflow	No	Egress–12	Number of of bytes in the frames counted in the Tx Frames Discarded-Q-Overflow statistic. The count includes Frame Relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
31	Tx Frames while Ingress LMI Fail	No	Egress–13	Number of frames that are discarded while the LMI signaling protocol on the local port is in a failed state. Range: 0 to (2^{32}–1) cells.

Stat ID	FastPAD Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
32	Tx Bytes while Ingress LMI Fail	Bytes Transmitted	Egress–13	Number of of bytes in the frames counted in the Tx Frames while Ingress LMI Fail statistic. The count includes Frame Relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.

FRSM Port

This section describes the Frame Relay statistics contained in the MGX Frame Relay Port group. The statistics in this group apply to the FRSM card on the Cisco MGX 8220, Cisco MGX 8230, Cisco MGX 8250, 8830, 8850 PXM1E-based, 8850 PXM45-based, and 8850 PXM1-based. The following table lists the attributes that are common to the FRSM port statistics.

Front Cards	FRSM-8T1, FRSM-8E1, FRSM-2CT3, FRSM-2T3, FRSM-2E3, FRSM-HS2, FRSM-HS1
Back Cards	RJ48-8T1, RJ48-8E1, BNC-2T3, BNC-2E3, SCSC2-2HSSI
Object Type	3
Subobject Type	3
Default Peak Interval	300 seconds

The FRSM port statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1, with the exception of these ingress points: 1, 2, 3, and 4.

Stat ID	FRSM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Frames Received	No	Ingress–1	Number of frames received from the customer premises equipment (CPE). The count includes signaling protocol frames that are received from the CPE. This statistic also increments when the received frame is invalid or discarded for any reason. Range: 0 to (2^{32}–1) cells.
1	Frames Transmitted	No	Egress–13	Number of frames that are transmitted to the CPE. The count includes signaling protocol frames transmitted to the CPE. Range: 0 to (2^{32}–1) cells.
2	Bytes Received	No	Ingress–1	Number of of bytes in the frames counted in the port Frames Received statistic. The count includes Frame Relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
3	Bytes Transmitted	No	Egress–13	Number of of bytes in the frames counted in the port Frames Transmitted statistic. The count includes Frame Relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
4	Frames Transmitted with FECN	Frames Transmitted	Egress–13	Number of frames with the FECN bit set. These frames are transmitted to the CPE. The congestion can occur anywhere in the network. Range: 0 to (2^{32}–1) cells.
5	Frames Transmitted with BECN	Frames Transmitted	Egress–13	Number of frames with the BECN bit. These frames are transmitted to the CPE. The congestion can occur anywhere in the network. Range: 0 to (2^{32}–1) cells.
6	Receive Frames CRC Errors	Frames Received	Ingress–1	Number of frames with an invalid CRC that are received from the CPE. The CRC calculated by the FRSM card does not match the CRC provided by the CPE. The count includes inconsistencies in the last two bytes of the Frame Relay header. Any frame with an incorrect CRC is discarded by the network. If the CRC is incorrect because of a bit error in the DLCI field, then the error is also recorded in the Receive Frame with Undefined DLCI Err statistic. Range: 0 to (2^{32}–1) cells.
7	Invalid Format Receive Frames	Frames Received	Ingress–1	Number of frames with incorrect extended address (EA) bits (the least significant bits in the two Frame Relay header bytes) that are received from the CPE. The first octet equals 0, and the second octet equals 1. Any frame received with incorrect EA bit is discarded. Range: 0 to (2^{32}–1) cells.
8	Receive Frames Alignment Errors	Frames Received	Ingress–1	Number of frames with an incorrect total frame length that are received from the CPE. Any frame received with an incorrect alignment is discarded by the network. Range: 0 to (2^{32}–1) cells.
9	Illegal Length Receive Frames	Frames Received	Ingress–1	Number of frames with the total frame length more than 4510 bytes that are received from the CPE. The frame length includes Frame Relay header and FCS/CRC bytes. Any frame received with an invalid length is discarded by the network. Range: 0 to (2^{32}–1) cells.
11	LMI Status Enquiries	Frames Received	Ingress–1	Number of status enquiry frames that are received from the CPE as part of the selected signaling protocol. This statistic is valid for the signaling protocol chosen (StrataLMI, Annex A UNI, Annex D UNI, Annex A NNI, or Annex D NNI). If the configuration of the T391 timer on the CPE and FRSM is equal, the count is the same as the Received Status Counter statistic for NNI Annex A and Annex D. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
12	LMI Status Transmit Count	Frames Transmitted	Egress–13	Number of status frames that are transmitted to the CPE as part of the signaling protocol. This statistic is valid for the signaling protocol chosen (StrataLMI, Annex A UNI, Annex D UNI, Annex A NNI, or Annex D NNI). If the configuration of the T391 timer on the CPE and FRSM is equal, the count is the same as the Transmit Status Enquiries statistic for NNI Annex A and Annex D. Range: 0 to (2^{32}–1) cells.
13	LMI Status Update Count	Frames Received	Ingress–1	Number of asynchronous status update frames that are received from the CPE as part of the selected signaling protocol. This statistic is valid for both NNI signaling protocols (Annex A and Annex D). Range: 0 to (2^{32}–1) cells.
14	LMI Invalid Status Enquiries	Frames Received	Ingress–1	Number of status enquiry frames with an invalid format that are received from the CPE as part of the selected signaling protocol. This statistic is valid for the signaling protocol chosen (StrataLMI, Annex A UNI, Annex D UNI, Annex A NNI, or Annex D NNI). Range: 0 to (2^{32}–1) cells.
15	LMI Link Timeout Errors	No	Not applicable	Number of times that the T392 polling verification timer expires before receiving a status enquiry frame. This statistic is valid for the signaling protocol chosen (StrataLMI, Annex A UNI, Annex D UNI, Annex A NNI, or Annex D NNI). Range: 0 to (2^{32}–1) cells.
17	Receive Frames Undefined DLCI Err	Frames Received	Ingress–1	Number of frames received that have a DLCI without a PVC provisioned on the port. The count includes frames received with an incorrect or disabled signaling protocol. For example, the StrataLMI signaling protocol is enabled while the CPE is generating Annex A or Annex D signaling protocol frames, or vice versa. Any frame received with an undefined DLCI is discarded. Range: 0 to (2^{32}–1) cells.
18	DE Frames Dropped	Frames Received	Ingress–2	Number of frames received from the CPE that are dropped because the DE bit is set, and the PVC ingress buffer reached the DE threshold. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
19	Transmit Status Enquiries	Frames Transmitted	Egress–13	Number of status enquiry frames that are transmitted to the CPE as part of the selected signaling protocol. This statistic is valid for both NNI signaling protocols (Annex A and Annex D). If the configuration of the T391 timer on the CPE and FRSM is equal, the count is the same as the LMI Status Transmit Count statistic for NNI Annex A and Annex D. Range: 0 to (2^{32}–1) cells.
20	Received Status Counter	Frames Received	Not applicable	Number of status frames received from the CPE that are part of the selected signaling protocol. This statistic is valid for both NNI signaling protocols (Annex A and Annex D). If the configuration of the T391 timer on the CPE and FRSM is equal, the count is the same as the LMI Status Enquiries statistic for NNI Annex A and Annex D. Range: 0 to (2^{32}–1) cells.
21	Asynchronous Status Counter	Frames Received	Not applicable	Number of asynchronous status update frames received from the CPE that are part of the selected signaling protocol. This statistic is valid for both NNI signaling protocols (Annex A and Annex D). Range: 0 to (2^{32}–1) cells.
22	Invalid Sequence Number Count	No	Not applicable	Number of times discontinuity occurs with the sequence numbers contained in the status enquiry frames received from the CPE. This statistic is valid for the signaling protocol chosen (StrataLMI, Annex A UNI, Annex D UNI, Annex A NNI, or Annex D NNI). Range: 0 to (2^{32}–1) cells.
23	Transmit Protocol Timeout Count	No	Not applicable	Number of times that the T392 polling verification timer expires without receiving a status frame from the CPE. This statistic is valid for both NNI signaling protocols (Annex A NNI and Annex D NNI). Range: 0 to (2^{32}–1) cells.
29	Tx Frames Discarded-Q-Overflow	No	Egress–12	Number of total frames that are discarded due to an overflow in the queue. Range: 0 to (2^{32}–1) cells.
30	Tx Bytes Discarded-Q-Overflow	No	Egress–12	Number of of bytes in the frames counted in the Tx Frames Discarded-Q-Overflow statistic. The count includes Frame Relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
31	Tx Frames while Ingress LMI Fail	No	Egress–13	Number of frames that are discarded while the LMI signaling protocol on the local port is in a failed state. Range: 0 to (2^{32}–1) cells.
32	Tx Bytes while Ingress LMI Fail	Bytes Transmitted	Egress–13	Number of of bytes in the frames counted in the Tx Frames while Ingress LMI Fail statistic. The count includes Frame Relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
33	Receive NNI Sequence Mismatch	No	Ingress–1	Number of times a mismatch occurs in the sequence numbers contained in the status frames that are received from the CPE. These numbers are normally consecutive. This statistic is valid for both NNI signaling protocols (Annex A and Annex D). Range: 0 to (2^{32}–1) cells.
38	No Frames Discard Ingress By Port	—	Ingress	Number of frames that are discarded by the port. Range: 0 to (2^{32}–1) cells.
39	No Frames Tx In Egress On Port DE=1	—	Egress	Number of frames with DE bit set to 1 that are transmitted by the port. Range: 0 to (2^{32}–1) cells.
40	No Bytes Tx In Egress On Port DE=1	—	Egress	Number of bytes with DE bit set to 1 that are transmitted by the port. Range: 0 to (2^{32}–1) cells.
41	No Bytes Recv Ingress On Port DE=1	—	Ingress	Number of bytes with DE bit set to 1 that are received by the port. Range: 0 to (2^{32}–1) cells.
42	No Frames Discard Egress By PortDE=1	—	Egress–13	Number of frames with DE bit set to 1 that are discarded by the port. Range: 0 to (2^{32}–1) cells.
43	No Bytes Discard Egress By PortDE=1	—	Egress	Number of bytes with DE bit set to 1 that are discarded by the port in the egress direction. Range: 0 to (2^{32}–1) cells.
44	No Bytes Discard Ingress By portDE=1	—	Ingress	Number of bytes with DE bit set to 1 that are discarded by the port in the ingress direction. Range: 0 to (2^{32}–1) cells.

AUSM Port

This section describes the ATM port statistics contained in the MGX ATM Port group. The statistics in this group apply to the AUSM card on the Cisco MGX 8220, 8230, 8250, 8830, 8850 PXM1E-based, 8850 PXM45-based, and 8850 PXM1-based nodes. The following table lists the attributes that are common to the AUSM port statistics.

Front Card	AUSM-8T1E1 Revision B
Back Card	LM-RJ48-8T1/LM-RJ48-8E1
Object Type	3 (Port)
Subobject Type	4 (ATM Port)
Default Peak Interval	300 seconds

The AUSM port statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	AUSM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Unknown VPI/VCI	Total Cells Rx from Line	Not applicable	Number of cells received from the port that have invalid or unknown virtual path identifier (VPI)/virtual channel identifier (VCI) combinations. Range: 0 to (2^{32}–1) cells.
2	Non-zero GFC count	Total Cells Rx from Line	Not applicable	Number of cells received from the port that have a non-zero value for the generic flow control (GFC) field. Range: 0 to (2^{32}–1) cells.
5	Rx AIS Cells	No	Before 1	Number of OAM AIS cells received from the port. Range: 0 to (2^{32}–1) cells.
6	Rx FERF Cells	No	Before 1	Number of OAM cells received from the port. Range: 0 to (2^{32}–1) cells.
14	Number of Cells Tx w/CLP Set	Total Cell Tx to Line	After the egress queuing stage–13	Number of cells with a a CLP bit in the ATM cell header equal to 1 that are transmitted to the port. This statistic is collected after the cells are received from the bus and have passed egress queuing and servicing. Range: 0 to (2^{32}–1) cells.
15	Number of Cells Tx w/EFCI Set	Total Cell Tx to Line	After the egress queuing stage–13	Number of cells with an explicit forward congestion indicator (EFCI) bit equal to 1 that are transmitted to the port. This statistic is collected after the cells are received from the bus and have passed egress queuing and servicing. Range: 0 to (2^{32}–1) cells.
17	Get Request Rx	No	Not applicable	Number of SNMP GetRequest messages that are received from the port. Range: 0 to (2^{32}–1) cells.
18	GetNext Request Rx	No	Not applicable	Number of SNMP GetNextRequest messages that are received from the port. Range: 0 to (2^{32}–1) cells.

Stat ID	AUSM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
20	Set Request Rx	No	Not applicable	Number of SNMP SetRequest messages that are received from the port. Range: 0 to (2^{32}–1) cells.
21	Trap Rx	No	Not applicable	Number of trap protocol data units (PDUs) that are received from the port Range: 0 to (2^{32}–1) cells.
22	Get Response Rx	No	Not applicable	Number of SNMP GetResponse messages that are received from the port. Range: 0 to (2^{32}–1) cells.
23	Get Request Tx	No	Not applicable	Number of SNMP GetRequest messages that are transmitted to the port . Range: 0 to (2^{32}–1) cells.
24	Get Response Tx	No	Not applicable	Number of SNMP GetResponse messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
25	Trap Tx	No	Not applicable	Number of trap PDUs that are transmitted to the port (to the equipment connected to the port). Range: 0 to (2^{32}–1) cells.
40	Total Cells Rx from Line	No	Before the policing stage–1	Number of cells received from the port. The count includes data cells received, OAM cells received, and cells dropped because of invalid VPI/VCI or GFC errors. The statistic encompasses all ingress channel statistics for the VCs on the port. Range: 0 to (2^{32}–1) cells.
41	Total Cells Tx to Line	No	After 13	Number of cells transmitted to the port (to the equipment connected to the port). This statistic includes both data and OAM cells sent to the port. Range: 0 to (2^{32}–1) cells.
42	OAM Loopback Cells Rx	No	Before 1	Number of OAM segment loopback cells received from the port. Range: 0 to (2^{32}–1) cells.
43	OAM Loopback Cells Tx	No	After 13	Number of OAM segment loopback cells transmitted to the port (to the equipment connected to the port). Range: 0 to (2^{32}–1) cells.
44	OAM CRC Err Cells Rx	No	Before 1	Number of OAM cells with a CRC error that are received from the port. Range: 0 to (2^{32}–1) cells.
45	Tx AIS Cells	No	After 13	Number of OAM AIS cells transmitted to the port (to the equipment connected to the port). Range: 0 to (2^{32}–1) cells.
46	Discard Cells Tx for Port Alarm	No	After the egress queuing stage–13	Number of cells transmitted to a port (to equipment connected to port) that are discarded because the port is in alarm. Range: 0 to (2^{32}–1) cells.
47	SNMP PDU Received	No	Not applicable	Number of SNMP PDUs that are received from the port. Range: 0 to (2^{32}–1) cells.
48	Invalid PDU Rx	No	Not applicable	Number of invalid PDUs that are received from the port (from equipment connected to the port). An invalid PDU is not a Get, GetNext, or Set type. Range: 0 to (2^{32}–1) cells.
49	ASN1 Parse Error	No	Not applicable	Number of Integrated Local Management Interface (ILMI) PDUs with a parsing error that are received from the port. These PDUs are not parsed because of an ASN1 notation parsing error. Range: 0 to (2^{32}–1) cells.
50	No Such Name Error	No	Not applicable	Number of SNMP PDUs with an undefined error that are received from the port. Range: 0 to (2^{32}–1) cells.

Stat ID	AUSM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
51	Too Big Error	No	Not applicable	Number of SNMP messages that are received with more than 484 bytes, the maximum size for an ILMI message. Range: 0 to (2^{32}–1) cells.
52	ACP Cells Received	No	Not applicable	Number of ATM control protocol (ACP) cells received from the line for an IMA group. Range: 0 to (2^{32}–1) cells.
53	ACP Cells Received with CRC-10 Error	No	Not applicable	Number of ACP cells with CRC-10 errors that are received from the line for an IMA group. Range: 0 to (2^{32}–1) cells.
54	ACP Cells Transmitted	No	Not applicable	Number of total ACP cells transmitted to the line for the IMA Group. Range: 0 to (2^{32}–1) cells.
55	ACP Cell Transmission Failures	No	Not applicable	Number of ACP cells not transmitted to the IMA group because memory is not available for queuing. Range: 0 to (2^{32}–1) cells.
56	HEC Errored cells received per IMA group	No	Not applicable	Number of cells with header error control (HEC) errors that are received from the port by an IMA group. Range: 0 to (2^{32}–1) cells.
57	Near-end Group Failures	No	Not applicable	Number of times a near-end (local end) IMA group goes from an active state to a fail state. This statistic is a local counter that is maintained per IMA group. Range: 0 to (2^{32}–1) cells.
58	Discard Qfull Rx Port	—	—	Number of cells discarded due to transmit queue overflow. Range: 0 to (2^{32}–1) cells.
59	Discard CLPth Rx Port	—	—	Number of CLP cells received at the port and then discarded. Range: 0 to (2^{32}–1) cells.
60	Total Cells Rx From Network	—	—	Number of cells received from the bus. Range: 0 to (2^{32}–1) cells.
61	No CLP cells Rcv Ingress On Port	—	Ingress	Number of CLP set cells received on the port. Range: 0 to (2^{32}–1) cells.

IGX Voice Port

This section describes the statistics contained in the Voice Port group. The IGX voice port statistics in this group apply to the CVM and UVM cards. The following table lists the attributes that are common to the IGX voice port group statistics.

Front Cards	CVM, UVM
Back Cards	BC-T1, BC-E1, BC-J1, BC-Y1, UVI-2T1, UVI-2E1, UVI-2J1
Object Type	3 (Port)
Subobject Type	5
Default Peak Interval	300 seconds

The IGX voice port statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	IGX Voice Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
60	Voice Packets Transmitted	No	Egress–13	Number voice packets transmitted to the network. Range: 0 to (2^{32}–1) cells.
61	Voice Packets Received	No	Ingress–1	Number of voice packets received from the port. Range: 0 to (2^{32}–1) cells.
62	TS Packets Tx	Voice Packets Transmitted	Egress–13	Number of timestamped (TS) voice packets transmitted to the network. Range: 0 to (2^{32}–1) cells.
63	TS Packets Rx	Voice Packets Received	Ingress–1	Number of timestamped voice packets received from the port. Range: 0 to (2^{32}–1) cells.
64	Receive Voice Packets Lost	Voice Packets Received	Ingress–1	Number of voice packets received from the port that are lost. Range: 0 to (2^{32}–1) cells.
65	Transmit Voice Packets Replayed	Voice Packets Transmitted	Egress–13	Number of voice packets sent again. Range: 0 to (2^{32}–1) cells.
66	Onhooks	No	—	Provides the umber of seconds onhook. Range: 0 to (2^{32}–1) cells.
67	Offhooks	No	—	Provides the umber of seconds offhook. Range: 0 to (2^{32}–1) cells.
68	Seizures	No	—	Number of of seizures. Range: 0 to (2^{32}–1) cells.

PXM1 Port

This section describes the statistics contained in the Broadband Interface group. The statistics in this group apply to the PXM1 card on the Cisco MGX 8230, 8250, and 8850 nodes. The following table lists the common attributes for PXM1 port statistics.

Front Card	PXM
Back Card	PXM-UI RJ-45/48, BNC, DB-15
Object Type	3 (Ports)
Subobject Type	8
Default Peak Interval	60 seconds (Fixed setting)

The PXM1 port statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	PXM1 Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
1	Total Cells Rx from Line	No	Ingress–1	Number of cells (VC plus Qbin) that are received from the line. Range: 0 to (2^{32}–1) cells.
2	OAM Loopback Cells Rx	Total Cells Rx from Line	After validating the frame against errors–1	Number of total OAM cells received. Range: 0 to (2^{32}–1) cells.
3	Rx RM Cells	Total Cells Rx from Line	After validating the frame against errors–1	Number of total RM cells received. Range: 0 to (2^{32}–1) cells.
4	Cells Rx w/CLP=0	Total Cells Rx from Line	After validating the frame against errors–1	Number of cells with a CLP equal to 0 that are received. Range: 0 to (2^{32}–1) cells.
5	Cells Rx w/CLP	Total Cells Rx from Line	After validating the frame against errors–1	Number of cells with a CLP equal to 1 that are received. Range: 0 to (2^{32}–1) cells.
6	Cells Rx w/CLP=0 discarded	Cells Rx w/CLP=0	Ingress–2, 3	Number of cells with a CLP equal to 0 that are discarded at ingress. Range: 0 to (2^{32}–1) cells.
7	Cells Rx w/CLP discarded	Cells Rx w/CLP	Ingress–2, 3	Number of cells with a CLP equal to 1 that are discarded at ingress. Range: 0 to (2^{32}–1) cells.
8	OAM Loopback Cells Tx	No	Egress–12, 13	Number of total OAM cells transmitted. Range: 0 to (2^{32}–1) cells.
9	Tx RM Cells	No	Egress–12, 13	Number of total RM cells transmitted. Range: 0 to (2^{32}–1) cells.
10	Number of Cells Tx w/CLP=0	No	Egress–12, 13	Number of cells with a CLP equal to 0 that are transmitted. Range: 0 to (2^{32}–1) cells.
11	Number of Cells Tx w/CLP Set	No	Egress–12, 13	Number of cells with a CLP equal to 1 that are transmitted. Range: 0 to (2^{32}–1) cells.
12	Total cells with invalid VPI VCI PTI	No	—	Number of cells with invalid VPI, VCI, and payload type identifier (PTI) fields. Range: 0 to (2^{32}–1) cells.

AXSM Port

This section describes the statistics contained in the AXSM_ATM_ port group. The statistics in this group apply to the Cisco MGX 8850 PXM45-based switch. The following table lists the common attributes for AXSM port statistics.

Front Cards	MGX-AXSM-16-T3E3, MGX-AXSM-16-155, MGX-AXSM-4-622, MGX-AXSM-1-2488
Back Cards	MGX-SMB-8-T3, MGX-SMB-8-E3, MGX-SMB-4-155, MGX-SMFIR-8-155, MGX-SMFLR-8-155, MGX-MMF-8-155, MGX-SMFLR-2-622, MGX-SMFIR-2-622, MGX-SMFSR-1-2488, MGX-SMFLR-1-2488, MGX-SMFXLR-1-2488
Object Type	3
Subobject Type	9
Default Peak Interval	300 seconds

The AXSM port statistics are used primarily for gathering performance data.

The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	AXSM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 Cells From Policer	No	Ingress–3, 9	Number of cells with a CLP equal to 0 that arrive at the queueing engine. The count includes both discarded and non-discarded cells. Range: 0 to (2^{40}–1) cells.
1	Ingress CLP1 Cells From Policer	No	Ingress–3, 9	Number of cells with a CLP equal to 1 that arrive at the queueing engine. The count includes both discarded and non-discarded cells. Range: 0 to (2^{40}–1) cells.
2	Ingress CLP0 Cells Discarded (dropped)	Ingress CLP0 Cells From Policer	Ingress–3, 9	Number of ingress cells with a CLP equal to 0 that are discarded by the queueing engine. Range: 0 to (2^{40}–1) cells.
3	Ingress CLP1 Cells Discarded (dropped)	Ingress CLP0 Cells From Policer	Ingress–3, 9	Number of ingress cells with a CLP equal to 1 that are discarded by the queueing engine. Range: 0 to (2^{40}–1) cells.
4	Ingress CLP0 Cells to backplane	No	Ingress–3, 9	Number of cells with a CLP equal to 0 that travel from the queueing engine to the bus. Range: 0 to (2^{40}–1) cells.
5	Ingress CLP1 Cells to backplane	No	Ingress–3, 9	Number of cells with a CLP equal to 1 that travel from the queueing engine to the bus. Range: 0 to (2^{40}–1) cells.

Stat ID	AXSM Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
6	Egress CLP0 Cells From backplane	No	Egress–6, 12	Number of cells with a CLP equal to 0 that arrive at the queueing engine. The count includes both discarded and non-discarded cells. Range: 0 to (2^{40}–1) cells.
7	Egress CLP1 Cells From backplane	No	Egress–6, 12	Number of cells with a CLP equal to 1 that arrive at the queueing engine. The count includes both discarded and non-discarded cells. Range: 0 to (2^{40}–1) cells.
8	Egress CLP0 Cells Discarded (dropped)	Egress CLP0 Cells From backplane	Egress–6, 12	Number of egress cells with a CLP equal to 0 that are discarded by the queueing engine. Range: 0 to (2^{40}–1) cells.
9	Egress CLP1 Cells Discarded (dropped)	Egress CLP1 Cells From backplane	Egress–6, 12	Number of egress cells with a CLP equal to 1 that are discarded by the queueing engine. Range: 0 to (2^{40}–1) cells.
10	Egress CLP0 Cells to port	No	Egress–6, 12	Number of cells with a CLP equal to 0 that travel from the queueing engine to the line. Range: 0 to (2^{40}–1) cells.
11	Egress CLP1 Cells to port	No	Egress–6, 12	Number of cells with a CLP equal to 1 that travel from the queueing engine to the line. Range: 0 to (2^{40}–1) cells.
12	Egress Total OAM Cells	No	Egress–6, 12	Number of OAM cells that travel from the queueing engine to the line. Range: 0 to (2^{40}–1) cells.

BXM and ASI Virtual Port

This section describes the statistics contained in the Virtual Port group. The BXM and ASI statistics in this group apply to the Cisco BPX switch. Virtual port statistics are only applicable to Switch Software Release 9.3 and later. The following table lists the attributes that are common to the BXM and ASI virtual port statistics.

Front Cards	BXM-T3/E3, BXM-155, BXM-622 ASI-T3/E3, ASI-155, ASI-155e
Back Cards	BXM—BPX-T3/E3-BC, MMF-155-4/8, SMF-155-4/8 SMFLR-155-4/8, SMF-622-2, SMFLR-622-2, SMFXLR-622-2, SMF-622, SMFLR-622, SMFXLR-622 ASI—LM-3T3/3E3, LM-2OC-3-SMF, LM-2OC-3-SMFLR, LM-2OC-3-MMF
Object Type	3
Subobject Type	10
Default Peak Interval	300 seconds

The BXM and ASI virtual port statistics are used primarily for gathering billing data. Some of the BXM and ASI virtual port statistics are measured from different Qbins. Each Qbin supports these traffic types:

- Qbin 0—CBR
- Qbin 1—UBR/ABR
- Qbin 2—nrt-VBR
- Qbin 3—ATM
- Qbins 4–8—SVC
- Qbin 9—rt-VBR
- Qbins 10–15—Virtual switch interface (VSI)

The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	BXM and ASI Virtual Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Unknown VPI/VCI	No	Ingress–2, 3	Provides the last unknown VPI)/VCI) value on the port. Range: VPI/VCI value
1	Cell Buffer Overflow	—	—	Number of cells received and dropped due to an overflow in the buffer. Range: 0 to (2^{32}–1) cells.
2	Non-zero GFC Count	—	—	Number of cells received from the port that have a non-zero value for the generic flow control (GFC) field. Range: 0 to (2^{32}–1) cells.
5	Rx AIS Cell	—	—	Number of OAM AIS cells received from the port. Range: 0 to (2^{32}–1) cells.
6	Rx FERF Cell	—	—	Number of OAM cells received from the port. Range: 0 to (2^{32}–1) cells.
7	Number of Cells Rx	No	Ingress–1	Number of cells received at the port before policing and VC queuing. The count is the sum of a CLP cells (0+1) cells.. Range: 0 to (2^{32}–1) cells.
8	Number of Cells Rx w/CLP set	Number of Cells Rx	Ingress–2	Number of cells received with a CLP equal to 1. Range: 0 to (2^{32}–1) cells.
9	Number of Cells Rx w/EFCI Set	—	—	Number of cells with the EFCI bit set to 1 that are received from the ingress side (from equipment connected to the port). Range: 0 to (2^{32}–1) cells.
10	Number of BCM Cell Rx	—	—	Number of bit compression multiplexor (BCM) cells received at the port. Range: 0 to (2^{32}–1) cells.
11	Number of Cells Tx	No	Egress–12, 13	Number of cells transmitted to the port after VC queuing. The count includes both data and OAM cells. Range: 0 to (2^{32}–1) cells.
12	OAM Cells Rx Count	Number of Cells Rx	Ingress–2	Number of total OAM cells received from the port. Range: 0 to (2^{32}–1) cells.
13	Tx Payload Err Due to BIP-16 Err	—	—	Number of transmitted errors due to BIP-16 errors. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Virtual Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
14	Number of Cells Tx w/CLP set	Number of Cells Tx	Egress–12	Number of cells with a CLP equal to 1 that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
15	Number of Cells Tx w/EFCI set	—	—	Number of cells with an EFCI bit equal to 1 that are transmitted to the port (to the equipment connected to the port). This statistic is collected after the cells are received from the bus and have passed egress queuing and servicing. Range: 0 to (2^{32}–1) cells.
16	Tx Header Err Discard	—	—	Number of transmitted cells discarded due to errors in the header. Range: 0 to (2^{32}–1) cells.
17	Get Request Rx	No	Ingress–3	Number of Integrated Local Management Interface (ILMI) GetRequest messages that are received from the port. The count is measured after segmentation and reassembly (SAR) processing. Range: 0 to (2^{32}–1) cells.
18	GetNext Request Rx	No	Measured after SAR processing–3	Number of ILMI GetNextRequest messages that are received from the port. Range: 0 to (2^{32}–1) cells.
19	GetNext Request Tx	No	Measured after SAR processing–12	Number of ILMI GetNextRequest messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
20	SetRequest Rx	No	Measured after SAR processing–3	Number of ILMI SetRequest messages that are received from the port. Range: 0 to (2^{32}–1) cells.
21	Trap Rx	No	Measured after SAR processing–3	Number of traps that are received from the port. Range: 0 to (2^{32}–1) cells.
22	Get Response Rx	No	Measured after SAR processing–3	Number of ILMI GetResponse messages that are received from the port. Range: 0 to (2^{32}–1) cells.
23	Get Request Tx	No	Measured after SAR processing–12	Number of ILMI GetRequest messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
24	Get Response Tx	No	Measured after SAR processing–12	Number of ILMI GetResponse messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
25	Trap Tx	No	Measured after SAR processing–12	Number of traps that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
26	Unknown LMI Tx	—	—	Number of LMI status messages that are transmitted to the port that are not understood. Range: 0 to (2^{32}–1) cells.
27	Status Tx	No	Measured after SAR processing–12	Number of LMI status messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Virtual Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
28	Update Status Tx	No	Measured after SAR processing–12	Number of LMI UpdateStatus messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
29	Status Ack Tx	No	Measured after SAR processing–12	Number of LMI Status Acknowledgement (StatusAck) messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
30	Status Enq Rx	No	Measured after SAR processing–3	Number of LMI StatusEnquiry messages that are received from the port. Range: 0 to (2^{32}–1) cells.
31	Status Enq Tx	No	Measured after SAR processing–12	Number of LMI StatusEnquiry messages that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
32	Status Rx	No	Measured after SAR processing–3	Number of LMI status messages that are received from the port. Range: 0 to (2^{32}–1) cells.
33	Update Status Rx	No	Measured after SAR processing–3	Number of LMI UpdateStatus messages that are received from the port. Range: 0 to (2^{32}–1) cells.
34	Status Ack Rx	No	Measured after SAR processing–3	Number of LMI Status Acknowledgement (StatusAck) messages that are received from the port. Range: 0 to (2^{32}–1) cells.
35	Invalid LMI Rx	No	Measured after SAR processing–3	Number of invalid LMI protocol data units (PDUs) that are received from the port. Range: 0 to (2^{32}–1) cells.
36	Invalid LMI length Rx	Invalid LMI Rx	Measured after SAR processing–3	Number of invalid LMI PDU lengths that are received from the port. Range: 0 to (2^{32}–1) cells.
37	Unknown LMI Rx	Invalid LMI Rx	Measured after SAR processing–3	Number of unknown LMI PDUs that are received from the port. Range: 0 to (2^{32}–1) cells.
38	Invalid LMI IE Rx	Invalid LMI Rx	Measured after SAR processing–3	Number of LMI information elements (IEs) that are received from the port. Range: 0 to (2^{32}–1) cells.
39	Invalid Transaction IDs	Invalid LMI Rx	Measured after SAR processing–3	Number of invalid LMI transaction IDs that are received from the port. Range: 0 to (2^{32}–1) cells.
40	Cells Rx w/CLP=0	Number of Cells RX	Ingress–2	Number of cells with a CLP equal to 0 that are received from the port. Range: 0 to (2^{32}–1) cells.
41	Cells Rx w/CLP=0 discarded	Cells Rx w/CLP=0	Ingress–2	Number of cells with a CLP equal to 0 that are received from the port and then discarded. Range: 0 to (2^{32}–1) cells.
42	Cells Rx w/CLP discarded	Number of Cells Rx w/CLP set	Ingress–2	Number of cells with a CLP equal to 1 that are received from the port and then discarded. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Virtual Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
43	Cells Tx w/CLP=0	Number of Cells Tx	Egress–12	Number of cells with a CLP equal to 0 that are transmitted to the port. Range: 0 to (2^{32}–1) cells.
44	Egress OAM Cell Count	Number of Cells Tx	Egress–13	Number of valid OAM cells transmitted to the port. Range: 0 to (2^{32}–1) cells.
45	Ingress RM Cell Count	Number of Cells Rx	Ingress–1	Number of valid RM cells received from the port. Range: 0 to (2^{32}–1) cells.
46	Egress RM Cell Count	Number of Cells Tx	Egress–13	Number of valid RM cells transmitted to the port. Range: 0 to (2^{32}–1) cells.
9048	Cells served out of egress Qbin 0	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 0. Qbin 0 is assigned to CBR traffic. Range: 0 to (2^{32}–1) cells.
9049	Cells discarded by egress Qbin 0	Cells received by egress Qbin 0	Egress–13	Number of cells discarded on Qbin 0. Range: 0 to (2^{32}–1) cells.
9050	Cells received by egress Qbin 0	Number of Cells Rx	Egress–13	Number of cells received on Qbin 0. Range: 0 to (2^{32}–1) cells.
9051	Cells served out of egress Qbin 1	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 1. Qbin 1 is assigned to UBR/ABR traffic. Range: 0 to (2^{32}–1) cells.
9052	Cells discarded by egress Qbin 1	Cells received by egress Qbin 1	Egress–13	Number of cells discarded on Qbin 1. Range: 0 to (2^{32}–1) cells.
9053	Cells received by egress Qbin 1	Number of Cells Rx	Egress–13	Number of cells received on Qbin 1. Range: 0 to (2^{32}–1) cells.
9054	Cells served out of egress Qbin 2	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 2. Qbin 2 is assigned to VBR-nrt traffic. Range: 0 to (2^{32}–1) cells.
9055	Cells discarded by egress Qbin 2	Cells received by egress Qbin 2	Egress–13	Number of cells discarded on Qbin 2. Range: 0 to (2^{32}–1) cells.
9056	Cells received by egress Qbin 2	Number of Cells Rx	Egress–13	Number of cells received on Qbin 2. Range: 0 to (2^{32}–1) cells.
9057	Cells served out of egress Qbin 3	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 3. Range: 0 to (2^{32}–1) cells.
9058	Cells discarded by egress Qbin 3	Cells received by egress Qbin 3	Egress–13	Number of cells discarded on Qbin 3. Range: 0 to (2^{32}–1) cells.
9059	Cells received by egress Qbin 3	Number of Cells Rx	Egress–13	Number of cells received on Qbin 3. Range: 0 to (2^{32}–1) cells.
9075	Cells served out of egress Qbin 9	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 9. Range: 0 to (2^{32}–1) cells.
9076	Cells discarded by egress Qbin 9	Cells received by egress Qbin 9	Egress–13	Number of cells discarded on Qbin 9. Range: 0 to (2^{32}–1) cells.
9077	Cells received by egress Qbin 9	Number of Cells Rx	Egress–13	Number of cells received on Qbin 9. Range: 0 to (2^{32}–1) cells.
9078	Cells served out of egress Qbin10	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 10. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and ASI Virtual Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
9079	Cells discarded by egress Qbin10	Cells received by egress Qbin10	Egress–13	Number of cells discarded on Qbin 10. Range: 0 to (2^{32}–1) cells.
9080	Cells received by egress Qbin10	Number of Cells Rx	Egress–13	Number of cells received on Qbin 10. Range: 0 to (2^{32}–1) cells.
9081	Cells served out of egress Qbin11	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 11. If Qbin 11 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{32}–1) cells.
9082	Cells discarded by egress Qbin11	Cells received by egress Qbin11	Egress–13	Number of cells discarded on Qbin 11. Range: 0 to (2^{32}–1) cells.
9083	Cells received by egress Qbin11	Number of Cells Rx	Egress–13	Number of cells received on Qbin 11. Range: 0 to (2^{32}–1) cells.
9084	Cells served out of egress Qbin12	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 12. If Qbin 12 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{32}–1) cells.
9085	Cells discarded by egress Qbin12	Cells received by egress Qbin12	Egress–13	Number of cells discarded on Qbin 12. Range: 0 to (2^{32}–1) cells.
9086	Cells received by egress Qbin12	Number of Cells Rx	Egress–13	Number of cells received on Qbin 12. Range: 0 to (2^{32}–1) cells.
9087	Cells served out of egress Qbin13	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 13. If Qbin 13 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{32}–1) cells.
9088	Cells discarded by egress Qbin13	Cells received by egress Qbin13	Egress–13	Number of cells discarded on Qbin 13. Range: 0 to (2^{32}–1) cells.
9089	Cells received by egress Qbin13	Number of Cells Rx	Egress–13	Number of cells received on Qbin 13. Range: 0 to (2^{32}–1) cells.
9090	Cells served out of egress Qbin14	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 14. If Qbin 14 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{32}–1) cells.
9091	Cells discarded by egress Qbin14	Cells received by egress Qbin14	Egress–13	Number of cells discarded on Qbin 14. Range: 0 to (2^{32}–1) cells.
9092	Cells received by egress Qbin14	Number of Cells Rx	Egress–13	Number of cells received on Qbin 14. Range: 0 to (2^{32}–1) cells.
9093	Cells served out of egress Qbin15	Number of Cells Tx	Egress–13	Number of cells transmitted out of Qbin 15. If Qbin 15 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{32}–1) cells.
9094	Cells discarded by egress Qbin15	Cells received by egress Qbin15	Egress–13	Number of cells discarded on Qbin 15. Range: 0 to (2^{32}–1) cells.
9095	Cells received by egress Qbin15	Number of Cells Rx	Egress–13	Number of cells received on Qbin 15. Range: 0 to (2^{32}–1) cells.

AXSM-E Port

This section describes the statistics contained in the AXSME_ATM_port group. The AXSM-E port statistics in this group apply to the Cisco MGX 8850 PXM45-based switch. The following table lists the attributes that are common to the AXSM-E port statistics.

Front Cards	AXSM-2-622-E, AXSM-8-155-E, AXSM-16-T3E3-E
Back Cards	SMFLR-1-622, SMFIR-1-622, SMFLR-4-155, SMFIR-4-155, MMF-4-155, SMB-4-155, SMB-8-T3, SMB-8-E3
Object Type	3
Subobject Type	11
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The AXSM-E port statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Note AXSM-E statistics are only collected at measurement points 1, 2, and 13.

Stat ID	AXSM-E Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	CLP0 cells transmitted	No	After 13	Number of cells with a CLP equal to 0 that are transmitted to the port. Range: 0 to (2^{40}–1) cells.
1	CLP1 cells transmitted	No	After 13	Number of cells with a CLP equal to 1 that are transmitted to the port. Range: 0 to (2^{40}–1) cells.
2	OAM cells transmitted	No	After 13	Number of OAM cells transmitted to the port. Range: 0 to (2^{40}–1) cells.
3	RM cells transmitted	No	After 13	Number of RM cells transmitted to the port. Range: 0 to (2^{40}–1) cells.
4	CLP0 cells not discarded	No	Egress	Number of cells with a CLP equal to 0 that are received at the port. Range: 0 to (2^{40}–1) cells.
5	CLP1 cells not discarded	No	Egress	Number of cells with a CLP equal to 1 that are received at the port. Range: 0 to (2^{40}–1) cells.
6	CLP0 cells discarded due to congestion	No	Egress	Number of cells with a CLP equal to 0 that are discarded due to congestion before being sent out at the port. Range: 0 to (2^{40}–1) cells.
7	CLP1 cells discarded due to congestion	No	Egress	Number of cells with a CLP equal to 1 that are discarded due to congestion before being sent out at the port. Range: 0 to (2^{40}–1) cells.
8	OAM cells received	No	Egress	Number of OAM cells received at the port. Range: 0 to (2^{40}–1) cells.

Stat ID	AXSM-E Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
9	RM cells received	No	Egress	Number of RM cells received at the port. Range: 0 to (2^{40}–1) cells.
10	EFCI cells transmitted	No	Egress–13	Number of cells with the EFCI bit set that are transmitted to the port. Range: 0 to (2^{40}–1) cells.
11	EFCI cells received	No	Egress	Number of cells with the EFCI bit set that are received at the port. Range: 0 to (2^{40}–1) cells.
12	Cells received by Qbin 0	—	—	Number of cells received on Qbin 0. Range: 0 to (2^{40}–1) cells.
13	Cells discarded by Qbin 0	—	—	Number of cells discarded on Qbin 0. Range: 0 to (2^{40}–1) cells.
14	Cells transmitted by Qbin 0	—	—	Number of cells transmitted out of Qbin 0. Range: 0 to (2^{40}–1) cells.
15	Cells received by Qbin 1	—	—	Number of cells received on Qbin 1. Range: 0 to (2^{40}–1) cells.
16	Cells discarded by Qbin 1	—	—	Number of cells discarded on Qbin 1. Range: 0 to (2^{40}–1) cells.
17	Cells transmitted by Qbin 1	—	—	Number of cells transmitted by Qbin 1. Range: 0 to (2^{40}–1) cells.
18	Cells received by Qbin 2	—	—	Number of cells received on Qbin 2. Range: 0 to (2^{40}–1) cells.
19	Cells discarded by Qbin 2	—	—	Number of cells discarded on Qbin 2. Range: 0 to (2^{40}–1) cells.
20	Cells transmitted by Qbin 2	—	—	Number of cells transmitted by Qbin 2. Range: 0 to (2^{40}–1) cells.
21	Cells received by Qbin 3	—	—	Number of cells received on Qbin 3. Range: 0 to (2^{40}–1) cells.
22	Cells discarded by Qbin 3	—	—	Number of cells discarded on Qbin 3. Range: 0 to (2^{40}–1) cells.
23	Cells transmitted by Qbin 3	—	—	Number of cells transmitted by Qbin 3. Range: 0 to (2^{40}–1) cells.
24	Cells received by Qbin 4	—	—	Number of cells received on Qbin 4. Range: 0 to (2^{40}–1) cells.
25	Cells discarded by Qbin 4	—	—	Number of cells discarded on Qbin 4. Range: 0 to (2^{40}–1) cells.
26	Cells transmitted by Qbin 4	—	—	Number of cells transmitted by Qbin 4. Range: 0 to (2^{40}–1) cells.
27	Cells received by Qbin 5	—	—	Number of cells received on Qbin 5. Range: 0 to (2^{40}–1) cells.
28	Cells discarded by Qbin 5	—	—	Number of cells discarded on Qbin 5. Range: 0 to (2^{40}–1) cells.
29	Cells transmitted by Qbin 5	—	—	Number of cells transmitted by Qbin 5. Range: 0 to (2^{40}–1) cells.

Stat ID	AXSM-E Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
30	Cells received by Qbin 6	—	—	Number of cells received on Qbin 6. Range: 0 to (2^{40}–1) cells.
31	Cells discarded by Qbin 6	—	—	Number of cells discarded on Qbin 6. Range: 0 to (2^{40}–1) cells.
32	Cells transmitted by Qbin 6	—	—	Number of cells transmitted by Qbin 6. Range: 0 to (2^{40}–1) cells.
33	Cells received by Qbin 7	—	—	Number of cells received on Qbin 7. Range: 0 to (2^{40}–1) cells.
34	Cells discarded by Qbin 7	—	—	Number of cells discarded on Qbin 7. Range: 0 to (2^{40}–1) cells.
35	Cells transmitted by Qbin 7	—	—	Number of cells transmitted by Qbin 7. Range: 0 to (2^{40}–1) cells.
36	Cells received by Qbin 8	—	—	Number of cells received on Qbin 8. Range: 0 to (2^{40}–1) cells.
37	Cells discarded by Qbin 8	—	—	Number of cells discarded on Qbin 8. Range: 0 to (2^{40}–1) cells.
38	Cells transmitted by Qbin 8	—	—	Number of cells transmitted by Qbin 8. Range: 0 to (2^{40}–1) cells.
39	Cells received by Qbin 9	—	—	Number of cells received on Qbin 9. Range: 0 to (2^{40}–1) cells.
40	Cells discarded by Qbin 9	—	—	Number of cells discarded on Qbin 9. Range: 0 to (2^{40}–1) cells.
41	Cells transmitted by Qbin 9	—	—	Number of cells transmitted by Qbin 9. Range: 0 to (2^{40}–1) cells.
42	Cells received by Qbin10	—	—	Number of cells received on Qbin 10. Range: 0 to (2^{40}–1) cells.
43	Cells discarded by Qbin10	—	—	Number of cells discarded on Qbin 10. Range: 0 to (2^{40}–1) cells.
44	Cells transmitted by Qbin10	—	—	Number of cells transmitted by Qbin 10. Range: 0 to (2^{40}–1) cells.
45	Cells received by Qbin11	—	—	Number of cells received on Qbin 11. If Qbin 11 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
46	Cells discarded by Qbin11	—	—	Number of cells discarded on Qbin 11. If Qbin 11 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
47	Cells transmitted by Qbin11	—	—	Number of cells transmitted by Qbin 11. If Qbin 11 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
48	Cells received by Qbin12	—	—	Number of cells received on Qbin 12. If Qbin 12 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.

Stat ID	AXSM-E Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
49	Cells discarded by Qbin12	—	—	Number of cells discarded on Qbin 12. If Qbin 12 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
50	Cells transmitted by Qbin12	—	—	Number of cells transmitted by Qbin 12. If Qbin 12 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
51	Cells received by Qbin13	—	—	Number of cells received on Qbin 13. If Qbin 13 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
52	Cells discarded by Qbin13	—	—	Number of cells discarded on Qbin 13. If Qbin 13 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
53	Cells transmitted by Qbin13	—	—	Number of cells transmitted by Qbin 13. If Qbin 13 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
54	Cells received by Qbin14	—	—	Number of cells received on Qbin 14. If Qbin 14 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
55	Cells discarded by Qbin14	—	—	Number of cells discarded on Qbin 14. If Qbin 14 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
56	Cells transmitted by Qbin14	—	—	Number of cells transmitted by Qbin 14. If Qbin 14 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
57	Cells received by Qbin15	—	—	Number of cells received on Qbin 15. If Qbin 15 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
58	Cells discarded by Qbin15	—	—	Number of cells discarded on Qbin 15. If Qbin 15 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
59	Cells transmitted by Qbin15	—	—	Number of cells transmitted by Qbin 15. If Qbin 15 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
61	CLP0 cells transmitted (Ingress)	—	Ingress	Number of cells with a CLP equal to 0 that are transmitted from the port. Range: 0 to (2^{40}–1) cells.
62	CLP1 cells transmitted (Ingress)	—	Ingress	Number of cells with a CLP equal to 1 that are transmitted from the port. Range: 0 to (2^{40}–1) cells.
63	OAM cells transmitted (Ingress)	No	Ingress	Number of OAM cells transmitted from the port. Range: 0 to (2^{40}–1) cells.
64	RM cells transmitted (Ingress)	No	Ingress	Number of RM cells transmitted from the port. Range: 0 to (2^{40}–1) cells.
65	CLP0 cells not discarded due to congestion	No	Ingress	Number of cells with a CLP equal to 0 that are received at the port. Range: 0 to (2^{40}–1) cells.

Stat ID	AXSM-E Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
66	CLP1 cells not discarded due to congestion	No	Ingress	Number of cells with a CLP equal to 1 that are received at the port. Range: 0 to (2^{40}–1) cells.
67	CLP0 cells discarded due to congestion	No	Ingress–1	Number of cells with a CLP equal to 0 that are received at the port then discarded due to congestion. Range: 0 to (2^{40}–1) cells.
68	CLP1 cells discarded due to congestion	No	Ingress–1	Number of cells with a CLP equal to 1 that are received at the port then discarded due to congestion. Range: 0 to (2^{40}–1) cells.
69	OAM cells received (Ingress)	No	Ingress–1	Number of OAM cells received at the port. Range: 0 to (2^{40}–1) cells.
70	RM cells received (Ingress)	No	Ingress–1	Number of RM cells received at the port. Range: 0 to (2^{40}–1) cells.
71	EFCI cells transmitted (Ingress)	No	Egress–13	Number of cells with the EFCI bit set that are transmitted to the port. Range: 0 to (2^{40}–1) cells.
72	EFCI cells received (Ingress)	No	Ingress–1	Number of cells with the EFCI bit set that are received at the port. Range: 0 to (2^{40}–1) cells.

PXM1E Port

This section describes the statistics contained in the PXM1E Port group. The PXM1E port statistics in this group apply to the Cisco MGX 8830 and 8850 nodes. The following table lists the attributes that are common to the PXM1E port statistics.

Front Cards	PXM1E-8-T3E3, PXM1E-8-155, PXM1E-2-622, PXM1E-T3E3-155 (combo card)
Back Cards	MGX-SMB-8T3, MGX-SMB-8E3, MGX-SMFIR-8-155LC/B, MGX-SMFLR-8-155LC/B, MGB-MMF-8-155/B, MGX-SMFIR-8-155LC/C, MGX-SMFLR-8-155LC/C, MGB-MMF-8-155/C, MGX-SMFIR-2-622/B, MGX-SMFLR-2-622/B, MGX-SMFIR-2-622/C, MGX-SMFLR-2-622/C, MGX-FRU-T3E3-155
Object Type	3
Subobject Type	12
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The PXM1E port statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	PXM1E Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	CLP0 Cells transmitted	No	After 13	Number of cells with a CLP equal to 0 that are transmitted to the port. Range: 0 to (2^{40}–1) cells.
1	CLP1 Cells transmitted	No	After 13	Number of cells with a CLP equal to 1 that are transmitted to the port. Range: 0 to (2^{40}–1) cells.
2	OAM Cells transmitted	No	After 13	Number of OAM cells transmitted to the port. Range: 0 to (2^{40}–1) cells.
3	RM Cells transmitted	No	After 13	Number of RM cells transmitted to the port. Range: 0 to (2^{40}–1) cells.
4	CLP0 Cells received without discard	No	Ingress–1	Number of cells with a CLP equal to 0 that are received at the port. Range: 0 to (2^{40}–1) cells.
5	CLP1 Cells received without discard	No	Ingress–1	Number of cells with a CLP equal to 1 that are received at the port. Range: 0 to (2^{40}–1) cells.
6	CLP0 Cells discarded due to congestion	No	Ingress–1	Number of cells with a CLP equal to 0 that are received at the port then discarded due to congestion. Range: 0 to (2^{40}–1) cells.
7	CLP1 Cells discarded due to congestion	No	Ingress–1	Number of cells with a CLP equal to 1 that are received at the port then discarded due to congestion. Range: 0 to (2^{40}–1) cells.
8	OAM Cells received	No	Ingress–1	Number of OAM cells received at the port. Range: 0 to (2^{40}–1) cells.
9	RM Cells received	No	Ingress–1	Number of RM cells received at the port. Range: 0 to (2^{40}–1) cells.
10	EFCI Cells transmitted	No	Egress–13	Number of cells with the EFCI bit set that are transmitted to the port. Range: 0 to (2^{40}–1) cells.
11	EFCI Cells received	No	Ingress–1	Number of cells with the EFCI bit set that are received at the port. Range: 0 to (2^{40}–1) cells.
12	Cells Received for Qbin 0	—	—	Number of cells received on Qbin 0. Range: 0 to (2^{40}–1) cells.
13	Cells discarded for Qbin 0	—	—	Number of cells discarded on Qbin 0. Range: 0 to (2^{40}–1) cells.
14	Cells transmitted for Qbin 0	—	—	Number of cells transmitted out of Qbin 0. Range: 0 to (2^{40}–1) cells.
15	Cells Received for Qbin 1	—	—	Number of cells received on Qbin 1. Range: 0 to (2^{40}–1) cells.
16	Cells discarded for Qbin 1	—	—	Number of cells discarded on Qbin 1. Range: 0 to (2^{40}–1) cells.
17	Cells transmitted for Qbin 1	—	—	Number of cells transmitted by Qbin 1. Range: 0 to (2^{40}–1) cells.

Stat ID	PXM1E Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
18	Cells Received for Qbin 2	—	—	Number of cells received on Qbin 2. Range: 0 to (2^{40}–1) cells.
19	Cells discarded for Qbin 2	—	—	Number of cells discarded on Qbin 2. Range: 0 to (2^{40}–1) cells.
20	Cells transmitted for Qbin 2	—	—	Number of cells transmitted by Qbin 2. Range: 0 to (2^{40}–1) cells.
21	Cells Received for Qbin 3	—	—	Number of cells received on Qbin 3. Range: 0 to (2^{40}–1) cells.
22	Cells discarded for Qbin 3	—	—	Number of cells discarded on Qbin 3. Range: 0 to (2^{40}–1) cells.
23	Cells transmitted for Qbin 3	—	—	Number of cells transmitted by Qbin 3. Range: 0 to (2^{40}–1) cells.
24	Cells Received for Qbin 4	—	—	Number of cells received on Qbin 4. Range: 0 to (2^{40}–1) cells.
25	Cells discarded for Qbin 4	—	—	Number of cells discarded on Qbin 4. Range: 0 to (2^{40}–1) cells.
26	Cells transmitted for Qbin 4	—	—	Number of cells transmitted by Qbin 4. Range: 0 to (2^{40}–1) cells.
27	Cells Received for Qbin 5	—	—	Number of cells received on Qbin 5. Range: 0 to (2^{40}–1) cells.
28	Cells discarded for Qbin 5	—	—	Number of cells discarded on Qbin 5. Range: 0 to (2^{40}–1) cells.
29	Cells transmitted for Qbin 5	—	—	Number of cells transmitted by Qbin 5. Range: 0 to (2^{40}–1) cells.
30	Cells Received for Qbin 6	—	—	Number of cells received on Qbin 6. Range: 0 to (2^{40}–1) cells.
31	Cells discarded for Qbin 6	—	—	Number of cells discarded on Qbin 6. Range: 0 to (2^{40}–1) cells.
32	Cells transmitted for Qbin 6	—	—	Number of cells transmitted by Qbin 6. Range: 0 to (2^{40}–1) cells.
33	Cells Received for Qbin 7	—	—	Number of cells received on Qbin 7. Range: 0 to (2^{40}–1) cells.
34	Cells discarded for Qbin 7	—	—	Number of cells discarded on Qbin 7. Range: 0 to (2^{40}–1) cells.
35	Cells transmitted for Qbin 7	—	—	Number of cells transmitted by Qbin 7. Range: 0 to (2^{40}–1) cells.
36	Cells Received for Qbin 8	—	—	Number of cells received on Qbin 8. Range: 0 to (2^{40}–1) cells.
37	Cells discarded for Qbin 8	—	—	Number of cells discarded on Qbin 8. Range: 0 to (2^{40}–1) cells.
38	Cells transmitted for Qbin 8	—	—	Number of cells transmitted by Qbin 8. Range: 0 to (2^{40}–1) cells.

Stat ID	PXM1E Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
39	Cells Received for Qbin 9	—	—	Number of cells received on Qbin 9. Range: 0 to (2^{40}–1) cells.
40	Cells discarded for Qbin 9	—	—	Number of cells discarded on Qbin 9. Range: 0 to (2^{40}–1) cells.
41	Cells transmitted for Qbin 9	—	—	Number of cells transmitted by Qbin 9. Range: 0 to (2^{40}–1) cells.
42	Cells Received for Qbin 10	—	—	Number of cells received on Qbin 10. Range: 0 to (2^{40}–1) cells.
43	Cells discarded for Qbin 10	—	—	Number of cells discarded on Qbin 10. Range: 0 to (2^{40}–1) cells.
44	Cells transmitted for Qbin 10	—	—	Number of cells transmitted by Qbin 10. Range: 0 to (2^{40}–1) cells.
45	Cells Received for Qbin 11	—	—	Number of cells received on Qbin 11. If Qbin 11 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
46	Cells discarded for Qbin 11	—	—	Number of cells discarded on Qbin 11. Range: 0 to (2^{40}–1) cells.
47	Cells transmitted for Qbin 11	—	—	Number of cells transmitted by Qbin 11. Range: 0 to (2^{40}–1) cells.
48	Cells Received for Qbin 12	—	—	Number of cells received on Qbin 12. If Qbin 12 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
49	Cells discarded for Qbin 12	—	—	Number of cells discarded on Qbin 12. Range: 0 to (2^{40}–1) cells.
50	Cells transmitted for Qbin 12	—	—	Number of cells transmitted by Qbin 12. Range: 0 to (2^{40}–1) cells.
51	Cells Received for Qbin 13	—	—	Number of cells received on Qbin 13. If Qbin 13 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
52	Cells discarded for Qbin 13	—	—	Number of cells discarded on Qbin 13. Range: 0 to (2^{40}–1) cells.
53	Cells transmitted for Qbin 13	—	—	Number of cells transmitted by Qbin 13. Range: 0 to (2^{40}–1) cells.
54	Cells Received for Qbin 14	—	—	Number of cells received on Qbin 14. If Qbin 14 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
55	Cells discarded for Qbin 14	—	—	Number of cells discarded on Qbin 14. Range: 0 to (2^{40}–1) cells.
56	Cells transmitted for Qbin14	—	—	Number of cells transmitted by Qbin 14. Range: 0 to (2^{40}–1) cells.

Stat ID	PXM1E Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
57	Cells Received for Qbin 15	—	—	Number of cells received on Qbin 15. If Qbin 15 is not assigned a traffic service, the count returns a value of 0. Range: 0 to (2^{40}–1) cells.
58	Cells discarded for Qbin 15	—	—	Number of cells discarded on Qbin 15. Range: 0 to (2^{40}–1) cells.
59	Cells transmitted for Qbin 15	—	—	Number of cells transmitted by Qbin 15. Range: 0 to (2^{40}–1) cells.

FRSM12 Port

This section describes the Frame Relay statistics contained in the FRSM12 Port group. The statistics in this group apply to the FRSM12 card on the Cisco MGX 8850 PXM45-based node. The following table lists the attributes that are common to the FRSM12 port statistics.

Front Cards	FRSM-12T3E3
Back Cards	SMB-6T3, SMB-6E3
Object Type	3
Subobject Type	13
Default Peak Interval	300 seconds

The FRSM12 port statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1, with the exception of these ingress points: 1, 2, 3, and 4.

Stat ID	FRSM12 Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Frames Transmitted	No	Egress–13	Number of frames that are transmitted to the CPE. The count includes signaling protocol frames transmitted to the CPE. Range: 0 to (2^{32}–1) cells.
1	Bytes Transmitted	No	Egress–13	Number of of bytes in the frames counted in the port Frames Transmitted statistic. Range: 0 to (2^{32}–1) cells.
2	Frames txed with FECN already set	Frames Transmitted	Egress–13	Number of frames with the FECN bit set. These frames are transmitted to the CPE. Range: 0 to (2^{32}–1) cells.
3	Frames txed with BECN already set	Frames Transmitted	Egress–13	Number of frames with the BECN bit. These frames are transmitted to the CPE. Range: 0 to (2^{32}–1) cells.
4	Frames txed during LMI log. port alarm	No	Egress–13	Number of frames transmitted during LMI logical port alarm. Range: 0 to (2^{32}–1) cells.
5	Bytes txed during LMI log. port alarm	No	Egress–13	Number of bytes transmitted during LMI logical port alarm. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM12 Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
6	Number of Transmit Frames aborted	No	Egress–13	Number of frames aborted during transmission. Range: 0 to $(2^{32}–1)$ cells.
7	Number of Frames discarded- underrun	No	Egress–13	Number of frames discarded due to under run. Range: 0 to $(2^{32}–1)$ cells.
8	Transmit AIR in KBPS	No	Egress–13	Number of average information rate (AIR) in kbps during transmission. Range: 0 to $(2^{32}–1)$ cells.
9	Frames Received	No	Ingress–1	Number of frames received from the customer premises equipment (CPE). The count includes signaling protocol frames that are received from the CPE. This statistic also increments when the received frame is invalid or discarded for any reason. Range: 0 to $(2^{32}–1)$ cells.
10	Bytes Received	No	Ingress–1	Number of of bytes in the frames counted in the port Frames Received statistic. The count includes Frame Relay header and FCS/CRC bytes. Range: 0 to $(2^{32}–1)$ cells.
11	Frames Received with DE set	No	Ingress–1	Number of frames with DE bit set that are received on the ingress. Range: 0 to $(2^{32}–1)$ cells.
12	Frames Received with FECN set	No	Ingress–1	Number of frames with FECN bit set that are received on the ingress. Range: 0 to $(2^{32}–1)$ cells.
13	Frames Received with BECN set	No	Ingress–1	Number of frames with BECN bit set that are received on the ingress. Range: 0 to $(2^{32}–1)$ cells.
14	Ingress Frames disc -illegal header	No	Ingress–1	Number of frames discarded on the ingress due to illegal header. Range: 0 to $(2^{32}–1)$ cells.
15	Frames rcvd. with Unknown DLCI	Frames Received	Ingress–1	Number of frames received that have a DLCI without a PVC provisioned on the port. The count includes frames received with an incorrect or disabled signaling protocol. For example, the StrataLMI signaling protocol is enabled while the CPE is generating Annex A or Annex D signaling protocol frames, or vice versa. Any frame received with an undefined DLCI is discarded. Range: 0 to $(2^{32}–1)$ cells.
16	Last known DLCI received	No	Ingress–1	Number of frames with the last unknown DLCI that are received. Range: 0 to $(2^{32}–1)$ cells.
17	Frames rcvd. with FECN tagged	No	Ingress–1	Number of frames received that are tagged with FECN bit. Range: 0 to $(2^{32}–1)$ cells.
18	Frames rcvd. with BECN tagged	No	Ingress–1	Number of frames received that are tagged with BECN bit. Range: 0 to $(2^{32}–1)$ cells.
19	Frames rcvd. with DE bit tagged	No	Ingress–1	Number of frames received that are tagged with DE bit. Range: 0 to $(2^{32}–1)$ cells.
20	Ingress Frames disc -exceeded DE Th.	No	Ingress–1	Number of frames discarded on the ingress due to exceeded DE threshold. Range: 0 to $(2^{32}–1)$ cells.
21	Recv. Frames disc- no channels	No	Ingress–1	Number of frames received when no channel is setup. Range: 0 to $(2^{32}–1)$ cells.

Stat ID	FRSM12 Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
10	Bytes Received	No	Ingress–1	Number of of bytes in the frames counted in the port Frames Received statistic. The count includes Frame Relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
11	Frames Received with DE set	No	Ingress–1	Number of frames with DE bit set that are received on the ingress. Range: 0 to (2^{32}–1) cells.
12	Frames Received with FECN set	No	Ingress–1	Number of frames with FECN bit set that are received on the ingress. Range: 0 to (2^{32}–1) cells.
13	Frames Received with BECN set	No	Ingress–1	Number of frames with BECN bit set that are received on the ingress. Range: 0 to (2^{32}–1) cells.
14	Ingress Frames disc -illegal header	No	Ingress–1	Number of frames discarded on the ingress due to illegal header. Range: 0 to (2^{32}–1) cells.
15	Frames rcvd. with Unknown DLCI	Frames Received	Ingress–1	Number of frames received that have a DLCI without a PVC provisioned on the port. The count includes frames received with an incorrect or disabled signaling protocol. For example, the StrataLMI signaling protocol is enabled while the CPE is generating Annex A or Annex D signaling protocol frames, or vice versa. Any frame received with an undefined DLCI is discarded. Range: 0 to (2^{32}–1) cells.
16	Last known DLCI received	No	Ingress–1	Number of frames with the last unknown DLCI that are received. Range: 0 to (2^{32}–1) cells.
17	Frames rcvd. with FECN tagged	No	Ingress–1	Number of frames received that are tagged with FECN bit. Range: 0 to (2^{32}–1) cells.
18	Frames rcvd. with BECN tagged	No	Ingress–1	Number of frames received that are tagged with BECN bit. Range: 0 to (2^{32}–1) cells.
19	Frames rcvd. with DE bit tagged	No	Ingress–1	Number of frames received that are tagged with DE bit. Range: 0 to (2^{32}–1) cells.
20	Ingress Frames disc -exceeded DE Th.	No	Ingress–1	Number of frames discarded on the ingress due to exceeded DE threshold. Range: 0 to (2^{32}–1) cells.
21	Recv. Frames disc- no channels	No	Ingress–1	Number of frames received when no channel is setup. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM12 Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
27	Frames discarded due to overrun	No	Ingress–1	Number of frames discarded in ingress direction due to FIFO overrun in HDLC controller. Range: 0 to (2^{32}–1) cells.
28	Received AIR in Kbps	No	Ingress–1	Number of received average information rate (AIR) in kbps. Range: 0 to (2^{32}–1) cells.
29	Number of Status inquiry msgs rcvd.	No	Ingress–1	Number of status inquiry messages that are received. Range: 0 to (2^{32}–1) cells.
30	No of invalid request msgs rcvd.	No	Ingress–1	Number of invalid request messages that are received. Range: 0 to (2^{32}–1) cells.
31	Number of UNI msgs rcvd with seq mismatch	No	Ingress–1	Number of times UNI messages with sequence number mismatches are received. Range: 0 to (2^{32}–1) cells.
32	Number of times status response msgs txed	No	Egress–13	Number of times status response messages are transmitted. Range: 0 to (2^{32}–1) cells.
33	Number of times Async status res msgs txed	No	Egress–13	Number of times asynchronous status messages are transmitted. Range: 0 to (2^{32}–1) cells.
34	Number of times UNI Status req not rcvd	No	—	Number of times UNI status requests are not received. Range: 0 to (2^{32}–1) cells.
35	Number of times Status inquiry msgs txed	No	Egress–13	Number of status inquiry messages that are transmitted. Range: 0 to (2^{32}–1) cells.
36	Number of times status response msgs txed	No	Ingress–1	Number of times status response messages are received. Range: 0 to (2^{32}–1) cells.
37	Number of times Async status msgs rcvd	No	Ingress–1	Number of times asynchronous status messages are received. Range: 0 to (2^{32}–1) cells.
38	Number of NNI msgs rcvd with seq mismatch	No	Ingress–1	Number of times NNI messages with sequence number mismatches are received. Range: 0 to (2^{32}–1) cells.
39	Number of times NNI status req not rcvd	No	—	Number of times NNI Status requests are not received. Range: 0 to (2^{32}–1) cells.
40	Number of CLLM frames rcvd.	No	Ingress–1	Number of CLLM frames that are received. Range: 0 to (2^{32}–1) cells.
41	Number of CLLM bytes rcvd.	No	Ingress–1	Number of CLLM bytes that are received. Range: 0 to (2^{32}–1) cells.
42	Number of CLLM frames txed.	No	Egress–13	Number of CLLM frames that are transmitted. Range: 0 to (2^{32}–1) cells.
43	Number of CLLM bytes txed.	No	Egress–13	Number of CLLM bytes that are transmitted. Range: 0 to (2^{32}–1) cells.

Stat ID	FRSM12 Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
44	Number of times expected CLLM msg not rcvd	No	—	Number of times an expected CLLM message is not received. Range: 0 to (2^{32}–1) cells.

AXSM-XG Port Statistics

This section describes the statistics contained in the AXSM-XG ATM Port group. The AXSM-XG port statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and Cisco MGX 8950 nodes. The following table lists the common attributes for AXSM-XG port statistics.

Front Card	AXSM-XG, AXSM-4-2488CH
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	3
Subobject Type	14
Default Peak Interval	300 seconds

The AXSM-XG port statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	AXSM-XG Port Statistics	Ingress/Egress Measurement Point	Description
0	Egress CLP0 cells transmitted	Egress	Number of egress cells with a CLP equal to 0 that are transmitted. Range: 0 to (2^{64}–1) cells.
1	Egress CLP1 cells transmitted	Egress	Number of egress cells with a CLP equal to 1 that are transmitted. Range: 0 to (2^{64}–1) cells.
2	Egress CLP0 cells not discarded to congestion	Egress	Number of egress cells with a CLP equal to 0 that are not discarded due to congestion. Range: 0 to (2^{64}–1) cells.
3	Egress CLP1 cells not discarded to congestion	Egress	Number of egress cells with a CLP equal to 1 that are not discarded due to congestion. Range: 0 to (2^{64}–1) cells.
4	Egress CLP0 cells discarded due to congestion	Egress	Number of egress cells with a CLP equal to 0 that are discarded due to congestion. Range: 0 to (2^{64}–1) cells.
5	Egress CLP1 cells discarded due to congestion	Egress	Number of egress cells with a CLP equal to 1 that are discarded due to congestion. Range: 0 to (2^{64}–1) cells.
6	Ingress CLP0 cells transmitted	Ingress	Number of ingress cells with a CLP equal to 0 that are transmitted. Range: 0 to (2^{64}–1) cells.
7	Ingress CLP1 cells transmitted	Ingress	Number of ingress cells with a CLP equal to 1 that are transmitted. Range: 0 to (2^{64}–1) cells.

Stat ID	AXSM-XG Port Statistics	Ingress/Egress Measurement Point	Description
8	Ingress CLP0 cells not discarded to congestion	Ingress	Number of ingress cells with a CLP equal to 0 that are not discarded due to congestion. Range: 0 to (2^{64}–1) cells.
9	Ingress CLP1 cells not discarded to congestion	Ingress	Number of ingress cells with a CLP equal to 1 that are not discarded due to congestion. Range: 0 to (2^{64}–1) cells.
10	Ingress CLP0 cells discarded due to congestion	Ingress	Number of ingress cells with a CLP equal to 0 that are discarded due to congestion. Range: 0 to (2^{64}–1) cells.
11	Ingress CLP1 cells discarded due to congestion	Ingress	Number of ingress cells with a CLP equal to 1 that are discarded due to congestion. Range: 0 to (2^{64}–1) cells.
12	Cells transmitted by Qbin0	—	Number of cells transmitted by Qbin 0. Range: 0 to (2^{64}–1) cells.
13	Cells discarded by Qbin0	—	Number of cells discarded by Qbin 0. Range: 0 to (2^{64}–1) cells.
14	Cells transmitted by Qbin1	—	Number of cells transmitted by Qbin 0. Range: 0 to (2^{64}–1) cells.
15	Cells discarded by Qbin1	—	Number of cells discarded by Qbin 1. Range: 0 to (2^{64}–1) cells.
16	Cells transmitted by Qbin2	—	Number of cells transmitted by Qbin 2. Range: 0 to (2^{64}–1) cells.
17	Cells discarded by Qbin2	—	Number of cells discarded by Qbin 2. Range: 0 to (2^{64}–1) cells.
18	Cells transmitted by Qbin3	—	Number of cells transmitted by Qbin 3. Range: 0 to (2^{64}–1) cells.
19	Cells discarded by Qbin3	—	Number of cells discarded by Qbin 3. Range: 0 to (2^{64}–1) cells.
20	Cells transmitted by Qbin4	—	Number of cells transmitted by Qbin 4. Range: 0 to (2^{64}–1) cells.
21	Cells discarded by Qbin4	—	Number of cells discarded by Qbin 4. Range: 0 to (2^{64}–1) cells.
22	Cells transmitted by Qbin5	—	Number of cells transmitted by Qbin 5. Range: 0 to (2^{64}–1) cells.
23	Cells discarded by Qbin5	—	Number of cells discarded by Qbin 5. Range: 0 to (2^{64}–1) cells.
24	Cells transmitted by Qbin6	—	Number of cells transmitted by Qbin 6. Range: 0 to (2^{64}–1) cells.
25	Cells discarded by Qbin6	—	Number of cells discarded by Qbin 6. Range: 0 to (2^{64}–1) cells.
26	Cells transmitted by Qbin7	—	Number of cells transmitted by Qbin 7. Range: 0 to (2^{64}–1) cells.
27	Cells discarded by Qbin7	—	Number of cells discarded by Qbin 7. Range: 0 to (2^{64}–1) cells.
28	Cells transmitted by Qbin8	—	Number of cells transmitted by Qbin 8. Range: 0 to (2^{64}–1) cells.
29	Cells discarded by Qbin8	—	Number of cells discarded by Qbin 8. Range: 0 to (2^{64}–1) cells.
30	Cells transmitted by Qbin9	—	Number of cells transmitted by Qbin 9. Range: 0 to (2^{64}–1) cells.
31	Cells discarded by Qbin9	—	Number of cells discarded by Qbin 9. Range: 0 to (2^{64}–1) cells.
32	Cells transmitted by Qbin10	—	Number of cells transmitted by Qbin 10. Range: 0 to (2^{64}–1) cells.
33	Cells discarded by Qbin10	—	Number of cells discarded by Qbin 10. Range: 0 to (2^{64}–1) cells.
34	Cells transmitted by Qbin11	—	Number of cells transmitted by Qbin 11. Range: 0 to (2^{64}–1) cells.
35	Cells discarded by Qbin11	—	Number of cells discarded by Qbin 11. Range: 0 to (2^{64}–1) cells.
36	Cells transmitted by Qbin12	—	Number of cells transmitted by Qbin 12. Range: 0 to (2^{64}–1) cells.
37	Cells discarded by Qbin12	—	Number of cells discarded by Qbin 12. Range: 0 to (2^{64}–1) cells.
38	Cells transmitted by Qbin13	—	Number of cells transmitted by Qbin 13. Range: 0 to (2^{64}–1) cells.
39	Cells discarded by Qbin13	—	Number of cells discarded by Qbin 13. Range: 0 to (2^{64}–1) cells.
40	Cells transmitted by Qbin14	—	Number of cells transmitted by Qbin 14. Range: 0 to (2^{64}–1) cells.

Stat ID	AXSM-XG Port Statistics	Ingress/Egress Measurement Point	Description
41	Cells discarded by Qbin14	—	Number of cells discarded by Qbin 14. Range: 0 to (2^{64}–1) cells.
42	Cells transmitted by Qbin15	—	Number of cells transmitted by Qbin 15. Range: 0 to (2^{64}–1) cells.
43	Cells discarded by Qbin15	—	Number of cells discarded by Qbin 15. Range: 0 to (2^{64}–1) cells.

VXSM Port Statistics

This section describes the statistics contained in the VXSM ATM Port group. The VXSM port statistics apply to the VXSM cards on the Cisco MGX 8850 PXM45-based nodes and the 8880 PXM45-based nodes. The following table lists the common attributes for VXSM port statistics.

Front Card	VXSM
Back Card	VXSM-BC-4-155
Object Type	3
Subobject Type	15
Default Peak Interval	300 seconds

The VXSM port statistics are used primarily for gathering troubleshooting and performance data.

The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	VXSM Port Statistics	Ingress/Egress Measurement Point	Description
0	Ingress CLP0 cells transmitted	Ingress	Number of ingress cells with a CLP equal to 0 that are transmitted. Range: 0 to (2^{64}–1) cells.
1	Ingress CLP1 cells transmitted	Ingress	Number of ingress cells with a CLP equal to 1 that are transmitted. Range: 0 to (2^{64}–1) cells.
2	Egress CLP0 cells not discarded to congestion	Egress	Number of egress cells with a CLP equal to 0 that are not discarded due to congestion. Range: 0 to (2^{64}–1) cells.
3	Egress CLP1 cells not discarded to congestion	Egress	Number of egress cells with a CLP equal to 1 that are not discarded due to congestion. Range: 0 to (2^{64}–1) cells.
4	Egress CLP0 cells discarded due to congestion	Egress	Number of egress cells with a CLP equal to 0 that are discarded due to congestion. Range: 0 to (2^{64}–1) cells.
5	Egress CLP1 cells discarded due to congestion	Egress	Number of egress cells with a CLP equal to 1 that are discarded due to congestion. Range: 0 to (2^{64}–1) cells.

MPSM ATM Port Statistics

This section describes the statistics contained in the MPSM155 ATM Port group. The MPSM port statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM port statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	3
Subobject Type	16
Default Peak Interval	300 seconds

The MPSM port statistics are used primarily for gathering troubleshooting and performance data.

The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	MPSM ATM Port Statistics	Ingress/Egress Measurement Point	Description
0	Egress CLP0 cells transmitted	Egress	Number of egress cells with a CLP equal to 0 that are transmitted to the port. Range: 0 to (2^{64}–1) cells.
1	Egress CLP1 cells transmitted	Egress	Number of egress cells with a CLP equal to 1 that are transmitted to the port. Range: 0 to (2^{64}–1) cells.
16	Ingress CLP0 cells received	Ingress	Number of ingress cells with a CLP equal to 0 that are received from the port. Range: 0 to (2^{64}–1) cells.
17	Ingress CLP1 cells received	Ingress	Number of ingress cells with a CLP equal to 1 that are received from the port. Range: 0 to (2^{64}–1) cells.
22	Ingress CLP0 cells discarded due to congestion	Ingress	Number of ingress cells with a CLP equal to 0 that are discarded due to congestion. Range: 0 to (2^{64}–1) cells.
23	Ingress CLP1 cells discarded due to congestion	Ingress	Number of ingress cells with a CLP equal to 1 that are discarded due to congestion. Range: 0 to (2^{64}–1) cells.

MPSM Frame Relay Port

This section describes the Frame Relay statistics contained in the MPSM Frame Relay Port group. The statistics in this group apply to the MPSM155 card on the Cisco MGX 8850 PXM45-based node. The following table lists the attributes that are common to the MPSM Frame Relay port statistics.

Front Cards	MPSM155
Back Cards	SMB-6T3, SMB-6E3
Object Type	3
Subobject Type	17
Default Peak Interval	300 seconds

The MPSM Frame Relay port statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1, with the exception of these ingress points: 1, 2, 3, and 4.

Stat ID	MPSM Frame Relay Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Frames Transmitted	No	Egress–13	Number of frames that are transmitted to the CPE. The count includes signaling protocol frames transmitted to the CPE. Range: 0 to (2^{32}–1) cells.
1	Bytes Transmitted	No	Egress–13	Number of of bytes in the frames counted in the port Frames Transmitted statistic. The count includes Frame Relay header and FCS/CRC bytes. Range: 0 to (2^{32}–1) cells.
2	Frames txed with FECN already set	Frames Transmitted	Egress–13	Number of frames with the FECN bit set. These frames are transmitted to the CPE. Range: 0 to (2^{32}–1) cells.
3	Frames txed with BECN already set	Frames Transmitted	Egress–13	Number of frames with the BECN bit. These frames are transmitted to the CPE. Range: 0 to (2^{32}–1) cells.
4	Frames txed during LMI log. port alarm	No	Egress–13	Number of frames transmitted during LMI logical port alarm. Range: 0 to (2^{32}–1) cells.
5	Bytes txed during LMI log. port alarm	No	Egress–13	Number of bytes transmitted during LMI logical port alarm. Range: 0 to (2^{32}–1) cells.
6	Number of Transmit Frames aborted	No	Egress–13	Number of frames aborted during transmission. Range: 0 to (2^{32}–1) cells.
7	Number of Frames discarded- underrun	No	Egress–13	Number of frames discarded due to under run. Range: 0 to (2^{32}–1) cells.
8	Transmit AIR in KBPS	No	Egress–13	Number of average information rate (AIR) in kbps during transmission. Range: 0 to (2^{32}–1) cells.
9	Egress Frames Disc.-queue depth exceed	Egress Frames discarded	Egress–12	Number of frames received from the CPE that are discarded because the queue (PVC ingress buffer) is full. Range: 0 to (2^{32}–1) cells.

Stat ID	MPSM Frame Relay Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
10	Egress Bytes Disc.-queue depth exceeed	Egress Bytes Discarded	Egress–12	Number of of bytes in the frames counted by the Tx Frames Discarded VC-Q-Overflow statistic. Range: 0 to (2^{32}–1) cells.
11	Egress Frames Disc.-DE Thshold exceed	Egress Frames discarded	Egress–12	Number of frames discarded on the egress due to exceeded DE threshold. Range: 0 to (2^{32}–1) cells.
12	Egress Bytes Disc.-DE Thshold exceed	Egress Bytes Discarded	Egress–12	Number of of bytes discarded on the egress due to exceeded DE threshold. Range: 0 to (2^{32}–1) cells.
13	Frames Received	No	Ingress–1	Number of frames received from the customer premises equipment (CPE). The count includes signaling protocol frames that are received from the CPE. This statistic also increments when the received frame is invalid or discarded for any reason. Range: 0 to (2^{32}–1) cells.
14	Bytes Received	No	Ingress–1	Number of of bytes in the frames counted in the port Frames Received statistic. Range: 0 to (2^{32}–1) cells.
15	Frames Received with DE set	No	Ingress–1	Number of frames with DE bit set that are received on the ingress. Range: 0 to (2^{32}–1) cells.
16	Frames Received with FECN set	No	Ingress–1	Number of frames with FECN bit set that are received on the ingress. Range: 0 to (2^{32}–1) cells.
17	Frames Received with BECN set	No	Ingress–1	Number of frames with BECN bit set that are received on the ingress. Range: 0 to (2^{32}–1) cells.
18	Ingress Frames disc -illegal header	No	Ingress–1	Number of frames discarded on the ingress due to illegal header. Range: 0 to (2^{32}–1) cells.
21	Frames rcvd. with FECN tagged	No	Ingress–1	Number of frames received that are tagged with FECN bit. Range: 0 to (2^{32}–1) cells.
22	Frames rcvd. with BECN tagged	No	Ingress–1	Number of frames received that are tagged with BECN bit. Range: 0 to (2^{32}–1) cells.
23	Frames rcvd. with DE bit tagged	No	Ingress–1	Number of frames received that are tagged with DE bit. Range: 0 to (2^{32}–1) cells.
24	Ingress Frames disc -exceeded DE Th.	No	Ingress–1	Number of frames discarded on the ingress due to exceeded DE threshold. Range: 0 to (2^{32}–1) cells.
25	Recv. Frames disc- no channels	No	Ingress–1	Number of frames discarded on the ingress due to no channel is setup. Range: 0 to (2^{32}–1) cells.
26	Recv. Frames disc- no buffer available	No	Ingress–1	Number of frames discarded on the ingress due to no buffer available. Range: 0 to (2^{32}–1) cells.
27	Ingress Frames disc -illegal length	No	Ingress–1	Number of frames discarded on the ingress due to illegal length. Range: 0 to (2^{32}–1) cells.
28	Ingress Frames disc -CRC error	No	Ingress–1	Number of frames discarded on the ingress due to CRC error. Range: 0 to (2^{32}–1) cells.

Stat ID	MPSM Frame Relay Port Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
29	Ingress Frames disc -Alignment error	No	Ingress–1	Number of frames discarded on the ingress due to alignment error. Range: 0 to (2^{32}–1) cells.
30	Number of Rcv Frames aborted	No	Ingress–1	Number of received frames that are aborted. Range: 0 to (2^{32}–1) cells.
31	Frames discarded due to overrun	No	Ingress–1	Number of frames discarded in ingress direction due to FIFO overrun in HDLC controller. Range: 0 to (2^{32}–1) cells.
34	Received AIR in Kbps	No	Ingress–1	Number of received average information rate (AIR) in kbps. Range: 0 to (2^{32}–1) cells.
46	Number of CLLM frames rcvd.	No	Ingress–1	Number of CLLM frames that are received. Range: 0 to (2^{32}–1) cells.
47	Number of CLLM bytes rcvd.	No	Ingress–1	Number of CLLM bytes that are received. Range: 0 to (2^{32}–1) cells.
50	Number of times expected CLLM msg not rcvd	No	—	Number of times an expected CLLM message is not received. Range: 0 to (2^{32}–1) cells.

MPSM16-T1E1 ATM Port Statistics

This section describes the ATM Port statistics contained in the MPSM16-T1E1 ATM Port group. The statistics in this group apply to the MPSM16-T1E1 card on the Cisco MGX 8850 PXM45-based node. The following table lists the attributes that are common to the MPSM16-T1E1 ATM port statistics.

Front Cards	MPSM16-T1E1
Back Cards	RBBN-16T1E1, MCC-16E1, RBBN-16-T1E1-1N, MCC-16-E1-1N, RED-16-T1E1
Object Type	3
Subobject Type	18
Default Peak Interval	300 seconds

The following table lists the common attributes for MPSM16-T1E1 ATM connection statistics.

Stat ID	MPSM16-T1E1 ATM Port Statistics	Ingress/Egress Measurement Point
0	All CLP0 cells to port	Egress
1	All CLP1 cells to port	Egress
16	All CLP0 cells from port	Ingress
17	All CLP1 cells from port	Ingress
22	CLP0 discarded from port	Ingress
23	CLP1 discarded from port	Ingress

MPSM16-T1E1 Frame Relay Port Statistics

This section describes the Frame Relay Port statistics contained in the MPSM16-T1E1 Frame Relay Port group. The statistics in this group apply to the MPSM16-T1E1 card on the Cisco MGX 8850 PXM45-based node. The following table lists the attributes that are common to the MPSM16-T1E1 Frame Relay port statistics.

Front Cards	MPSM16-T1E1
Back Cards	RBBN-16T1E1, MCC-16E1, RBBN-16-T1E1-1N, MCC-16-E1-1N, RED-16-T1E1
Object Type	3
Subobject Type	19
Default Peak Interval	300 seconds

The following table lists the common attributes for MPSM16-T1E1 Frame Relay Port statistics.

Stat ID	MPSM16-T1E1 Frame Relay Port Statistics	Ingress/Egress Measurement Point
0	Number of frames transmitted to port	Egress
1	Number of bytes transmitted to port	Egress
2	Number of frames with FECN to port	Egress
3	Number of frames with BECN to port	Egress
4	Frames During LMI Alarm	Egress
5	Bytes During LMI Alarm	Egress
6	Frames abort	Egress
7	Frames discarded due to underrun	Egress
8	Transmit Kbps AIR (Average Info Rate)	Egress
9	Frames discarded due to exceed Q Depth	Egress
10	Bytes discarded due to exceed Q Depth	Egress
11	Frames discarded due to exceed DEThreshold	Egress
12	Bytes discarded due to exceed DEThreshold	Egress
13	Number of frames received from port	Ingress
14	Number of bytes received from port	Ingress
15	Number of DE frames from port	Ingress
16	Number of FECN frames from port	Ingress
17	Number of BECN frames from port	Ingress
18	Frame Discarded Illegal Hdr	Ingress
19	Frames with Unknown DLCI	Ingress
20	Last Unknown DLCI	Ingress
21	Number of Tagged FECN frames	Ingress

Stat ID	MPSM16-T1E1 Frame Relay Port Statistics	Ingress/Egress Measurement Point
22	Number of Tagged BECN frames	Ingress
23	Number of frames Tagged DE	Ingress
24	Frames discarded due to exceed DEThreshold	Ingress
25	Frame Discarded No Channel	Ingress
26	Frames discarded due to no buffer available	Ingress
27	Frame Discarded Illeg Len	Ingress
28	Frame Discarded CRC Err	Ingress
29	Frame Discarded Align Err	Ingress
30	Frame Abort	Ingress
31	Frame Discarded Overrun	Ingress
32	Bytes discarded due to exceed DEThreshold	Ingress
33	Frames discarded	Ingress
34	Received Kbps AIR (Average Info Rate)	Ingress
46	CLLM Frames received	Ingress
47	CLLM Bytes received	Ingress
50	Expected CLLM frames not received	Ingress

Card Statistics

The CWM supports the following card statistics:

- AXSM Card Statistics, page 4-199

AXSM Card Statistics

This section describes the statistics contained in the AXSM_ATM_card group. The AXSM card statistics apply to the Cisco MGX 8850 PXM45-based switch.

The following table lists the attributes that are common to the AXSM card statistics.

Front Cards	MGX-AXSM-16-T3E3, MGX-AXSM-16-155, MGX-AXSM-4-622, MGX-AXSM-1-2488
Back Cards	MGX-SMB-8-T3, MGX-SMB-8-E3, MGX-SMB-4-155, MGX-SMFIR-8-155, MGX-SMFLR-8-155, MGX-MMF-8-155, MGX-SMFLR-2-622, MGX-SMFIR-2-622, MGX-SMFSR-1-2488, MGX-SMFLR-1-2488, MGX-SMFXLR-1-2488
Object Type	4
Subobject Type	0
Default Peak Interval	300 seconds

The AXSM card statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	AXSM Card Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Cells to backplane - QLSI	No	Ingress–4, 10	Number of cells sent to the bus. Range: 0 to (2^{40}–1) cells.
1	Cells from queue (from QE48)	No	Ingress–4, 10	Number of cells traveling from the queueing engine to the bus. Range: 0 to (2^{40}–1) cells.
2	Cells from backplane - QLSI	No	Egress–5, 11	Number of cells received from the bus. Range: 0 to (2^{40}–1) cells.
3	CLP0 Cells dropped due to congestion	No	Ingress–3, 9 Egress–6, 12	Number of cells with a CLP equal to 0 that are discarded due to congestion or buffer management by the queueing engine. Range: 0 to (2^{40}–1) cells.
4	CLP1 Cells dropped due to congestion	No	Ingress–3, 9 Egress–6, 12	Number of cells with a CLP equal to 1 that are dropped due to congestion or buffer management. Range: 0 to (2^{40}–1) cells.
5	Undefined Cells from port	No	Ingress–3, 9 Egress–6, 12	Number of undefined cells from the queuing engine. An undefined cell can be routed, but it may not be discarded. The queueing engine can not distinguish between payload or OAM cells. Range: 0 to (2^{40}–1) cells.
6	Errored OAM Cells from port	No	Ingress–3, 9 Egress–6, 12	Number of OAM cells that have CRC errors. Range: 0 to (2^{40}–1) cells.
7	Invalid OAM Cells from port	No	Ingress–3, 9 Egress–6, 12	Number of OAM cells with a bad cell or function type that the queueing engine is unable to decode. Range: 0 to (2^{40}–1) cells.
8	Unsupported OAM Cells from port	No	Ingress–3, 9 Egress–6, 12	Number of unsupported OAM cells. These cells are discarded at the queuing engine. Range: 0 to (2^{40}–1) cells.
9	Errored RM Cells from port	No	Ingress–3, 9 Egress–6, 12	Number of RM cells that have CRC errors. Range: 0 to (2^{40}–1) cells.

IMA Statistics

The following IMA statistics are supported in CWM Release 15:

AXSM-E IMA Group Statistics

This section describes the statistics contained in the AXSM-E IMA Group. The AXSM-E IMA group statistics apply to the Cisco MGX 8830, 8850 PXM1E-based, and 8850 PXM45-based platforms. The following table lists the attributes that are common to the AXSM-E IMA group statistics.

Front Cards	AXSME-32-T1E1-E
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	5
Subobject Type	0
Default Peak Interval	300 seconds

The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	AXSM-E IMA Group Statistics	Description
0	IMA Unavailable Seconds	Number of total UASs in the IMA group.
1	Near end failures	Number of failure alarms that are received by the near end.
2	Far end failures	Number of failure alarms that are received by the far end.

AXSM-E IMA Link Statistics

This section describes the statistics contained in the AXSME IMA Link group. The AXSM-E IMA link statistics apply to the Cisco MGX 8850 PXM45-based switch. The following table lists the attributes that are common to the AXSM-E IMA link statistics.

Front Cards	AXSME-32-T1E1-E
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	5
Subobject Type	1
Default Peak Interval	300 seconds

The AXSM-E IMA link statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	AXSM-E IMA Link Statistics	Description
18	ICP violations	Number of IMA Control Protocol (ICP) cell violations that are received from the line. Range: 0 to (2^{32}–1) cells.
19	ICP OIF violations	Number of OIF anomalies, except during SESs or UASs at the near-end. Range: 0 to (2^{32}–1) cells.
20	Severely Errored seconds	Number of SESs at the near end. Range: 0 to (2^{32}–1) cells.
21	FE Severely Errored seconds	Number of one second intervals containing one or more remote defect indicators (RDI) at the far end. This count does not include UASs at the far end condition. Range: 0 to (2^{32}–1) cells.
22	Unavailable seconds	Number of UASs at the near end. Range: 0 to (2^{32}–1) cells.
23	FE Unavailable seconds	Number of UASs at far-end. Range: 0 to (2^{32}–1) cells.
24	Transmit Unusable seconds	Number of unusable seconds transmitted at the near-end. Range: 0 to (2^{32}–1) cells.
25	Receive Unusable seconds	Number of unusable seconds received at the near end. Range: 0 to (2^{32}–1) cells.
26	FE Transmit Unusable seconds	Number of unusable seconds at far-end in the transmit direction. Range: 0 to (2^{32}–1) cells.
27	FE Receive Unusable seconds	Number of unusable seconds at far-end in the receive direction. Range: 0 to (2^{32}–1) cells.
28	Transmit Failure	Number of transmit failure alarm conditions that have been entered on this link. Range: 0 to (2^{32}–1) cells.
29	Receive Failure	Number of receive failure alarm conditions that have been entered on this link. Range: 0 to (2^{32}–1) cells.
30	FE Transmit Failure	Number of far-end transmit failure alarm conditions that have been entered on this link. Range: 0 to (2^{32}–1) cells.

Stat ID	AXSM-E IMA Link Statistics	Description
31	FE Receive Failure	Number of times a far-end receive failure alarm condition that has been entered on this link. Range: 0 to (2^{32}–1) cells.
32	Transmit Stuff events	Number of stuff events inserted in the transmit direction. Range: 0 to (2^{32}–1) cells.
33	Receive Stuff events	Number of stuff events in the receive direction. Range: 0 to (2^{32}–1) cells.

PXM1E IMA Group Statistics

This section describes the statistics contained in the PXM1E IMA group. The PXM1E IMA group statistics apply to the Cisco MGX 8830 and Cisco MGX 8850 PXM45-based switches. The following table lists the attributes that are common to the PXM1E IMA group statistics.

Front Cards	PXM1E-16T1E1
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	5
Subobject Type	2
Default Peak Interval	300 seconds

The PXM1E IMA group statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	PXM1E IMA Group Statistics	Description
0	IMA Unavailable Seconds	Number of total UASs in the IMA group. Range: 0 to (2^{32}–1) cells.
1	Near end failures	Number of failure alarms that are received by the near end. Range: 0 to (2^{32}–1) cells.
2	Far end failures	Number of failure alarms that are received by the far end. Range: 0 to (2^{32}–1) cells.

PXM1E IMA Link Statistics

This section describes the statistics contained in the PXM1E IMA Link group. The PXM1E IMA link statistics apply to the Cisco MGX 8830 and Cisco MGX 8850 PXM1E-based switches. The following table lists the attributes that are common to the PXM1E IMA link statistics.

Front Cards	PXM1E-16T1E1
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	5
Subobject Type	3
Default Peak Interval	300 seconds

The PXM1E IMA link statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	PXM1E IMA Link Statistics	Description
18	ICP violations	Number of IMA Control Protocol (ICP) cell violations that are received from the line. Range: 0 to (2^{32}–1) cells.
19	ICP OIF violations	Number of OIF anomalies, except during SESs or UASs at the near-end. Range: 0 to (2^{32}–1) cells.
20	Severely Errored Seconds	Number of SESs at the near end. Range: 0 to (2^{32}–1) cells.
21	FE Severely Errored Seconds	Number of one second intervals containing one or more remote defect indicators (RDI) at the far end. Range: 0 to (2^{32}–1) cells.
22	Unavailable Seconds	Number of UASs at the near end. Range: 0 to (2^{32}–1) cells.
23	FE Unavailable Seconds	Number of UASs at far-end. Range: 0 to (2^{32}–1) cells.
24	Transmit Unusable seconds	Number of unusable seconds transmitted at the near-end. Range: 0 to (2^{32}–1) cells.
25	Receive Unusable seconds	Number of unusable seconds received at the near end. Range: 0 to (2^{32}–1) cells.
26	FE Transmit Unusable seconds	Number of unusable seconds at far-end in the transmit direction. Range: 0 to (2^{32}–1) cells.
27	FE Receive Unusable seconds	Number of unusable seconds at far-end in the receive direction. Range: 0 to (2^{32}–1) cells.
28	Transmit Failure	Number of transmit failure alarm condition that has been entered on this link. Range: 0 to (2^{32}–1) cells.
29	Receive Failure	Number of receive failure alarm condition that has been entered on this link. Range: 0 to (2^{32}–1) cells.
30	FE Transmit Failure	Number of a far-end transmit failure alarm condition that has been entered on this link. Range: 0 to (2^{32}–1) cells.
31	FE Receive Failure	Number of times a far-end receive failure alarm condition that has been entered on this link. Range: 0 to (2^{32}–1) cells.

Stat ID	PXM1E IMA Link Statistics	Description
32	Transmit Stuff events	Number of stuff events inserted in the transmit direction. Range: 0 to (2^{32}–1) cells.
33	Receive stuff event	Number of stuff events in the receive direction. Range: 0 to (2^{32}–1) cells.

MPSM IMA Group Statistics

This section describes the statistics contained in the MPSM IMA group. The MPSM IMA group statistics apply to the Cisco MGX 8830 and 8850 PXM45-based switches. The following table lists the attributes that are common to the MPSM IMA group statistics.

Front Cards	MPSM155
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	5
Subobject Type	4
Default Peak Interval	300 seconds

The MPSM IMA group statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	MPSM IMA Group Statistics	Description
0	IMA Unavailable Seconds	Number of total UASs in the IMA group. Range: 0 to (2^{32}–1) cells.
1	Near end failures	Number of failure alarms that are received by the near end. Range: 0 to (2^{32}–1) cells.
2	Far end failures	Number of failure alarms that are received by the far end. Range: 0 to (2^{32}–1) cells.

MPSM DS1 VT STS1 IMA Link Statistics

This section describes the statistics contained in the MPSM DS1 VT STS1 IMA Link group. The MPSM DS1 VT STS1 IMA link statistics apply to the Cisco MGX 8950 and Cisco MGX 8850 PXM45-based switches. The following table lists the attributes that are common to the MPSM DS1 VT STS1 IMA link statistics.

Front Cards	MPSM155
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	5
Subobject Type	5
Default Peak Interval	300 seconds

The MPSM DS1 VT STS1 IMA link statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	MPSM DS1 VT STS1 IMA Link Statistics	Description
13	ICP violations	Number of IMA Control Protocol (ICP) cell violations that are received from the line. Range: 0 to (2^{32}–1) cells.
14	ICP OIF violations	Number of OIF anomalies, except during SESs or UASs at the near-end. Range: 0 to (2^{32}–1) cells.
15	Severely Errored Seconds	Number of SESs at the near end. Range: 0 to (2^{32}–1) cells.
16	FE Severely Errored Seconds	Number of one second intervals containing one or more remote defect indicators (RDI) at the far end. Range: 0 to (2^{32}–1) cells.
17	Unavailable Seconds	Number of UASs at the near end. Range: 0 to (2^{32}–1) cells.
18	FE Unavailable Seconds	Number of UASs at far-end. Range: 0 to (2^{32}–1) cells.
19	Transmit Unusable seconds	Number of unusable seconds transmitted at the near-end. Range: 0 to (2^{32}–1) cells.
20	Receive Unusable seconds	Number of unusable seconds received at the near end. Range: 0 to (2^{32}–1) cells.
21	FE Transmit Unusable seconds	Number of unusable seconds at far-end in the transmit direction. Range: 0 to (2^{32}–1) cells.
22	FE Receive Unusable seconds	Number of unusable seconds at far-end in the receive direction. Range: 0 to (2^{32}–1) cells.
27	Transmit Stuff events	Number of stuff events inserted in the transmit direction. Range: 0 to (2^{32}–1) cells.
28	Receive stuff event	Number of stuff events in the receive direction. Range: 0 to (2^{32}–1) cells.

MPSM E1 VT STS1 IMA Link Statistics

This section describes the statistics contained in the MPSM E1 VT STS1 IMA Link group. The MPSM E1 VT STS1 IMA link statistics apply to the Cisco MGX 8950 and 8850 PXM45-based switches. The following table lists the attributes that are common to the MPSM E1 VT STS1 IMA link statistics.

Front Cards	MPSM155
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	5
Subobject Type	6
Default Peak Interval	300 seconds

The MPSM E1 VT STS1 IMA link statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	MPSM E1 VT STS1 IMA Link Statistics	Description
13	ICP violations	Number of IMA Control Protocol (ICP) cell violations that are received from the line. Range: 0 to (2^{32}–1) cells.
14	ICP OIF violations	Number of OIF anomalies, except during SESs or UASs at the near-end. Range: 0 to (2^{32}–1) cells.
15	Severely Errored Seconds	Number of SESs at the near end. Range: 0 to (2^{32}–1) cells.
16	FE Severely Srrored Seconds	Number of one second intervals containing one or more remote defect indicators (RDI) at the far end. Range: 0 to (2^{32}–1) cells.
17	Unavailable Seconds	Number of UASs at the near end. Range: 0 to (2^{32}–1) cells.
18	FE Unavailable Seconds	Number of UASs at far-end. Range: 0 to (2^{32}–1) cells.
19	Transmit Unusable seconds	Number of unusable seconds transmitted at the near-end. Range: 0 to (2^{32}–1) cells.
20	Receive Unusable seconds	Number of unusable seconds received at the near end. Range: 0 to (2^{32}–1) cells.
21	FE Transmit Unusable seconds	Number of unusable seconds at far-end in the transmit direction. Range: 0 to (2^{32}–1) cells.
22	FE Receive Unusable seconds	Number of unusable seconds at far-end in the receive direction. Range: 0 to (2^{32}–1) cells.
27	Transmit Stuff events	Number of stuff events inserted in the transmit direction. Range: 0 to (2^{32}–1) cells.
28	Receive stuff event	Number of stuff events in the receive direction. Range: 0 to (2^{32}–1) cells.

MPSM DS1 DS3 VT STS1 IMA Link Statistics

This section describes the statistics contained in the MPSM DS1 DS3 VT STS1 IMA Link group. The MPSM DS1 DS3 VT STS1 IMA link statistics apply to the Cisco MGX 8950 and 8850 PXM45-based switches. The following table lists the attributes that are common to the MPSM DS1 DS3 VT STS1 IMA link statistics.

Front Cards	MPSM155
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	5
Subobject Type	7
Default Peak Interval	300 seconds

The MPSM DS1 DS3 VT STS1 IMA link statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	MPSM DS1 DS3 VT STS1 IMA Link Statistics	Description
13	ICP violations	Number of IMA Control Protocol (ICP) cell violations that are received from the line. Range: 0 to (2^{32}–1) cells.
14	ICP OIF violations	Number of OIF anomalies, except during SESs or UASs at the near-end. Range: 0 to (2^{32}–1) cells.
15	Severely Errored Seconds	Number of SESs at the near end. Range: 0 to (2^{32}–1) cells.
16	FE Severely Errored Seconds	Number of one second intervals containing one or more remote defect indicators (RDI) at the far end. Range: 0 to (2^{32}–1) cells.
17	Unavailable Seconds	Number of UASs at the near end. Range: 0 to (2^{32}–1) cells.
18	FE Unavailable Seconds	Number of UASs at far-end. Range: 0 to (2^{32}–1) cells.
19	Transmit Unusable seconds	Number of unusable seconds transmitted at the near-end. Range: 0 to (2^{32}–1) cells.
20	Receive Unusable seconds	Number of unusable seconds received at the near end. Range: 0 to (2^{32}–1) cells.
21	FE Transmit Unusable seconds	Number of unusable seconds at far-end in the transmit direction. Range: 0 to (2^{32}–1) cells.
22	FE Receive Unusable seconds	Number of unusable seconds at far-end in the receive direction. Range: 0 to (2^{32}–1) cells.
27	Transmit Stuff events	Number of stuff events inserted in the transmit direction. Range: 0 to (2^{32}–1) cells.
28	Receive stuff event	Number of stuff events in the receive direction. Range: 0 to (2^{32}–1) cells.

MPSM DS1 DS3 Line IMA Link Statistics

This section describes the statistics contained in the MPSM DS1 DS3 Line IMA Link group. The MPSM DS1 DS3 Line IMA link statistics apply to the Cisco MGX 8950 and Cisco MGX 8850 PXM45-based switches. The following table lists the attributes that are common to the MPSM DS1 DS3 Line IMA link statistics.

Front Cards	MPSM155
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	5
Subobject Type	8
Default Peak Interval	300 seconds

The MPSM DS1 DS3 Line IMA link statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	MPSM DS1 DS3 Line IMA Link Statistics	Description
13	ICP violations	Number of IMA Control Protocol (ICP) cell violations that are received from the line. Range: 0 to (2^{32}–1) cells.
14	ICP OIF violations	Number of OIF anomalies, except during SESs or UASs at the near-end. Range: 0 to (2^{32}–1) cells.
15	Severely Errored Seconds	Number of SESs at the near end. Range: 0 to (2^{32}–1) cells.
16	FE Severely Errored Seconds	Number of one second intervals containing one or more remote defect indicators (RDI) at the far end. Range: 0 to (2^{32}–1) cells.
17	Unavailable Seconds	Number of UASs at the near end. Range: 0 to (2^{32}–1) cells.
18	FE Unavailable Seconds	Number of UASs at far-end. Range: 0 to (2^{32}–1) cells.
19	Transmit Unusable seconds	Number of unusable seconds transmitted at the near-end. Range: 0 to (2^{32}–1) cells.
20	Receive Unusable seconds	Number of unusable seconds received at the near end. Range: 0 to (2^{32}–1) cells.
21	FE Transmit Unusable seconds	Number of unusable seconds at far-end in the transmit direction. Range: 0 to (2^{32}–1) cells.
22	FE Receive Unusable seconds	Number of unusable seconds at far-end in the receive direction. Range: 0 to (2^{32}–1) cells.
27	Transmit Stuff events	Number of stuff events inserted in the transmit direction. Range: 0 to (2^{32}–1) cells.
28	Receive stuff event	Number of stuff events in the receive direction. Range: 0 to (2^{32}–1) cells.

MPSM DS1 TU11 AU4 IMA Link Statistics

This section describes the statistics contained in the MPSM DS1 TU11 AU4 IMA Link group. The MPSM DS1 TU11 AU4 IMA link statistics apply to the Cisco MGX 8950 and Cisco MGX 8850 PXM45-based switches. The following table lists the attributes that are common to the MPSM DS1 TU11 AU4 IMA link statistics.

Front Cards	MPSM155
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	5
Subobject Type	9
Default Peak Interval	300 seconds

The MPSM DS1 TU11 AU4 IMA link statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	MPSM DS1 TU11 AU4 IMA Link Statistics	Description
13	ICP violations	Number of IMA Control Protocol (ICP) cell violations that are received from the line. Range: 0 to (2^{32}–1) cells.
14	ICP OIF violations	Number of OIF anomalies, except during SESs or UASs at the near-end. Range: 0 to (2^{32}–1) cells.
15	Severely Errored Seconds	Number of SESs at the near end. Range: 0 to (2^{32}–1) cells.
16	FE Severely Errored Seconds	Number of one second intervals containing one or more remote defect indicators (RDI) at the far end. Range: 0 to (2^{32}–1) cells.
17	Unavailable Seconds	Number of UASs at the near end. Range: 0 to (2^{32}–1) cells.
18	FE Unavailable Seconds	Number of UASs at far-end. Range: 0 to (2^{32}–1) cells.
19	Transmit Unusable seconds	Number of unusable seconds transmitted at the near-end. Range: 0 to (2^{32}–1) cells.
20	Receive Unusable seconds	Number of unusable seconds received at the near end. Range: 0 to (2^{32}–1) cells.
21	FE Transmit Unusable seconds	Number of unusable seconds at far-end in the transmit direction. Range: 0 to (2^{32}–1) cells.
22	FE Receive Unusable seconds	Number of unusable seconds at far-end in the receive direction. Range: 0 to (2^{32}–1) cells.
27	Transmit Stuff events	Number of stuff events inserted in the transmit direction. Range: 0 to (2^{32}–1) cells.
28	Receive stuff event	Number of stuff events in the receive direction. Range: 0 to (2^{32}–1) cells.

MPSM DS1 TU11 AU3 IMA Link Statistics

This section describes the statistics contained in the MPSM DS1 TU11 AU3 IMA Link group. The MPSM DS1 TU11 AU3 IMA link statistics apply to the Cisco MGX 8950 and Cisco MGX 8850 PXM45-based switches. The following table lists the attributes that are common to the MPSM DS1 TU11 AU3 IMA link statistics.

Front Cards	MPSM155
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	5
Subobject Type	10
Default Peak Interval	300 seconds

The MPSM DS1 TU11 AU3 IMA link statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	MPSM DS1 TU11 AU3 IMA Link Statistics	Description
13	ICP violations	Number of IMA Control Protocol (ICP) cell violations that are received from the line. Range: 0 to (2^{32}–1) cells.
14	ICP OIF violations	Number of OIF anomalies, except during SESs or UASs at the near-end. Range: 0 to (2^{32}–1) cells.
15	Severely Errored Seconds	Number of SESs at the near end. Range: 0 to (2^{32}–1) cells.
16	FE Severely Errored Seconds	Number of one second intervals containing one or more remote defect indicators (RDI) at the far end. Range: 0 to (2^{32}–1) cells.
17	Unavailable Seconds	Number of UASs at the near end. Range: 0 to (2^{32}–1) cells.
18	FE Unavailable Seconds	Number of UASs at far-end. Range: 0 to (2^{32}–1) cells.
19	Transmit Unusable seconds	Number of unusable seconds transmitted at the near-end. Range: 0 to (2^{32}–1) cells.
20	Receive Unusable seconds	Number of unusable seconds received at the near end. Range: 0 to (2^{32}–1) cells.
21	FE Transmit Unusable seconds	Number of unusable seconds at far-end in the transmit direction. Range: 0 to (2^{32}–1) cells.
22	FE Receive Unusable seconds	Number of unusable seconds at far-end in the receive direction. Range: 0 to (2^{32}–1) cells.
27	Transmit Stuff events	Number of stuff events inserted in the transmit direction. Range: 0 to (2^{32}–1) cells.
28	Receive stuff event	Number of stuff events in the receive direction. Range: 0 to (2^{32}–1) cells.

MPSM E1 TU11 AU4 IMA Link Statistics

This section describes the statistics contained in the MPSM E1 TU11 AU4 IMA Link group. The MPSM E1 TU11 AU4 IMA link statistics apply to the Cisco MGX 8950 and Cisco MGX 8850 PXM45-based switches. The following table lists the attributes that are common to the MPSM E1 TU11 AU4 IMA link statistics.

Front Cards	MPSM155
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	5
Subobject Type	11
Default Peak Interval	300 seconds

The MPSM E1 TU11 AU4 IMA link statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	MPSM E1 TU11 AU4 IMA Link Statistics	Description
13	ICP violations	Number of IMA Control Protocol (ICP) cell violations that are received from the line. Range: 0 to (2^{32}–1) cells.
14	ICP OIF violations	Number of OIF anomalies, except during SESs or UASs at the near-end. Range: 0 to (2^{32}–1) cells.
15	Severely Errored Seconds	Number of SESs at the near end. Range: 0 to (2^{32}–1) cells.
16	FE Severely Errored Seconds	Number of one second intervals containing one or more remote defect indicators (RDI) at the far end. Range: 0 to (2^{32}–1) cells.
17	Unavailable Seconds	Number of UASs at the near end. Range: 0 to (2^{32}–1) cells.
18	FE Unavailable Seconds	Number of UASs at far-end. Range: 0 to (2^{32}–1) cells.
19	Transmit Unusable seconds	Number of unusable seconds transmitted at the near-end. Range: 0 to (2^{32}–1) cells.
20	Receive Unusable seconds	Number of unusable seconds received at the near end. Range: 0 to (2^{32}–1) cells.
21	FE Transmit Unusable seconds	Number of unusable seconds at far-end in the transmit direction. Range: 0 to (2^{32}–1) cells.
22	FE Receive Unusable seconds	Number of unusable seconds at far-end in the receive direction. Range: 0 to (2^{32}–1) cells.
27	Transmit Stuff events	Number of stuff events inserted in the transmit direction. Range: 0 to (2^{32}–1) cells.
28	Receive stuff event	Number of stuff events in the receive direction. Range: 0 to (2^{32}–1) cells.

MPSM E1 TU11 AU3 IMA Link Statistics

This section describes the statistics contained in the MPSM E1 TU11 AU3 IMA Link group. The MPSM E1 TU11 AU3 IMA link statistics apply to the Cisco MGX 8950 and 8850 PXM45-based switches. The following table lists the attributes that are common to the MPSM E1 TU11 AU3 IMA link statistics.

Front Cards	MPSM155
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	5
Subobject Type	12
Default Peak Interval	300 seconds

The MPSM E1 TU11 AU3 IMA link statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	MPSM E1 TU11 AU3 IMA Link Statistics	Description
13	ICP violations	Number of IMA Control Protocol (ICP) cell violations that are received from the line. Range: 0 to (2^{32}–1) cells.
14	ICP OIF violations	Number of OIF anomalies, except during SESs or UASs at the near-end. Range: 0 to (2^{32}–1) cells.
15	Severely Errored Seconds	Number of SESs at the near end. Range: 0 to (2^{32}–1) cells.
16	FE Severely Errored Seconds	Number of 1-second intervals containing one or more remote defect indicators (RDI) at the far end. This count does not include UASs at the far end condition. Range: 0 to (2^{32}–1) cells.
17	Unavailable Seconds	Number of UASs at the near end. Range: 0 to (2^{32}–1) cells.
18	FE Unavailable Seconds	Number of UASs at far-end. Range: 0 to (2^{32}–1) cells.
19	Transmit Unusable seconds	Number of unusable seconds transmitted at the near-end. Range: 0 to (2^{32}–1) cells.
20	Receive Unusable seconds	Number of unusable seconds received at the near end. Range: 0 to (2^{32}–1) cells.
21	FE Transmit Unusable seconds	Number of unusable seconds at far-end in the transmit direction. Range: 0 to (2^{32}–1) cells.
22	FE Receive Unusable seconds	Number of unusable seconds at far-end in the receive direction. Range: 0 to (2^{32}–1) cells.
27	Transmit Stuff events	Number of stuff events inserted in the transmit direction. Range: 0 to (2^{32}–1) cells.
28	Receive stuff event	Number of stuff events in the receive direction. Range: 0 to (2^{32}–1) cells.

MPSM DS1 DS3 AU3 IMA Link Statistics

This section describes the statistics contained in the MPSM DS1 DS3 AU3 IMA Link group. The MPSM DS1 DS3 AU3 IMA link statistics apply to the Cisco MGX 8950 and 8850 PXM45-based switches. The following table lists the attributes that are common to the MPSM DS1 DS3 AU3 IMA link statistics.

Front Cards	MPSM155
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	5
Subobject Type	13
Default Peak Interval	300 seconds

The MPSM DS1 DS3 AU3 IMA link statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	MPSM DS1 DS3 AU3 IMA Link Statistics	Description
13	ICP violations	Number of IMA Control Protocol (ICP) cell violations that are received from the line. Range: 0 to (2^{32}–1) cells.
14	ICP OIF violations	Number of OIF anomalies, except during SESs or UASs at the near-end. Range: 0 to (2^{32}–1) cells.
15	Severely Errored Seconds	Number of SESs at the near end. Range: 0 to (2^{32}–1) cells.
16	FE Severely Errored Seconds	Number of one second intervals containing one or more remote defect indicators (RDI) at the far end. Range: 0 to (2^{32}–1) cells.
17	Unavailable Seconds	Number of UASs at the near end. Range: 0 to (2^{32}–1) cells.
18	FE Unavailable Seconds	Number of UASs at far-end. Range: 0 to (2^{32}–1) cells.
19	Transmit Unusable seconds	Number of unusable seconds transmitted at the near-end. Range: 0 to (2^{32}–1) cells.
20	Receive Unusable seconds	Number of unusable seconds received at the near end. Range: 0 to (2^{32}–1) cells.
21	FE Transmit Unusable seconds	Number of unusable seconds at far-end in the transmit direction. Range: 0 to (2^{32}–1) cells.
22	FE Receive Unusable seconds	Number of unusable seconds at far-end in the receive direction. Range: 0 to (2^{32}–1) cells.
27	Transmit Stuff events	Number of stuff events inserted in the transmit direction. Range: 0 to (2^{32}–1) cells.
28	Receive stuff event	Number of stuff events in the receive direction. Range: 0 to (2^{32}–1) cells.

MPSM 16-T1E1 IMA Group Statistics

This section describes the statistics contained in the IMA group. The MPSM16-T1E1 IMA Group statistics apply to the MPSM16-T1E1 cards on the Cisco MGX 8850 PXM45-based and Cisco MGX 8830 nodes. The following table lists the common attributes for MPSM16-T1E1 IMA Group statistics.

Front Card	MPSM16-T1E1
Back Card	RBBN-16T1E1, MCC-16E1, RBBN-16-T1E1-1N, MCC-16-E1-1N, RED-16-T1E1
Object Type	5
Subobject Type	14
Default Peak Interval	300 seconds

The following table includes the MPSM16-T1E1 IMA Group statistics.

Stat ID	MPSM16-T1E1 IMA Group Statistics
0	Group Unavail Secs
1	Group Num NE Failure
2	Group Num FE Failure

Path Statistics

The following path statistics are supported in CWM Release 15:

AXSM-XG Path Statistics

This section describes the statistics contained in the AXSM-XG_STS Path group. The AXSM-XG STS path statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for AXSM-XG path statistics.

Front Card	AXSM-XG, AXSM-4-2488CH
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	0
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	AXSM-XG Path Statistics	Description
0	SONET Path AIS	Number of AIS instances on the path. Range: 0 to (2^{64}–1) cells.
1	SONET Path RDI	Number of remote defect indications (RDIs)/yellow alarms that occur on the path. Range: 0 to (2^{64}–1) cells.
2	Trace path	Number of trace paths. Range: 0 to (2^{64}–1) cells.

Stat ID	AXSM-XG Path Statistics	Description
3	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
4	Errored seconds for path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
5	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
6	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.
7	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.
8	Errored seconds for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
9	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
10	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.

AXSM-XG DS3 Path Statistics

This section describes the statistics contained in the AXSM-XG_DS3 Path group. The AXSM-XG DS3 path statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for AXSM-XG DS3 path statistics.

Front Card	AXSM-XG, AXSM-4-2488CH
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	1
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	AXSM-XG DS3 Path Statistics	Description
0	Code violations for path	Number of CVs for the DS3 path. Range: 0 to (2^{64}–1) cells.
1	Errored seconds for path	Number of ESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
3	Unavailable seconds for path	Number of UASs for the DS3 path. Range: 0 to (2^{64}–1) cells.
4	Code violations for ds3 path at far end	Number of CVs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.

Stat ID	AXSM-XG DS3 Path Statistics	Description
5	ESs for ds3 path at far end	Number of ESs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
6	SESs for ds3 path	Number of SESs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
7	Unavailable seconds for ds3 path	Number of UASs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
8	Path AIS Count	Number of AIS instances on the DS3 path. Range: 0 to (2^{64}–1) cells.
9	Remote Defect Count	Number of remote defect indications (RDIs)/yellow alarms that occur on the DS3 path. Range: 0 to (2^{64}–1) cells.
11	Code violations for plcp path	Number of PLCP path CVs detected on the interface. Range: 0 to (2^{64}–1) cells.
12	ESs for plcp path	Number of ESs on the PLCP path. Range: 0 to (2^{64}–1) cells.
13	SESs for plcp path	Number of PLCP path SESs that occur within the collection interval. Range: 0 to (2^{64}–1) cells.
14	Unavailable seconds for plcp path	Number of PLCP path UASs. Range: 0 to (2^{64}–1) cells.
15	Code violations for plcp path at far end	Number of PLCP path CVs detected on the interface at the far end. Range: 0 to (2^{64}–1) cells.
16	ESs for plcp path at far end	Number of ESs on the PLCP path at the far end. Range: 0 to (2^{64}–1) cells.
17	SESs for plcp path at far end	Number of PLCP path SESs that occur within the collection interval at the far end. Range: 0 to (2^{64}–1) cells.
18	Unavailable seconds for plcp path at far end	Number of PLCP path UASs at the far end. Range: 0 to (2^{64}–1) cells.
19	Plcp path LOF count	Number of LOFs on the PLCP path. Range: 0 to (2^{64}–1) cells.
20	Plcp Path remote defect count	Number of remote defect indicators on the PLCP path. Range: 0 to (2^{64}–1) cells.

VXSM STS Path Statistics

This section describes the statistics contained in the VXSM_STS Path group. The VXSM STS path statistics apply to the VXSM cards on the Cisco MGX 8850 PXM45-based nodes and the 8880 PXM45-based nodes. The following table lists the common attributes for VXSM path statistics.

Front Card	VXSM
Back Card	VXSM-BC-4-155
Object Type	6
Subobject Type	2
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	VXSM Path Statistics	Description
0	SONET Path AIS	Number of AIS instances on the path. Range: 0 to (2^{64}–1) cells.
1	SONET Path RDI	Number of remote defect indications (RDIs)/yellow alarms that occur on the path. Range: 0 to (2^{64}–1) cells.
2	Loss of Pointer	Number of loss of pointer (LOP) defect states. Range: 0 to (2^{64}–1) cells.
3	Trace path	Number of trace paths. Range: 0 to (2^{64}–1) cells.
4	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
5	ESs for path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
6	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
7	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.

VXSM DS3 Path Statistics

This section describes the statistics contained in the VXSM_DS3 Path group. The VXSM DS3 path statistics apply to the VXSM cards on the Cisco MGX 8850 PXM45-based nodes and 8880 PXM45-based nodes. The following table lists the common attributes for VXSM DS3 path statistics.

Front Card	VXSM
Back Card	VXSM-BC-4-155
Object Type	6
Subobject Type	3
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	VXSM DS3 Path Statistics	Description
0	LOF count	Number of LOFs on the DS3 path. Range: 0 to (2^{64}–1) cells.
1	Remote AIS Count	Number of remote AIS instances on the DS3 path. Range: 0 to (2^{64}–1) cells.
2	Remote Defect Count	Number of remote defect indications (RDIs)/yellow alarms that occur on the DS3 path. Range: 0 to (2^{64}–1) cells.
3	P-bit Code Violations for Path	Number of P-bit CVs for the DS3 path. Range: 0 to (2^{64}–1) cells.
4	C-bit Code Violations for Path	Number of C-bit CVs for the DS3 path. Range: 0 to (2^{64}–1) cells.

Stat ID	VXSM DS3 Path Statistics	Description
144	FEBE Counts	Number of FEBEs (far-end block errors) detected on the DS3 path. Range: 0 to (2^{32}–1) cells.
6	P-bit ESs for path	Number of ESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
7	C-bit ESs for path	Number of ESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
8	P-bit Severely Errored Seconds for Path	Number of SESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
9	C-bit Severely Errored Seconds for Path	Number of SESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
10	Severely Errored Framing Seconds for DS3 Path	Number of severely errored framing seconds (SEFSs) for the DS3 path. Range: 0 to (2^{64}–1) cells.
11	Unavailable Seconds for DS3 Path	Number of UASs for the DS3 path. Range: 0 to (2^{64}–1) cells.

VXSM DS1 N DS3 Path Statistics

This section describes the statistics contained in the VXSM_DS1 N DS3 Path group. The VXSM DS1 N DS3 path statistics apply to the VXSM cards on the Cisco MGX 8850 PXM45-based nodes and 8880 PXM45-based nodes. The following table lists the common attributes for VXSM DS1 N DS3 path statistics.

Front Card	VXSM
Back Card	VXSM-BC-4-155
Object Type	6
Subobject Type	4
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	VXSM DS1 N DS3 Path Statistics	Description
0	ESs for path	Number of ESs for the DS1 path. Range: 0 to (2^{64}–1) cells.
1	SESs for path	Number of SESs for the DS1 path. Range: 0 to (2^{64}–1) cells.
2	SEFSs for path	Number of SEFSs for the DS1 path. Range: 0 to (2^{64}–1) cells.
3	Unavailable seconds for path	Number of UASs for the DS1 path. Range: 0 to (2^{64}–1) cells.
4	Code Violations for Path	Number of CVs for the DS1 path. Range: 0 to (2^{64}–1) cells.
5	ESs for line	Number of ESs for the DS1 path. Range: 0 to (2^{64}–1) cells.
6	SESs for line	Number of SESs for the DS1 path. Range: 0 to (2^{64}–1) cells.
7	SEFSss for line	Number of SEFSs for the DS1 path. Range: 0 to (2^{64}–1) cells.

Stat ID	VXSM DS1 N DS3 Path Statistics	Description
8	Losses of Signal	Number of times an LOS is detected. The count includes the number of LOS alarms. Range: 0 to (2^{64}–1) cells.
9	LOF count	Number of LOFs on the DS1 path. Range: 0 to (2^{64}–1) cells.
10	Remote AIS Count	Number of remote AIS instances on the DS1 path. Range: 0 to (2^{64}–1) cells.
11	ESs for DS1 path at far end	Number of ESs for the DS1 path at the far end. Range: 0 to (2^{64}–1) cells.
12	SESs for DS1 path at far end	Number of SESs for the DS1 path at the far end. Range: 0 to (2^{64}–1) cells.
13	SEFSss for DS1 path at far end	Number of SEFSs for the DS1 path at the far end. Range: 0 to (2^{64}–1) cells.
14	Unavailable seconds for DS1 path at far end	Number of UASs for the DS1 path at the far end. Range: 0 to (2^{64}–1) cells.
15	SESs for DS1 line at far end	Number of SESs for the DS1 line at the far end. Range: 0 to (2^{64}–1) cells.
16	Code violations for DS1 path at far end	Number of CVs for the DS1 path at the far end. Range: 0 to (2^{64}–1) cells.
17	Code Violations for line	Number of CVs for the DS1 line. Range: 0 to (2^{64}–1) cells.
18	LOF count	Number of LOFs on the DS1 path. Range: 0 to (2^{64}–1) cells.
19	Remote AIS Count	Number of remote AIS instances on the DS1 path. Range: 0 to (2^{64}–1) cells.
20	Remote Defect Count	Number of remote defect indications (RDIs)/yellow alarms that occur on the DS1 path. Range: 0 to (2^{64}–1) cells.
21	Bursty ESs for path	Number of bursty errored seconds (BES) for the DS1 path. Range: 0 to (2^{64}–1) cells.
22	Degraded Minutes	Number of degraded minutes (60-second periods where the cumulative errors exceed 1E-6 but does not exceed 1E-3) for the DS1 path. Range: 0 to (2^{64}–1) cells.
21	Controlled Slip Seconds for Path	Number of controlled-slip seconds (CSS) for the DS1 path. A controlled slip is the replication or deletion of the payload bits of a DS1 frame. It may be performed when a difference exists between the timing of a synchronous receiving terminal and the received signal. It does not cause an out-of-frame defect. Range: 0 to (2^{64}–1) cells.

VXSM DS1 VT Path Statistics

This section describes the statistics contained in the VXSM_DS1 VT Path group. The VXSM DS1 VT path statistics apply to the VXSM cards on the Cisco MGX 8850 PXM45-based nodes and the 8880 PXM45-based nodes. The following table lists the common attributes for VXSM DS1 VT path statistics.

Front Card	VXSM
Back Card	VXSM-BC-4-155
Object Type	6
Subobject Type	5
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	VXSM DS1 VT Path Statistics	Description
0	ESs for path	Number of ESs for the DS1 path. Range: 0 to (2^{64}–1) cells.
1	SESs for path	Number of SESs for the DS1 path. Range: 0 to (2^{64}–1) cells.
2	SEFSss for path	Number of SEFSs for the DS1 path. Range: 0 to (2^{64}–1) cells.
3	Unavailable seconds for path	Number of UASs for the DS1 path. Range: 0 to (2^{64}–1) cells.
4	Code Violations for Path	Number of CVs for the DS1 path. Range: 0 to (2^{64}–1) cells.
5	Errored Seconds for line	Number of ESs for the DS1 path. Range: 0 to (2^{64}–1) cells.
6	SESs for line	Number of SESs for the DS1 path. Range: 0 to (2^{64}–1) cells.
7	SEFSss for line	Number of SEFSs for the DS1 path. Range: 0 to (2^{64}–1) cells.
8	Losses of Signal	Number of times that an LOS is detected. The count includes the number of LOS alarms. Range: 0 to (2^{64}–1) cells.
9	LOF count	Number of LOFs on the DS1 path. Range: 0 to (2^{64}–1) cells.
10	Remote AIS Count	Number of remote AIS instances on the DS1 path. Range: 0 to (2^{64}–1) cells.
11	ESs for DS1 path at far end	Number of ESs for the DS1 path at the far end. Range: 0 to (2^{64}–1) cells.
12	SESs for DS1 path at far end	Number of SESs for the DS1 path at the far end. Range: 0 to (2^{64}–1) cells.
13	SEFSs for DS1 path at far end	Number of SEFSs for the DS1 path at the far end. Range: 0 to (2^{64}–1) cells.
14	UASs for DS1 path at far end	Number of UASs for the DS1 path at the far end. Range: 0 to (2^{64}–1) cells.
15	SESs for DS1 line at far end	Number of SESs for the DS1 line at the far end. Range: 0 to (2^{64}–1) cells.

Stat ID	VXSM DS1 VT Path Statistics	Description
16	Code violations for DS1 path at far end	Number of CVs for the DS1 path at the far end. Range: 0 to (2^{64}–1) cells.
17	Code Violations for line	Number of CVs for the DS1 line. Range: 0 to (2^{64}–1) cells.
18	LOF count	Number of LOFs on the DS1 path. Range: 0 to (2^{64}–1) cells.
19	Remote AIS Count	Number of remote AIS instances on the DS1 path. Range: 0 to (2^{64}–1) cells.
20	Remote Defect Count	Number of remote defect indications (RDIs)/yellow alarms that occur on the DS1 path. Range: 0 to (2^{64}–1) cells.
21	Bursty Errored Seconds for Path	Number of bursty errored seconds (BESs) for the DS1 path. Range: 0 to (2^{64}–1) cells.
22	Degraded Minutes	Number of degraded minutes (60-second periods where the cumulative errors exceed 1E-6 but does not exceed 1E-3) for the DS1 path. Range: 0 to (2^{64}–1) cells.
21	Controlled Slip Seconds for Path	Number of controlled slip seconds (CSSs) for the DS1 path. Range: 0 to (2^{64}–1) cells.

MPSM STS1 Path Statistics

This section describes the statistics contained in the MPSM STS1 path group. The MPSM STS1 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM STS1 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	6
Default Peak Interval	300 seconds

The following table includes the MPSM STS1 physical interface statistics.

Stat ID	MPSM STS1 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the STS1 path. Range: 0 to (2^{64}–1) cells.
1	ESs for path	Number of ESs for the STS1 path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the STS1 path. Range: 0 to (2^{64}–1) cells.
3	Unavailable seconds for path	Number of UASs for the STS1 path. Range: 0 to (2^{64}–1) cells.

Stat ID	MPSM STS1 Path Statistics	Description
4	Code violations for STS1 path at far end	Number of CVs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
5	ESs for STS1 path at far end	Number of ESs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
6	SESs for STS1 path at far end	Number of SESs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
7	Unavailable seconds for STS1 path at far end	Number of UASs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
8	Path AIS Count	Number of AIS instances on the STS1 path. Range: 0 to (2^{64}–1) cells.
9	Remote Defect Count	Number of remote defect indications (RDIs)/yellow alarms that occur on the STS1 path. Range: 0 to (2^{64}–1) cells.

MPSM STM1 Path Statistics

This section describes the statistics contained in the MPSM STM1 path group. The MPSM STM1 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM STM1 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	7
Default Peak Interval	300 seconds

The following table includes the MPSM STM1 path statistics.

Stat ID	MPSM STM1 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the STM1 path. Range: 0 to (2^{64}–1) cells.
1	ESs for path	Number of ESs for the STM1 path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the STM1 path. Range: 0 to (2^{64}–1) cells.
3	Unavailable seconds for path	Number of UASs for the STM1 path. Range: 0 to (2^{64}–1) cells.
4	Code violations for STM1 path at far end	Number of CVs for the STM1 path at the far end. Range: 0 to (2^{64}–1) cells.
5	ESs for STM1 path at far end	Number of ESs for the STM1 path at the far end. Range: 0 to (2^{64}–1) cells.

Stat ID	MPSM STM1 Path Statistics	Description
6	SESs for STM1 path at far end	Number of SESs for the STM1 path at the far end. Range: 0 to (2^{64}–1) cells.
7	Unavailable seconds for STM1 path at far end	Number of UASs for the STM1 path at the far end. Range: 0 to (2^{64}–1) cells.
8	Path AIS Count	Number of AIS instances on the STM1 path. Range: 0 to (2^{64}–1) cells.
9	Remote Defect Count	Number of remote defect indications (RDIs)/yellow alarms that occur on the STM1 path. Range: 0 to (2^{64}–1) cells.

MPSM DS3 STS1 Path Statistics

This section describes the statistics contained in the MPSM_DS3 Path group. The MPSM DS3 STS1 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS3 STS1 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	8
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM DS3 STS1 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the DS3 path. Range: 0 to (2^{64}–1) cells.
1	ESs for path	Number of ESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
4	Code violations for ds3 path at far end	Number of CVs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
5	ESs for ds3 path at far end	Number of ESs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
6	SESs for ds3 path	Number of SESs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
7	Unavailable seconds for ds3 path	Number of UASs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
9	Remote Defect Count	Number of remote defect indications (RDIs)/yellow alarms that occur on the DS3 path. Range: 0 to (2^{64}–1) cells.

Stat ID	MPSM DS3 STS1 Path Statistics	Description
11	Code violations for plcp path	Number of PLCP path CVs detected on the interface. These violations occur when more than three zeroes in a row are transmitted. Range: 0 to (2^{64}–1) cells.
12	ESs for plcp path	Number of ESs on the PLCP path. Range: 0 to (2^{64}–1) cells.
13	SESs for plcp path	Number of PLCP path SESs that occur within the collection interval. Range: 0 to (2^{64}–1) cells.
15	Code violations for plcp path at far end	Number of PLCP path CVs detected on the interface at the far end. Range: 0 to (2^{64}–1) cells.
16	ESs for plcp path at far end	Number of ESs on the PLCP path at the far end. Range: 0 to (2^{64}–1) cells.
17	SESs for plcp path at far end	Number of PLCP path SESs that occur within the collection interval at the far end. Range: 0 to (2^{64}–1) cells.
18	Unavailable seconds for plcp path at far end	Number of PLCP path UASs at the far end. Range: 0 to (2^{64}–1) cells.
19	Plcp path LOF count	Number of LOFs on the PLCP path. Range: 0 to (2^{64}–1) cells.
20	Path AIS Count	Number of AIS instances on the DS3 path. Range: 0 to (2^{64}–1) cells.

MPSM STS1 E3 Path Statistics

This section describes the statistics contained in the MPSM STS1 E3 path group. The MPSM STS1 E3 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM STS1 E3 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	9
Default Peak Interval	300 seconds

The following table includes the MPSM STS1 E3 path statistics.

Stat ID	MPSM STS1 E3 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the STS1 path. Range: 0 to (2^{64}–1) cells.
1	ESs for Path	Number of ESs for the STS1 path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the STS1 path. Range: 0 to (2^{64}–1) cells.

Stat ID	MPSM STS1 E3 Path Statistics	Description
3	Unavailable seconds for path	Number of UASs for the STS1 path. Range: 0 to (2^{64}–1) cells.
4	Code violations for STS1 path at far end	Number of CVs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
5	ESs for STS1 path at far end	Number of ESs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
6	SESs for STS1 path at far end	Number of SESs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
7	Unavailable seconds for STS1 path at far end	Number of UASs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
9	Remote Defect Count	Number of remote defect indications (RDIs)/yellow alarms that occur on the STS1 path. Range: 0 to (2^{64}–1) cells.

MPSM DS3 AU4 Path Statistics

This section describes the statistics contained in the MPSM_DS3 AU4 Path group. The MPSM DS3 AU4 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and Cisco MGX 8950 nodes. The following table lists the common attributes for MPSM DS3 AU4 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	10
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM DS3 AU4 Path Statistics	Description
0	Code Violations for path	Number of CVs for the DS3 path. Range: 0 to (2^{64}–1) cells.
1	ESs for path	Number of ESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
3	Unavailable seconds for path	Number of UASs for the DS3 path. Range: 0 to (2^{64}–1) cells.
4	Code violations for ds3 path at far end	Number of CVs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.

Stat ID	MPSM DS3 AU4 Path Statistics	Description
5	ESs for ds3 path at far end	Number of ESs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
6	SESs for ds3 path	Number of SESs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
7	Unavailable seconds for ds3 path	Number of UASs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
8	Path AIS Count	Number of AIS instances on the DS3 path. Range: 0 to (2^{64}–1) cells.
9	Remote Defect Count	Number of remote defect indications (RDIs)/yellow alarms that occur on the DS3 path. Range: 0 to (2^{64}–1) cells.
11	Code violations for plcp path	Number of PLCP path CVs detected on the interface. Range: 0 to (2^{64}–1) cells.
12	ESs for plcp path	Number of ESs on the PLCP path. Range: 0 to (2^{64}–1) cells.
13	SESs for plcp path	Number of PLCP path SESs that occur within the collection interval. Range: 0 to (2^{64}–1) cells.
14	Unavailable seconds for plcp path	Number of PLCP path UASs. Range: 0 to (2^{64}–1) cells.
15	Code violations for plcp path at far end	Number of PLCP path CVs detected on the interface at the far end. Range: 0 to (2^{64}–1) cells.
16	ESs for plcp path at far end	Number of ESs on the PLCP path at the far end. Range: 0 to (2^{64}–1) cells.
17	SESs for plcp path at far end	Number of PLCP path SESs that occur within the collection interval at the far end. Range: 0 to (2^{64}–1) cells.
18	Unavailable seconds for plcp path at far end	Number of PLCP path UASs at the far end. Range: 0 to (2^{64}–1) cells.
19	Plcp path LOF count	Number of LOFs on the PLCP path. Range: 0 to (2^{64}–1) cells.
20	Plcp Path remote defect count	Number of remote defect indicators on the PLCP path. Range: 0 to (2^{64}–1) cells.

MPSM DS3 AU3 Path Statistics

This section describes the statistics contained in the MPSM_DS3 AU3 Path group. The MPSM DS3 AU3 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS3 AU3 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6

Subobject Type	11
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM DS3 AU3 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the DS3 path. Range: 0 to (2^{64}–1) cells.
1	ESs for Path	Number of ESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
3	Unavailable seconds for path	Number of UASs for the DS3 path. Range: 0 to (2^{64}–1) cells.
4	Code violations for ds3 path at far end	Number of CVs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
5	ESs for ds3 path at far end	Number of ESs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
6	SESs for ds3 path	Number of SESs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
7	Unavailable seconds for ds3 path	Number of UASs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
8	Path AIS Count	Number of AIS instances on the DS3 path. Range: 0 to (2^{64}–1) cells.
9	Remote Defect Count	Number of remote defect indications (RDIs)/yellow alarms that occur on the DS3 path. Range: 0 to (2^{64}–1) cells.
11	Code violations for plcp path	Number of PLCP path CVs detected on the interface. Range: 0 to (2^{64}–1) cells.
12	ESs for plcp path	Number of ESs on the PLCP path. Range: 0 to (2^{64}–1) cells.
13	SESs for plcp path	Number of PLCP path SESs that occur within the collection interval. Range: 0 to (2^{64}–1) cells.
14	Unavailable seconds for plcp path	Number of PLCP path UASs. Range: 0 to (2^{64}–1) cells.
15	Code violations for plcp path at far end	Number of PLCP path CVs detected on the interface at the far end. Range: 0 to (2^{64}–1) cells.
16	ESs for plcp path at far end	Number of ESs on the PLCP path at the far end. Range: 0 to (2^{64}–1) cells.
17	SESs for plcp path at far end	Number of PLCP path SESs that occur within the collection interval at the far end. Range: 0 to (2^{64}–1) cells.
18	Unavailable seconds for plcp path at far end	Number of PLCP path UASs at the far end. Range: 0 to (2^{64}–1) cells.

Stat ID	MPSM DS3 AU3 Path Statistics	Description
19	Plcp path LOF count	Number of LOFs on the PLCP path. Range: 0 to (2^{64}–1) cells.
20	Plcp Path remote defect count	Number of remote defect indicators on the PLCP path. Range: 0 to (2^{64}–1) cells.

MPSM E3 AU4 Path Statistics

This section describes the statistics contained in the MPSM E3 AU4 path group. The MPSM E3 AU4 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM E3 AU4 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	12
Default Peak Interval	300 seconds

The following table includes the MPSM E3 AU4 path statistics.

Stat ID	MPSM E3 AU4 Path Statistics	Description
0	Code Violations for path	Number of CVs for the STS1 path. Range: 0 to (2^{64}–1) cells.
1	ESs for path	Number of ESs for the STS1 path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the STS1 path. Range: 0 to (2^{64}–1) cells.
3	Unavailable seconds for path	Number of UASs for the STS1 path. Range: 0 to (2^{64}–1) cells.
4	Code violations for STS1 path at far end	Number of CVs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
5	ESs for STS1 path at far end	Number of ESs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
6	SESs for STS1 path at far end	Number of SESs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
7	Unavailable seconds for STS1 path at far end	Number of UASs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
9	Remote Defect Count	Number of remote defect indications (RDIs)/yellow alarms that occur on the STS1 path. Range: 0 to (2^{64}–1) cells.

MPSM E3 AU3 Path Statistics

This section describes the statistics contained in the MPSM E3 AU3 path group. The MPSM E3 AU3 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM E3 AU3 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	13
Default Peak Interval	300 seconds

The following table includes the MPSM E3 AU3 path statistics.

Stat ID	MPSM E3 AU3 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the STS1 path. Range: 0 to (2^{64}–1) cells.
1	ESs for path	Number of ESs for the STS1 path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the STS1 path. Range: 0 to (2^{64}–1) cells.
3	Unavailable seconds for path	Number of UASs for the STS1 path. Range: 0 to (2^{64}–1) cells.
4	Code violations for STS1 path at far end	Number of CVs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
5	ESs for STS1 path at far end	Number of ESs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
6	SESs for STS1 path at far end	Number of SESs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
7	Unavailable seconds for STS1 path at far end	Number of UASs for the STS1 path at the far end. Range: 0 to (2^{64}–1) cells.
9	Remote Defect Count	Number of remote defect indications (RDIs)/yellow alarms that occur on the STS1 path. Range: 0 to (2^{64}–1) cells.

MPSM DS1 VT STS1 Path Statistics

This section describes the statistics contained in the MPSM_DS1 VT STS1 Path group. The MPSM DS1 VT STS1 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS1 VT STS1 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	14
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM DS1 VT STS1 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the DS1 path. Range: 0 to (2^{64}–1) cells.
1	ESs for Path	Number of ESs for the DS1 path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the DS1 path. Range: 0 to (2^{64}–1) cells.
3	SEFSss for path	Number of SEFSs for the DS1 path. Range: 0 to (2^{64}–1) cells.
4	Unavailable seconds for path	Number of UASs for the DS1 path. Range: 0 to (2^{64}–1) cells.
5	Code violations for DS1 path at far end	Number of CVs for the DS1 path at the far end. Range: 0 to (2^{64}–1) cells.
6	ESs for DS1 path at far end	Number of ESs for the DS1 path at the far end. Range: 0 to (2^{64}–1) cells.
7	SESs for DS1 path at far end	Number of SESs for the DS1 path at the far end. Range: 0 to (2^{64}–1) cells.
8	SEFSss for DS1 path at far end	Number of SEFSs for the DS1 path at the far end. Range: 0 to (2^{64}–1) cells.
9	Unavailable seconds for DS1 path at far end	Number of UASs for the DS1 path at the far end. Range: 0 to (2^{64}–1) cells.
11	Remote AIS Count	Number of remote AIS instances on the DS1 path. Range: 0 to (2^{64}–1) cells.

MPSM E1 VT STS1 Path Statistics

This section describes the statistics contained in the MPSM_E1 VT STS1 Path group. The MPSM E1 VT STS1 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM E1 VT STS1 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	15
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM E1 VT STS1 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the E1 path. Range: 0 to (2^{64}–1) cells.
1	ESs for Path	Number of ESs for the E1 path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the E1 path. Range: 0 to (2^{64}–1) cells.
3	SEFSss for path	Number of SEFSs for the E1 path. Range: 0 to (2^{64}–1) cells.
4	Unavailable seconds for path	Number of UASs for the E1 path. Range: 0 to (2^{64}–1) cells.
5	Code violations for E1 path at far end	Number of CVs for the E1 path at the far end. Range: 0 to (2^{64}–1) cells.
6	ESs for E1 path at far end	Number of ESs for the E1 path at the far end. Range: 0 to (2^{64}–1) cells.
7	SESs for E1 path at far end	Number of SESs for the E1 path at the far end. Range: 0 to (2^{64}–1) cells.
8	SEFSss for E1 path at far end	Number of SEFSs for the E1 path at the far end. Range: 0 to (2^{64}–1) cells.
9	Unavailable seconds for E1 path at far end	Number of UASs for the E1 path at the far end. Range: 0 to (2^{64}–1) cells.
11	Remote AIS Count	Number of remote AIS instances on the E1 path. Range: 0 to (2^{64}–1) cells.

MPSM DS1 DS3 STS1 Path Statistics

This section describes the statistics contained in the MPSM_DS1 DS3 STS1 Path group. The MPSM DS1 DS3 STS1 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS1 DS3 STS1 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	16
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM DS1 DS3 STS1 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
1	ESs for Path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
3	SEFSss for path	Number of SEFSs for the path. Range: 0 to (2^{64}–1) cells.
4	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.
5	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.
6	ESs for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
7	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
8	SEFSss for path at far end	Number of SEFSs for the path at the far end. Range: 0 to (2^{64}–1) cells.
9	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.
11	Remote AIS Count	Number of remote AIS instances on the path. Range: 0 to (2^{64}–1) cells.

MPSM DS1 DS3 Line Path Statistics

This section describes the statistics contained in the MPSM_DS1 DS3 Line Path group. The MPSM DS1 DS3 Line path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS1 DS3 Line path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	17
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM DS1 DS3 Line Path Statistics	Description
0	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
1	ESs for Path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
3	SEFSss for path	Number of SEFSs for the path. Range: 0 to (2^{64}–1) cells.
4	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.
5	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.
6	ESs for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
7	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
8	SEFSs for path at far end	Number of SEFSs for the path at the far end. Range: 0 to (2^{64}–1) cells.
9	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.
11	Remote AIS Count	Number of remote AIS instances on the path. Range: 0 to (2^{64}–1) cells.

MPSM DS1 TU11 AU4 Path Statistics

This section describes the statistics contained in the MPSM_DS1 TU11 AU4 Path group. The MPSM DS1 TU11 AU4 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS1 TU11 AU4 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	18
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM DS1 TU11 AU4 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
1	ESs for Path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
3	SEFSss for path	Number of SEFSs for the path. Range: 0 to (2^{64}–1) cells.
4	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.
5	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.
6	ESs for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
7	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
8	SEFSss for path at far end	Number of SEFSs for the path at the far end. Range: 0 to (2^{64}–1) cells.
9	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.
11	Remote AIS Count	Number of remote AIS instances on the path. Range: 0 to (2^{64}–1) cells.

MPSM DS1 TU11 AU3 Path Statistics

This section describes the statistics contained in the MPSM_DS1 TU11 AU3 Path group. The MPSM DS1 TU11 AU3 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS1 TU11 AU3 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	19
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM DS1 TU11 AU3 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
1	ESs for Path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
3	SEFSss for path	Number of SEFSs for the path. Range: 0 to (2^{64}–1) cells.
4	Unavailable seconds for path	Number of unavailable second s for the path. Range: 0 to (2^{64}–1) cells.
5	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.
6	ESs for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
7	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
8	SEFSss for path at far end	Number of SEFSs for the path at the far end. Range: 0 to (2^{64}–1) cells.
9	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.
11	Remote AIS Count	Number of remote AIS instances on the path. Range: 0 to (2^{64}–1) cells.

MPSM E1 TU11 AU4 Path Statistics

This section describes the statistics contained in the MPSM_E1 TU11 AU4 Path group. The MPSM E1 TU11 AU4 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM E1 TU11 AU4 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	20
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM E1 TU11 AU4 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
1	ESs for Path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
3	SEFSss for path	Number of SEFSs for the path. Range: 0 to (2^{64}–1) cells.
4	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.
5	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.
6	ESs for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
7	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
8	SEFSss for path at far end	Number of SEFSs for the path at the far end. Range: 0 to (2^{64}–1) cells.
9	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.
11	Remote AIS Count	Number of remote AIS instances on the path. Range: 0 to (2^{64}–1) cells.

MPSM E1 TU11 AU3 Path Statistics

This section describes the statistics contained in the MPSM_E1 TU11 AU3 Path group. The MPSM E1 TU11 AU3 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM E1 TU11 AU3 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	21
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM E1 TU11 AU3 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
1	ESs for Path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
3	SEFSss for path	Number of SEFSs for the path. Range: 0 to (2^{64}–1) cells.
4	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.
5	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.
6	ESs for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
7	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
8	SEFSss for path at far end	Number of SEFSs for the path at the far end. Range: 0 to (2^{64}–1) cells.
9	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.
11	Remote AIS Count	Number of remote AIS instances on the path. Range: 0 to (2^{64}–1) cells.

MPSM VT STS1 Path Statistics

This section describes the statistics contained in the MPSM_VT STS1 Path group. The MPSM VT STS1 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM VT STS1 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	22
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM VT STS1 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
1	ESs for Path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.

Stat ID	MPSM VT STS1 Path Statistics	Description
2	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
3	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.
4	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.
5	ESs for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
6	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
7	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.
8	VT Path alarm Indictn sgnl secs	Number of AIS instances on the path. Range: 0 to (2^{32}–1) cells.
9	VT Path Remote Failure Indication	Number of remote failure indications (RFIs) that occur on the path. Range: 0 to (2^{32}–1) cells.

MPSM TU11 AU4 Path Statistics

This section describes the statistics contained in the MPSM_TU11 AU4 Path group. The MPSM TU11 AU4 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM TU11 AU4 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	23
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM TU11 AU4 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
1	ESs for Path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
3	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.

Stat ID	MPSM TU11 AU4 Path Statistics	Description
4	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.
5	ESs for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
6	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
7	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.
8	VT Path alarm Indictn sgnl secs	Number of AIS instances on the path. Range: 0 to (2^{32}–1) cells.
9	VT Path Remote Failure Indication	Number of remote failure indications (RFIs) that occur on the path. Range: 0 to (2^{32}–1) cells.

MPSM TU11 AU3 Path Statistics

This section describes the statistics contained in the MPSM_TU11 AU3 Path group. The MPSM TU11 AU3 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM TU11 AU3 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	24
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM TU11 AU3 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
1	ESs for Path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
3	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.
4	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.
5	ESs for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.

Stat ID	MPSM TU11 AU3 Path Statistics	Description
6	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
7	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.
8	VT Path alarm Indictn sgnl secs	Number of AIS instances on the path. Range: 0 to (2^{32}–1) cells.
9	VT Path Remote Failure Indication	Number of remote failure indications (RFIs) that occur on the path. Range: 0 to (2^{32}–1) cells.

MPSM TU3 AU4 Path Statistics

This section describes the statistics contained in the MPSM_TU3 AU4 Path group. The MPSM TU3 AU4 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM TU3 AU4 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	25
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM TU3 AU4 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
1	ESs for Path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
3	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.
4	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.
5	ESs for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
6	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
7	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.

Stat ID	MPSM TU3 AU4 Path Statistics	Description
8	VT Path alarm Indictn sgnl secs	Number of AIS instances on the path. Range: 0 to (2^{32}–1) cells.
9	VT Path Remote Failure Indication	Number of remote failure indications (RFIs) that occur on the path. Range: 0 to (2^{32}–1) cells.

MPSM DS1 DS3 AU3 Path Statistics

This section describes the statistics contained in the MPSM_DS1 DS3 AU3 Path group. The MPSM DS1 DS3 AU3 path statistics apply to the MPSM155 cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for MPSM DS1 DS3 AU3 path statistics.

Front Card	MPSM155
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	26
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM DS1 DS3 AU3 Path Statistics	Description
0	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
1	ESs for Path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
2	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
3	SEFSss for path	Number of SEFSs for the path. Range: 0 to (2^{64}–1) cells.
4	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.
5	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.
6	ESs for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
7	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
8	SEFSss for path at far end	Number of SEFSs for the path at the far end. Range: 0 to (2^{64}–1) cells.
9	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.
11	Remote AIS Count	Number of remote AIS instances on the path. Range: 0 to (2^{64}–1) cells.

AXSM-XG STM16 Path Statistics

This section describes the statistics contained in the AXSM-XG_STM16 Path group. The AXSM-XG STM16 path statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for AXSM-XG STM16 path statistics.

Front Card	AXSM-XG, AXSM-4-2488CH
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	28
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	AXSM-XG STM16 Path Statistics	Description
0	SONET Path AIS	Number of AIS instances on the path. Range: 0 to (2^{64}–1) cells.
1	SONET Path RDI	Number of remote defect indications (RDIs)/yellow alarms that occur on the path. Range: 0 to (2^{64}–1) cells.
2	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
3	ESs for path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
4	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
5	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.
6	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.
7	ESs for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
8	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
9	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.

AXSM-XG STM64 Path Statistics

This section describes the statistics contained in the AXSM-XG_STM64 Path group. The AXSM-XG STM64 path statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for AXSM-XG STM64 path statistics.

Front Card	AXSM-XG, AXSM-4-2488CH
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	29
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	AXSM-XG STM64 Path Statistics	Description
0	SONET Path AIS	Number of AIS instances on the path. Range: 0 to (2^{64}–1) cells.
1	SONET Path RDI	Number of remote defect indications (RDIs)/yellow alarms that occur on the path. Range: 0 to (2^{64}–1) cells.
2	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
3	ESs for path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
4	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
5	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.
6	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.
7	ESs for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
8	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
9	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.

AXSM-XG DS3 Path in STM16 Statistics

This section describes the statistics contained in the AXSM-XG_DS3 Path in STM 16 group. The AXSM-XG DS3 path in STM 16 statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for AXSM-XG DS3 path in STM 16 statistics.

Front Card	AXSM-XG, AXSM-4-2488CH
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	30
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	AXSM-XG DS3 Path in STM 16 Statistics	Description
0	Path AIS Count	Number of AIS instances on the DS3 path. Range: 0 to (2^{64}–1) cells.
1	Remote Defect Count	Number of remote defect indications (RDIs)/yellow alarms that occur on the DS3 path. Range: 0 to (2^{64}–1) cells.
2	Code Violations for Path	Number of CVs for the DS3 path. Range: 0 to (2^{64}–1) cells.
3	ESs for Path	Number of ESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
4	SESs for path	Number of SESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
5	Unavailable seconds for path	Number of UASs for the DS3 path. Range: 0 to (2^{64}–1) cells.
6	Code violations for ds3 path at far end	Number of CVs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
7	ESs for ds3 path at far end	Number of ESs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
8	SESs for ds3 path	Number of SESs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
9	Unavailable seconds for ds3 path	Number of UASs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
10	Code violations for plcp path	Number of PLCP path CVs detected on the interface. These violations occur when more than three zeroes in a row are transmitted. Range: 0 to (2^{64}–1) cells.
11	ESs for plcp path	Number of ESs on the PLCP path. Range: 0 to (2^{64}–1) cells.
12	SESs for plcp path	Number of PLCP path SESs that occur within the collection interval. Range: 0 to (2^{64}–1) cells.
13	Unavailable seconds for plcp path	Number of PLCP path UASs. Range: 0 to (2^{64}–1) cells.

Stat ID	AXSM-XG DS3 Path in STM 16 Statistics	Description
14	Code violations for plcp path at far end	Number of PLCP path CVs detected on the interface at the far end. Range: 0 to (2^{64}–1) cells.
15	ESs for plcp path at far end	Number of ESs on the PLCP path at the far end. Range: 0 to (2^{64}–1) cells.
16	SESs for plcp path at far end	Number of PLCP path SESs that occur within the collection interval at the far end. Range: 0 to (2^{64}–1) cells.
17	Unavailable seconds for plcp path at far end	Number of PLCP path UASs at the far end. Range: 0 to (2^{64}–1) cells.
18	Plcp path LOF count	Number of LOFs on the PLCP path. Range: 0 to (2^{64}–1) cells.
19	Plcp Path remote defect count	Number of remote defect indicators on the PLCP path. Range: 0 to (2^{64}–1) cells.

AXSM-XG STM1 Path Statistics

This section describes the statistics contained in the AXSM-XG_STM1 Path group. The AXSM-XG STM1 path statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for AXSM-XG STM1 path statistics.

Front Card	AXSM-XG, AXSM-4-2488CH
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	31
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	AXSM-XG STM1 Path Statistics	Description
0	SONET Path AIS	Number of AIS instances on the path. Range: 0 to (2^{64}–1) cells.
1	SONET Path RDI	Number of remote defect indications (RDIs)/yellow alarms that occur on the path. Range: 0 to (2^{64}–1) cells.
2	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
3	ESs for path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
4	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
5	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.
6	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.

Stat ID	AXSM-XG STM1 Path Statistics	Description
7	ESs for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
8	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
9	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.

AXSM-XG STM4 Path Statistics

This section describes the statistics contained in the AXSM-XG_STM4 Path group. The AXSM-XG STM4 path statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for AXSM-XG STM4 path statistics.

Front Card	AXSM-XG, AXSM-4-2488CH
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	32
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	AXSM-XG STM4 Path Statistics	Description
0	SONET Path AIS	Number of AIS instances on the path. Range: 0 to (2^{64}–1) cells.
1	SONET Path RDI	Number of remote defect indications (RDIs)/yellow alarms that occur on the path. Range: 0 to (2^{64}–1) cells.
2	Code Violations for Path	Number of CVs for the path. Range: 0 to (2^{64}–1) cells.
3	ESs for path	Number of ESs for the path. Range: 0 to (2^{64}–1) cells.
4	SESs for path	Number of SESs for the path. Range: 0 to (2^{64}–1) cells.
5	Unavailable seconds for path	Number of UASs for the path. Range: 0 to (2^{64}–1) cells.
6	Code violations for path at far end	Number of CVs for the path at the far end. Range: 0 to (2^{64}–1) cells.
7	ESs for path at far end	Number of ESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
8	SESs for path at far end	Number of SESs for the path at the far end. Range: 0 to (2^{64}–1) cells.
9	Unavailable seconds for path at far end	Number of UASs for the path at the far end. Range: 0 to (2^{64}–1) cells.

AXSM-XG DS3 Path in STM4 Statistics

This section describes the statistics contained in the AXSM-XG_DS3 Path in STM 4 group. The AXSM-XG DS3 path in STM 4 statistics apply to the AXSM-XG cards on the Cisco MGX 8850 PXM45-based and 8950 nodes. The following table lists the common attributes for AXSM-XG DS3 path in STM 4 statistics.

Front Card	AXSM-XG, AXSM-4-2488CH
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	6
Subobject Type	33
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	AXSM-XG DS3 Path in STM 4 Statistics	Description
0	Path AIS Count	Number of AIS instances on the DS3 path. Range: 0 to (2^{64}–1) cells.
1	Remote Defect Count	Number of remote defect indications (RDIs)/yellow alarms that occur on the DS3 path. Range: 0 to (2^{64}–1) cells.
2	Code Violations for Path	Number of CVs for the DS3 path. Range: 0 to (2^{64}–1) cells.
3	ESs for Path	Number of ESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
4	SESs for path	Number of SESs for the DS3 path. Range: 0 to (2^{64}–1) cells.
5	Unavailable seconds for path	Number of UASs for the DS3 path. Range: 0 to (2^{64}–1) cells.
6	Code violations for ds3 path at far end	Number of CVs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
7	ESs for ds3 path at far end	Number of ESs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
8	SESs for ds3 path	Number of SESs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
9	Unavailable seconds for ds3 path	Number of UASs for the DS3 path at the far end. Range: 0 to (2^{64}–1) cells.
10	Code violations for plcp path	Number of PLCP path CVs detected on the interface. Range: 0 to (2^{64}–1) cells.
11	ESs for plcp path	Number of ESs on the PLCP path. Range: 0 to (2^{64}–1) cells.
12	SESs for plcp path	Number of PLCP path SESs that occur within the collection interval. Range: 0 to (2^{64}–1) cells.
13	Unavailable seconds for plcp path	Number of PLCP path UASs. Range: 0 to (2^{64}–1) cells.

Stat ID	AXSM-XG DS3 Path in STM 4 Statistics	Description
14	Code violations for plcp path at far end	Number of PLCP path CVs detected on the interface at the far end. Range: 0 to (2^{64}–1) cells.
15	ESs for plcp path at far end	Number of ESs on the PLCP path at the far end. Range: 0 to (2^{64}–1) cells.
16	SESs for plcp path at far end	Number of PLCP path SESs that occur within the collection interval at the far end. Range: 0 to (2^{64}–1) cells.
17	Unavailable seconds for plcp path at far end	Number of PLCP path UASs at the far end. Range: 0 to (2^{64}–1) cells.
18	Plcp path LOF count	Number of LOFs on the PLCP path. Range: 0 to (2^{64}–1) cells.
19	Plcp Path remote defect count	Number of remote defect indicators on the PLCP path. Range: 0 to (2^{64}–1) cells.

PNNI Network Statistics

The following PNNI network statistics are supported in CWM Release 15:

- PNNI Nodal Statistics, page 4-250
- PNNI Port Statistics, page 4-251

PNNI Nodal Statistics

This section describes contained in the PNNI_Nodal_Level group. The PNNI node statistics apply to the Cisco MGX 8950, 8850 PXM45-based, 8850 PXM1E-based, and 8830 switches. The following table lists the attributes that are common to the PNNI node statistics.

Front Cards	PXM45, PXM1E-16T1E1
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	7
Subobject Type	0
Collection Interval	15 minutes
Default Peak Interval	Not supported

The PNNI node statistics are used for gathering information about SPVCs and SPVPs.

Note To collect PNNI SPVC and SPVP statistics in CWM, first enable the statistics on the switch by executing the CLI command **cnfpnstat**.

The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	PNNI Node Statistics	Description
0	Con success at orig node	Number of successful connections at the originating node.
1	Con failed at orig node	Number of failed connections at the originating node.

PNNI Port Statistics

This section describes statistics contained in the PNNI_Port_Level group. The PNNI port statistics apply to the Cisco MGX 8950, Cisco MGX 8850 PXM45-based, Cisco MGX 8850 PXM1E-based, and 8830 switches. The following table lists the attributes that are common to the PNNI port statistics.

Front Cards	PXM45, PXM1E-16T1E1
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	7
Subobject Type	1
Collection Interval	15 minutes
Default Peak Interval	Not supported

The PNNI port statistics are used to gathe information about SPVCs and SPVPs. (To collect PNNI SPVC and SPVP statistics in CWM, first enable the statistics on the switch by executing the CLI command **cnfpnstat**.) The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	PNNI Port Statistics	Description
0	Con success at orig node	Number of successful connections at the originating node.
1	Con failed at orig node	Number of failed connections at the originating node.
2	Received crankback at orig node	Number of crankbacks at the originating node.
3	Initiate Crankback	Number of crankbacks that are initiated.
4	Con success at border node	Number of successful connections at the border node.
5	Con failed at border node	Number of failed connections at the boarder node.
6	Received crankback at border node	Number of crankbacks at the boarder node.

Protocol Statistics

The following protocol statistics are supported in CWM Release 15:

VXSM Megaco Statistics

This section describes the statistics contained in the VXSM_PROTO_MEGACO_GATEWAY group. The VXSM megaco statistics apply to the VXSM cards on the Cisco MGX 8850 PXM45-based nodes and the 8880 PXM45-based nodes. The following table lists the common attributes for VXSM card statistics.

Front Card	VXSM
Back Card	VXSM-BC-4-155
Object Type	8
Subobject Type	0
Default Peak Interval	300 seconds

The following table includes the VXSM megaco statistics.

Stat ID	VXSM Megaco Statistics	Description
0	Total messages received	Number of total ingress cells. Range: 0 to (2^{64}–1) cells.
1	Total messages transmitted	Number of ingress cells with a CLP equal to 0 that are received before policing. Range: 0 to (2^{64}–1) cells.
2	signaling-level errors	Number of ingress cells with a CLP equal to 1 that are received before policing. Range: 0 to (2^{64}–1) cells.
3	timer recovery events	Number of CLP0 cells with the EFCI equal to 1. These cells are received from the port. Range: 0 to (2^{64}–1) cells.
4	Total failed ADD commands	Number of ADD commands that have failed. Range: 0 to (2^{64}–1) cells.
5	Total successful ADD commands	Number of ADD commands that were successful. Range: 0 to (2^{64}–1) cells.
6	Total failed SUBTRACT commands	Number of SUBTRACT commands that have failed. Range: 0 to (2^{64}–1) cells.
7	Total successful SUBTRACT commands	Number of SUBTRACT commands that were successful. Range: 0 to (2^{64}–1) cells.
8	Total failed MOVE commands	Number of MOVE commands that have failed. Range: 0 to (2^{64}–1) cells.

Stat ID	VXSM Megaco Statistics	Description
9	Total successful MOVE commands	Number of MOVE commands that were successful. Range: 0 to (2^{64}–1) cells.
11	Total failed MODIFY commands	Number of Modify commands that have failed. Range: 0 to (2^{64}–1) cells.
12	Total successful MODIFY commands	Number of Modify commands that were successful. Range: 0 to (2^{64}–1) cells.
12	Total failed AUDIT VALUE commands	Number of Audit Value commands that have failed. Range: 0 to (2^{64}–1) cells.
13	Total successful AUDIT VALUE commands	Number of Audit Value commands that were successful. Range: 0 to (2^{64}–1) cells.
14	Total failed AUDIT CAPABILITY commands	Number of Audit Capability commands that have failed. Range: 0 to (2^{64}–1) cells.
15	Total successful AUDIT CAPABILITY commands	Number of Audit Capability commands that were successful. Range: 0 to (2^{64}–1) cells.
16	Total failed NOTIFY commands	Number of Notify commands that have failed. Range: 0 to (2^{64}–1) cells.
17	Total successful NOTIFY commands	Number of Notify commands that were successful. Range: 0 to (2^{64}–1) cells.
18	Total failed Service Change commands from the MGC	Number of Service Change commands from the MGC that have failed. Range: 0 to (2^{64}–1) cells.
19	Total successful Service Change commands from the MGC	Number of Service Change commands from the MGC that were successful. Range: 0 to (2^{64}–1) cells.
20	Total failed Service Change commands from the MGC to the MG	Number of Service Change commands from the MGC to the MG that failed in the MGC. Range: 0 to (2^{64}–1) cells.
21	Total successful Service Change commands from the MGC to the MG	Number of Service Change commands from the MGC to the MG that were successful in the MGC. Range: 0 to (2^{64}–1) cells.
22	Total allocated contexts	Number of contexts allocated. Range: 0 to (2^{64}–1) cells.
23	Total freed contexts	Number of contexts that have been freed. Range: 0 to (2^{64}–1) cells.

VXSM Megaco Physical Termination Protocol Statistics

This section describes the statistics contained in the VXSM_PROTO_MEGACO_PHY_TERM group. The VXSM Megaco Physical Termination protocol statistics apply to the VXSM cards on the Cisco MGX 8850 PXM45-based nodes and the 8880 PXM45-based nodes. The following table lists the common attributes for VXSM protocol statistics.

Front Card	VXSM
Back Card	VXSM-BC-4-155
Object Type	8
Subobject Type	1
Default Peak Interval	300 seconds

The following table includes the VXSM Megaco Physical Termination protocol statistics.

Stat ID	VXSM Megaco Physical Termination Protocol Statistics	Description
0	Total physical termination ADD commands	Number of ADD commands that have been initiated. Range: 0 to (2^{64}–1) cells.
1	Total failed physical termination ADD commands	Number of ADD commands that have failed. Range: 0 to (2^{64}–1) cells.
2	Out of service from MGC	Number of out of service messages received from the Media Gateway Controller (MGC). Range: 0 to (2^{64}–1) cells.
3	Out of service from OAM	Number of.out of service messages triggered by the OAM process. Range: 0 to (2^{64}–1) cells.

VXSM Megaco Ephemeral Termination Protocol Statistics

This section describes the statistics contained in the VXSM_PROTO_MEGACO_EPHE_TERM group. The VXSM Megaco ephemeral termination protocol statistics apply to the VXSM cards on the Cisco MGX 8850 PXM45-based nodes and the 8880 PXM45-based nodes. The following table lists the common attributes for VXSM card statistics.

Front Card	VXSM
Back Card	VXSM-BC-4-155
Object Type	8
Subobject Type	2
Default Peak Interval	300 seconds

The following table includes the VXSM Megaco ephemeral termination protocol statistics.

Stat ID	VXSM Megaco Ephemeral Termination Protocol Statistics	Description
0	Total ephemeral termination ADD commands	Number of ADD commands that have been initiated. Range: 0 to (2^{64}–1) cells.
1	Total failed ephemeral termination ADD commands	Number of ADD commands that have failed. Range: 0 to (2^{64}–1) cells.

VXSM SCTP Gateway Statistics

This section describes the statistics contained in the VXSM_PROTO_SCTP_GW group. The VXSM SCTP gateway protocol statistics apply to the VXSM cards on the Cisco MGX 8850 PXM45-based nodes and the 8880 PXM45-based nodes. The following table lists the common attributes for VXSM card statistics.

Front Card	VXSM
Back Card	VXSM-BC-4-155
Object Type	8
Subobject Type	3
Default Peak Interval	300 seconds

The following table includes the VXSM SCTP gateway protocol statistics.

Stat ID	VXSM SCTP Gateway Protocol Statistics	Description
0	Total SCTP associations	Number of SCTP associations. Range: 0 to (2^{64}–1) cells.
1	Total active associations established	Number of times that SCTP associations have made a direct transition to the Established state from the Cookie-Echoed state. Range: 0 to (2^{64}–1) cells.
2	Total passive associations established	Number of times that SCTP associations have made a direct transition to the Established state from the Closed state. Range: 0 to (2^{64}–1) cells.
3	Total aborted associations	Number of times that SCTP associations have made a direct transition to the Closed state from any state. Range: 0 to (2^{64}–1) cells.
4	Total shutdown associations	Number of times that SCTP associations have made a direct transition to the Closed state from either the Shutdown-Sent state or the Shutdown-Ack-Sent state. Range: 0 to (2^{64}–1) cells.
5	Total checksum errors	Number of SCTP packets received from the peers with an invalid checksum. Range: 0 to (2^{64}–1) cells.
6	Total SCTP control chunks sent	Number of SCTP control chunks sent to the peers. Range: 0 to (2^{64}–1) cells.

Stat ID	VXSM SCTP Gateway Protocol Statistics	Description
7	Total SCTP ordered data chunks sent	Number of SCTP ordered data chunks sent to the peers. Range: 0 to (2^{64}–1) cells.
8	Total SCTP unordered data chunks sent	Number of SCTP unordered data chunks sent to the peers. Range: 0 to (2^{64}–1) cells.
9	Total SCTP control chunks received	Number of SCTP control chunks received from the peers. Range: 0 to (2^{64}–1) cells.
11	Total SCTP ordered data chunks received	Number of SCTP ordered data chunks received from the peers. Range: 0 to (2^{64}–1) cells.
12	Total SCTP unordered data chunks received	Number of SCTP unordered data chunks received from the peers. Range: 0 to (2^{64}–1) cells.
12	Total SCTP packets sent	Number of SCTP packets sent to the peers. Range: 0 to (2^{64}–1) cells.
13	Total SCTP packets received	Number of SCTP packets received from the peers. Range: 0 to (2^{64}–1) cells.
14	Total SCTP chunks retransmitted	Number of SCTP chunks retransmitted due to the T3 timers expiring before the packet is acknowledged. Range: 0 to (2^{64}–1) cells.
15	Total SCTP chunks retransmitted using fast-recovery retransmission	Number of SCTP chunks retransmitted using the fast-recovery retransmission mechanism. Range: 0 to (2^{64}–1) cells.
16	Total unavailable destination IP addresses	Number of times that a destination IP address was marked unavailable. Range: 0 to (2^{64}–1) cells.

VXSM SCTP Association Statistics

This section describes the statistics contained in the VXSM_PROTO_SCTP_GW group. The VXSM SCTP Association protocol statistics apply to the VXSM cards on the Cisco MGX 8850 PXM45-based nodes and the 8880 PXM45-based nodes. The following table lists the common attributes for VXSM card statistics.

Front Card	VXSM
Back Card	VXSM-BC-4-155
Object Type	8
Subobject Type	4
Default Peak Interval	300 seconds

The following table includes the VXSM SCTP association protocol statistics.

Stat ID	VXSM SCTP Association Protocol Statistics	Description
0	Total T1 timer expirations	Number of times that the T1 timer expired (timer for sending either INIT or COOKIE-ECHO chunks and receiving an acknowledgment). Range: 0 to (2^{64}–1) cells.
1	Total T2 shutdown timer expirations	Number of times that the T2 shutdown timer expired. Range: 0 to (2^{64}–1) cells.
2	Data chunks retransmitted	Number of data chunks retransmitted to the peer in current association. Range: 0 to (2^{64}–1) cells.
3	Association start time	The value of SysUpTime at the time that this row was created. Range: 0 to (2^{64}–1) cells.
4	Control chunks received	Number of control chunks received by this association. Range: 0 to (2^{64}–1) cells.
5	Ordered chunks received	Number of ordered chunks received by this association. Range: 0 to (2^{64}–1) cells.
6	Unordered chunks received	Number of unordered chunks received by this association. Range: 0 to (2^{64}–1) cells.
7	Control chunks sent	Number of control chunks sent by this association. Range: 0 to (2^{64}–1) cells.
8	Unordered chunks received	Number of unordered chunks received by this association. Range: 0 to (2^{64}–1) cells.
9	Control chunks sent	Number of control chunks sent by this association. Range: 0 to (2^{64}–1) cells.
10	Datagrams received	Number of IP datagrams received by this association. Range: 0 to (2^{64}–1) cells.
11	Datagrams sent	Number of IP datagrams sent by this association. Range: 0 to (2^{64}–1) cells.

VXSM LAPD Protocol Statistics

This section describes the statistics contained in the VXSM_PROTO_SCTP_GW group. The VXSM LAPD Protocol statistics apply to the VXSM cards on the Cisco MGX 8850 PXM45-based nodes and the 8880 PXM45-based nodes. The following table lists the common attributes for VXSM card statistics.

Front Card	VXSM
Back Card	VXSM-BC-4-155
Object Type	8
Subobject Type	5
Default Peak Interval	300 seconds

The following table includes the VXSM LAPD Protocol statistics.

Stat ID	VXSM LAPD Protocol Statistics	Description
0	Total information frames received	Number of information frames received. Range: 0 to (2^{64}–1) cells.
1	Total information frames transmitted	Number of information frames transmitted. Range: 0 to (2^{64}–1) cells.
2	Total receiver ready frames received	Number of receiver ready frames received. Range: 0 to (2^{64}–1) cells.
3	Total receiver ready frames transmitted	Number of receiver ready frames transmitted. Range: 0 to (2^{64}–1) cells.
4	Total receiver not ready frames received	Number of receiver not ready frames received. Range: 0 to (2^{64}–1) cells.
5	Total receiver not ready frames transmitted	Number of receiver not ready frames transmitted. Range: 0 to (2^{64}–1) cells.
6	Total Set Asynchronous Balanced mode frames received	Number of Set Asynchronous Balanced mode frames received. Range: 0 to (2^{64}–1) cells.
7	Total Set Asynchronous Balanced mode frames transmitted	Number of Set Asynchronous Balanced mode frames transmitted. Range: 0 to (2^{64}–1) cells.
8	Total disconnect frames received	Number of disconnect frames received. Range: 0 to (2^{64}–1) cells.
9	Total disconnect frames transmitted	Number of disconnect frames transmitted. Range: 0 to (2^{64}–1) cells.
10	Total unnumbered acknowledge frames received	Number of unnumbered acknowledge frames received. Range: 0 to (2^{64}–1) cells.
11	Total unnumbered acknowledge frames transmitted	Number of unnumbered acknowledge frames transmitted. Range: 0 to (2^{64}–1) cells.
12	Total disconnect mode frames received	Number of disconnect mode frames received. Range: 0 to (2^{64}–1) cells.
13	Total disconnect mode frames transmitted	Number of disconnect mode frames transmitted. Range: 0 to (2^{64}–1) cells.
14	Total frame reject frames received	Number of frame reject frames received. Range: 0 to (2^{64}–1) cells.
15	Total frame reject frames transmitted	Number of frame reject frames transmitted. Range: 0 to (2^{64}–1) cells.
16	Total exchange ID frames received	Number of exchange ID frames received. Range: 0 to (2^{64}–1) cells.
17	Total exchange ID frames transmitted	Number of exchange ID frames transmitted. Range: 0 to (2^{64}–1) cells.

Stat ID	VXSM LAPD Protocol Statistics	Description
18	Total unnumbered information frames received	Number of unnumbered information frames received. Range: 0 to (2^{64}–1) cells.
19	Total unnumbered information frames transmitted	Number of unnumbered information frames transmitted. Range: 0 to (2^{64}–1) cells.
20	Total reject frames received	Number of reject frames received. Range: 0 to (2^{64}–1) cells.
21	Total reject frames transmitted	Number of reject frames transmitted. Range: 0 to (2^{64}–1) cells.
22	Total invalid frames received	Number of invalid frames received. Range: 0 to (2^{64}–1) cells.

MPP Protocol Statistics

The following physical line statistics are supported in CWM Release 15:

- PPP Link Statistics, page 4-259
- MP Bundle Statistics, page 4-260
- PPP Mux Statistics, page 4-261

PPP Link Statistics

This section describes the statistics contained in the PPP Link group. The PPP Link statistics in this group apply to the MPSM16-T1E1 cards on the Cisco MGX 8850 PXM45-based and 8830 nodes. The following table lists the attributes that are common to the PPP Link group statistics.

Front Cards	MPSM16-T1E1
Back Cards	RBBN-16T1E1, MCC-16E1, RBBN-16-T1E1-1N, MCC-16-E1-1N, RED-16-T1E1
Object Type	10
Subobject Type	0
Default Peak Interval	300 seconds

The following table lists the common attributes for PPP Link statistics.

Stat ID	PPP Link Statistics
0	Good Packets received on a PPP link
1	Total Received Bytes

Stat ID	PPP Link Statistics
2	Number of bytes received in error across all errored packets
3	Packets violating MRU
5	Number of packets received with FCS error
7	Number of protocol rejects from RPM-XF
8	Number of packets transmitted
9	Number of bytes transmitted

MP Bundle Statistics

This section describes the statistics contained in the MP bundle group. The MP bundle statistics in this group apply to the MPSM16-T1E1 cards on the Cisco MGX 8850 PXM45-based and 8830 nodes. The following table lists the attributes that are common to the MP bundle group statistics.

Front Cards	MPSM16-T1E1
Back Cards	RBBN-16T1E1, MCC-16E1, RBBN-16-T1E1-1N, MCC-16-E1-1N, RED-16-T1E1
Object Type	10
Subobject Type	1
Default Peak Interval	300 seconds

The following table lists the common attributes for MP bundle statistics.

Stat ID	MP Bundle Statistics
0	Good Packets received on a PPP link
1	Total Received Bytes
2	Number of bytes received in error across all errored packets
3	Packets violating MRRU
5	Number of packets received with FCS error
8	Packets transmitted on the bundle
9	Number of bytes transmitted on the bundle

PPP Mux Statistics

This section describes the statistics contained in the PPP Mux group. The PPP Mux statistics in this group apply to the MPSM16-T1E1 cards on the Cisco MGX 8850 PXM45-based and Cisco MGX 8830 nodes. The following table lists the attributes that are common to the PPP Mux group statistics.

Front Cards	MPSM16-T1E1
Back Cards	RBBN-16T1E1, MCC-16E1, RBBN-16-T1E1-1N, MCC-16-E1-1N, RED-16-T1E1
Object Type	10
Subobject Type	2
Default Peak Interval	300 seconds

The following table lists the common attributes for PPP Mux statistics.

Stat ID	PPP Mux Statistics
0	Total number of multiplexed frames received
1	The total number of multiplexed packets received
2	The total number of multiplexed received which could not be de-multiplexed
3	The total number of multiplexed frames sent
4	The total number of multiplexed frames sent
5	The total number of multiplexed subframes sent that is not multiplexed

Physical Line Statistics

The CWM supporst these physical line statistics are supported:

- UXM T1 Physical Line, page 4-262
- UXM E1 Physical Line, page 4-263
- UXM T3/E3/OC3 Physical Line, page 4-264
- BXM and BNI T3/E3/OC3 Physical Line, page 4-267
- AXSM-E T1/E1 Physical Line, page 4-270
- AXSM-E T3/E3 Physical Line, page 4-272
- AXSM-E SONET Physical Line, page 4-275
- FRSM12 T3 Line, page 4-277
- FRSM12 E3 Line, page 4-279
- PXM1E T3 Physical Line, page 4-282
- PXM1E E3 Physical Line, page 4-284
- PXM1E SONET Physical Line, page 4-285

UXM T1 Physical Line

This section describes the UXM T1 statistics contained in the Physical Line T1 group. The statistics in this group apply to Switch Software Releases 9.2 and 9.3 on the Cisco IGX switch. The UXM T1 physical line statistics also apply to the UXM-E card. The following table lists the attributes that are common to the UXM T1 physical line statistics.

Front Card	UXM
Back Cards	BC-UAI-8-T1-DB-15, BC-UAI-4-T1-DB-15
Object Type	11
Subobject Type	0
Default Peak Interval	60 seconds (fixed setting)

The UXM T1 physical line statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	UXM T1 Physical Line Statistics	Description
2	Out of Frames	Number of times an OOF is detected. Range: 0 to (2^{32}–1) cells.
3	Losses of Signal	Number of times an LOS is detected. Range: 0 to (2^{32}–1) cells.
61	Total Cells Tx to Line	Number of cells transmitted to the line. Range: 0 to (2^{32}–1) cells.
68	Total Cells Rx from Line	Number of cells received from the line. Range: 0 to (2^{32}–1) cells.
169	Loss of Cell Delineation	Number of loss of cell delineation defect states. Range: 0 to (2^{32}–1) cells.
218	IMA Violations	Number of IMA line violations. Range: 0 to (2^{32}–1) cells.
219	Near End Severely Errored Seconds	Number of near end SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
220	Far End Severely Errored Seconds	Number of far end SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM T1 Physical Line Statistics	Description
221	Near End Unavailable Seconds	Number of near end UASs. Range: 0 to (2^{32}–1) cells.
222	Far End Unavailable Seconds	Number of far end UASs. Range: 0 to (2^{32}–1) cells.
223	Near End Tx Unusable Seconds	Number of seconds that the near end is not transmitting. Range: 0 to (2^{32}–1) cells.
224	Near End Rx Unusable Seconds	Number of seconds that the near end is not receiving. Range: 0 to (2^{32}–1) cells.
225	Far End Tx Unusable Seconds	Number of seconds that the far end is not transmitting. Range: 0 to (2^{32}–1) cells.
226	Far End Rx Unusable Second	Number of seconds that the far end is not receiving. Range: 0 to (2^{32}–1) cells.
227	Near End Tx No. of Failure	Number of failure alarms transmitted by the near end. Range: 0 to (2^{32}–1) cells.
228	Near end Rx No. of Failure	Number of failure alarms that are received by the near end. Range: 0 to (2^{32}–1) cells.

UXM E1 Physical Line

This section describes the UXM E1 statistics contained in the Physical Line E1 group. The statistics in this group apply to Switch Software Releases 9.2 and 9.3 on the Cisco IGX switch. The UXM E1 physical line statistics also apply to the UXM-E card. The following table lists the common attributes for UXM E1 physical line statistics.

Front Card	UXM
Back Cards	BC-UAI-8-E1-BNC, BC-UAI-8-E1-DB-15, BC-UAI-4-E1-BNC, BC-UAI-4-E1-DB-15
Object Type	11
Subobject Type	1
Default Peak Interval	60 seconds (fixed setting)

The UXM E1 physical line statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	UXM E1 Physical Line Statistics	Description
2	Out of Frames	Number of times an OOF is detected. Range: 0 to (2^{32}–1) cells.
3	Losses of Signal	Number of times an LOS is detected. Range: 0 to (2^{32}–1) cells.
61	Total Cells Tx to Line	Number of cells transmitted to the line. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM E1 Physical Line Statistics	Description
68	Total Cells Rx from Line	Number of cells received from the line. Range: 0 to (2^{32}–1) cells.
169	Loss of Cell Delineation	Number of loss of cell delineation defect states. Range: 0 to (2^{32}–1) cells.
218	IMA Violations	Number of IMA line violations. Range: 0 to (2^{32}–1) cells.
219	Near End Severely Errored Seconds	Number of near end SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
220	Far End Severely Errored Seconds	Number of far end SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
221	Near End Unavailable Seconds	Number of near end UASs. Range: 0 to (2^{32}–1) cells.
222	Far End Unavailable Seconds	Number of far end UASs. Range: 0 to (2^{32}–1) cells.
223	Near End Tx Unusable Seconds	Number of seconds that the near end is not transmitting. Range: 0 to (2^{32}–1) cells.
224	Near End Rx Unusable Seconds	Number of seconds that the near end is not receiving. Range: 0 to (2^{32}–1) cells.
225	Far End Tx Unusable Seconds	Number of seconds that the far end is not transmitting. Range: 0 to (2^{32}–1) cells.
226	Far End Rx Unusable Second	Number of seconds that the far end is not receiving. Range: 0 to (2^{32}–1) cells.
227	Near End Tx No. of Failure	Number of failure alarms transmitted by the near end. Range: 0 to (2^{32}–1) cells.
228	Near end Rx No. of Failure	Number of failure alarms that are received by the near end. Range: 0 to (2^{32}–1) cells.

UXM T3/E3/OC3 Physical Line

This section describes the UXM T3/E3 and OC-3 statistics contained in the Physical Line T3/E3/OC3 group. The statistics in this group apply to the Switch Software Releases 9.2 and 9.3 on the Cisco IGX switch. The UXM T3/E3/OC3 physical line statistics also apply to the UXM-E card. The following table lists the common attributes for UXM T3/E3/OC3 physical line statistics.

Front Cards	UXM
Back Cards	UXM—BC-UAI-6-T3/E3, BC-UAI-3-T3/E3, BC-UAI-2/4-155-SMF, BC-UAI-2/4-SMFXLR, BC-UAI-4-STM1E, BC-UAI-4-155-MMF
Object Type	11
Subobject Type	2
Default Peak Interval	60 seconds (fixed setting)

The UXM T3/E3/OC3 physical line statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	UXM T3/E3/OC3 Physical Line Statistics	Description
2	Out of Frames	Number of times an OOF is detected. Range: 0 to (2^{32}–1) cells.
3	Losses of Signal	Number of times an LOS is detected. Range: 0 to (2^{32}–1) cells.
28	Line Code Violations	Number of line CVs detected on the interface. Range: 0 to (2^{32}–1) cells.
29	Line Errored Seconds	Number of line code violation errored seconds. Range: 0 to (2^{32}–1) cells.
30	Line Severely Errored Seconds	Number of line code violation SESs detected on the interface. Range: 0 to (2^{32}–1) cells.
31	P-bit Parity Code Violations	Number of P-bit parity codes that do not match the locally calculated parity code. Range: 0 to (2^{32}–1) cells.
32	Errored Seconds - Parity	Number of seconds with at least one P-bit PCV. Range: 0 to (2^{32}–1) cells.
33	Severely Errored Seconds - Parity	Number of P-bit PCV SESs detected on the interface. Range: 0 to (2^{32}–1) cells.
34	C-bit Parity Code Violations	Number of C-bit parity CVs that do not match the locally calculated parity code. Range: 0 to (2^{32}–1) cells.
35	Errored Seconds - Path	Number of C-bit PCV errored seconds detected on the interface. Range: 0 to (2^{32}–1) cells.
36	Severely Errored Seconds - Path	Number of C-bit PCV SESs detected on the interface. Range: 0 to (2^{32}–1) cells.
37	Severely Errored Framing Seconds	Number of SEFSs detected on the interface. Range: 0 to (2^{32}–1) cells.
39	Unavailable Seconds	Number of UASs. Range: 0 to (2^{32}–1) cells.
40	PLCP BIP-8 Errors	Number of PLCP BIP-8 errors. Range: 0 to (2^{32}–1) cells.
41	BIP-8 Errored Seconds	Number of BIP-8 errored seconds. Range: 0 to (2^{32}–1) cells.
42	BIP-8 Severely Errored Seconds	Number of BIP-8 SESs. Range: 0 to (2^{32}–1) cells.
43	PLCP Severely Err Framing Secs	Number of SESs based on PLCP framing errors. Range: 0 to (2^{32}–1) cells.
44	PLCP Unavailable Seconds	Number of PLCP UASs. Range: 0 to (2^{32}–1) cells.
61	Total Cells Tx to Line	Number of cells transmitted to the line. Range: 0 to (2^{32}–1) cells.
68	Total Cells Rx from Line	Number of cells received from the line. Range: 0 to (2^{32}–1) cells.
97	PLCP OOF Transition Counts	Number of times the OOF is detected by the PLCP interface. Range: 0 to (2^{32}–1) cells.
142	PLCP FEBE Err Secs	Number of FEBE seconds that occur within the collection interval. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM T3/E3/OC3 Physical Line Statistics	Description
143	PLCP FEBE Severely Err Secs	Number of FEBE SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
144	PLCP FEBE Counts	Number of FEBEs detected on the PLCP interface. Range: 0 to (2^{32}–1) cells.
150	YEL Transitions	Number of times yellow alarms are detected. The count includes the number of remote alarm indicator (RAI) alarms. Range: 0 to (2^{32}–1) cells.
151	PLCP Yellow Transition Counts	Number of times that PLCP yellow defects are detected. Range: 0 to (2^{32}–1) cells.
152	Alarm Indication Signal	Number of times that an alarm indication signal is detected. Range: 0 to (2^{32}–1) cells.
169	Loss of Cell Delineation	Number of loss of cell delineation defect states. Range: 0 to (2^{32}–1) cells.
170	Loss of Pointer	Number of loss of pointer (LOP) defect states. Range: 0 to (2^{32}–1) cells.
171	OC3 Path AIS	Number of AIS instances on the path. Range: 0 to (2^{32}–1) cells.
172	OC3 Path YEL	Number of times yellow alarms are detected on the path. Range: 0 to (2^{32}–1) cells.
173	Section BIP8	Number of section BIP-8 errors. Range: 0 to (2^{32}–1) cells.
174	Line BIP24	Number of line BIP-24 errors. Range: 0 to (2^{32}–1) cells.
175	Line FEBE	Number of line far-end block errors (FEBE). Range: 0 to (2^{32}–1) cells.
176	Path BIP8	Number of path BIP-8 errors. Range: 0 to (2^{32}–1) cells.
177	Path FEBE	Number of instances of path FEBE. Range: 0 to (2^{32}–1) cells.
178	Section BIP8 Err Secs	Number of seconds that have at least one section BIP-8 error occurring within the collection interval. The counter also increments during severely errored framing (SEF) or LOS failure events.
179	Line BIP24 Err Secs	Number of seconds that have at least one line BIP-24 error occurring within the collection interval. The counter also increments during detection of line alarm indication signals. Range: 0 to (2^{32}–1) cells.
180	Line FEBE Err Secs	Number of seconds that have at least one line FEBE. The counter also increments during line remote defect identifications (RDIs).
181	Path BIP8 Err Secs	Number of seconds that have at least one path BIP-8 error. The counter also increments during detection of LOP and AIS events. Range: 0 to (2^{32}–1) cells.
182	Path FEBE Err Secs	Number of seconds that have at least one instance of path FEBE. The counter also increments during detection of RDI events. Range: 0 to (2^{32}–1) cells.
183	Section BIP8 Severely Err Secs	Number of section BIP-8 SESs that occur within the collection interval. The counter also increments during SEF and LOS failure events. Range: 0 to (2^{32}–1) cells.
184	Section Severely Err Framing Secs	Number of section seconds that have at least 2500 instances (for OC3 lines) of OOF. Range: 0 to (2^{32}–1) cells.

Stat ID	UXM T3/E3/OC3 Physical Line Statistics	Description
185	Line BIP24 Severely Err Secs	Number of BIP-24 SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
186	Line FEBE Severely Err Secs	Number of FEBE SESs. The counter also increments during line RDIs. Range: 0 to (2^{32}–1) cells.
187	Path BIP8 Severely Err Secs	Number of BIP-8 SESs that occur within the collection interval. The counter also increments during detection of LOP and AIS events. Range: 0 to (2^{32}–1) cells.
188	Path FEBE Severely Err Secs	Number of FEBE SESs. Range: 0 to (2^{32}–1) cells.
189	Line Unavailable Secs	Number of seconds that the li Range: 0 to (2^{32}–1) cells.
190	Line Farend Unavailable Secs	Number of far end UASs. Range: 0 to (2^{32}–1) cells.
191	Path Unavailable Secs	Number of seconds that the line is unavailable after the occurrence of 10 contiguous path SESs. Range: 0 to (2^{32}–1) cells.
192	Path Farend Unavailable Secs	Number of seconds that the line is unavailable after the occurrence of 10 contiguous path far end SESs. Range: 0 to (2^{32}–1) cells.
193	HCS Uncorrectable Error	Number of HEC errors that are not correctable. Range: 0 to (2^{32}–1) cells.
214	HCS Correctable Error	Number of loss of cell delineation header checksum errors that are corrected. Range: 0 to (2^{32}–1) cells.

BXM and BNI T3/E3/OC3 Physical Line

This section describes the BXM and BNI T3/E3/OC-3 statistics contained in the Physical Line T3/E3/OC3 group. The statistics in this group apply to Switch Software Releases 9.2 and 9.3 on the Cisco BPX switch. The following table lists the common attributes for BXM and BNI T3/E3/OC3 physical line statistics.

Front Cards	BXM-T3/E3, BXM-155,BXM-622 BNI-T3/E3, BNI-OC-3
Back Cards	BXM—BPX-T3/E3-BC, MMF-155-4/8, SMF-155-4/8 SMFLR-155-4/8 BNI—LM-3T3/3E, LM-OC-3-SMF/MMF/SMFL
Object Type	11
Subobject Type	2
Default Peak Interval	60 seconds (fixed setting)

The BXM and BNI T3/E3/OC3 physical line statistics are used primarily for gathering billing and performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	BXM and BNI T3/E3/OC3 Physical Line Statistics	Description
2	Out of Frames	Number of times an OOF is detected. Range: 0 to (2^{32}–1) cells.
3	Losses of Signal	Number of times an LOS is detected. Range: 0 to (2^{32}–1) cells.
28	Line Code Violations	Number of line CVs detected on the interface. Range: 0 to (2^{32}–1) cells.
29	Line Errored Seconds	Number of line code violation ESs. Range: 0 to (2^{32}–1) cells.
30	Line Severely Errored Seconds	Number of line code violation SESs detected on the interface. Range: 0 to (2^{32}–1) cells.
31	P-bit Parity Code Violations	Number of P-bit parity codes that do not match the locally calculated parity code. Range: 0 to (2^{32}–1) cells.
32	Errored Seconds - Parity	Number of seconds with at least one P-bit PCV. Range: 0 to (2^{32}–1) cells.
33	Severely Errored Seconds - Parity	Number of P-bit PCV SESs detected on the interface. Range: 0 to (2^{32}–1) cells.
34	C-bit Parity Code Violations	Number of C-bit parity CVs that do not match the locally calculated parity code. Range: 0 to (2^{32}–1) cells.
35	Errored Seconds - Path	Number of C-bit PCV ESs detected on the interface. Range: 0 to (2^{32}–1) cells.
36	Severely Errored Seconds - Path	Number of C-bit PCV SESs detected on the interface. Range: 0 to (2^{32}–1) cells.
37	Severely Errored Framing Seconds	Number of SEFSs detected on the interface. Range: 0 to (2^{32}–1) cells.
39	Unavailable Seconds	Number of UASs. Range: 0 to (2^{32}–1) cells.
40	PLCP BIP-8 Errors	Number of PLCP BIP-8 errors. Range: 0 to (2^{32}–1) cells.
41	BIP-8 Errored Seconds	Number of BIP-8 ESs. Range: 0 to (2^{32}–1) cells.
42	BIP-8 Severely Errored Seconds	Number of BIP-8 SESs. Range: 0 to (2^{32}–1) cells.
43	PLCP Severely Err Framing Secs	Number of SESs based on PLCP framing errors. Range: 0 to (2^{32}–1) cells.
44	PLCP Unavailable Seconds	Number of PLCP UASs. Range: 0 to (2^{32}–1) cells.
45	HCS Errors	Number of header check sum errors. Range: 0 to (2^{32}–1) cells.
68	Total Cells Rx from Line	Number of cells received from the line. Range: 0 to (2^{32}–1) cells.
97	PLCP OOF Transition Counts	Number of times the OOF is detected by the PLCP interface. Range: 0 to (2^{32}–1) cells.
142	PLCP FEBE Err Secs	Number of FEBE seconds that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
143	PLCP FEBE Severely Err Secs	Number of FEBE SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
144	PLCP FEBE Counts	Number of FEBEs detected on the PLCP interface. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and BNI T3/E3/OC3 Physical Line Statistics	Description
150	YEL Transitions	Number of times yellow alarms are detected. The count includes the number of remote alarm indicator (RAI) alarms. Range: 0 to (2^{32}–1) cells.
151	PLCP Yellow Transition Counts	Number of times that PLCP yellow defects are detected. Range: 0 to (2^{32}–1) cells.
152	Alarm Indication Signal	Number of times that an alarm indication signal is detected. Range: 0 to (2^{32}–1) cells.
169	Loss of Cell Delineation	Number of loss of cell delineation defect states. Range: 0 to (2^{32}–1) cells.
170	Loss of Pointer	Number of loss of pointer (LOP) defect states. Range: 0 to (2^{32}–1) cells.
171	OC3 Path AIS	Number of AIS instances on the path. Range: 0 to (2^{32}–1) cells.
172	OC3 Path YEL	Number of times yellow alarms are detected on the path. Range: 0 to (2^{32}–1) cells.
173	Section BIP8	Number of section BIP-8 errors. Range: 0 to (2^{32}–1) cells.
174	Line BIP24	Number of line BIP-24 errors. Range: 0 to (2^{32}–1) cells.
175	Line FEBE	Number of line far-end block errors (FEBE). Range: 0 to (2^{32}–1) cells.
176	Path BIP8	Number of path BIP-8 errors. Range: 0 to (2^{32}–1) cells.
177	Path FEBE	Number of instances of path FEBE. Range: 0 to (2^{32}–1) cells.
178	Section BIP8 Err Secs	Number of seconds that have at least one section BIP-8 error occurring within the collection interval. The counter also increments during severely errored framing (SEF) or LOS failure events.
179	Line BIP24 Err Secs	Number of seconds that have at least one line BIP-24 error occurring within the collection interval. The counter also increments during detection of line alarm indication signals. Range: 0 to (2^{32}–1) cells.
180	Line FEBE Err Secs	Number of seconds that have at least one line FEBE. The counter also increments during line remote defect identifications (RDIs).
181	Path BIP8 Err Secs	Number of seconds that have at least one path BIP-8 error. The counter also increments during detection of LOP and AIS events. Range: 0 to (2^{32}–1) cells.
182	Path FEBE Err Secs	Number of seconds that have at least one instance of path FEBE. The counter also increments during detection of RDI events. Range: 0 to (2^{32}–1) cells.
184	Section Severely Err Framing Secs	Number of section seconds that have at least 2500 instances (for OC3 lines) of OOF. Range: 0 to (2^{32}–1) cells.
185	Line BIP24 Severely Err Secs	Number of BIP-24 SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
186	Line FEBE Severely Err Secs	Number of FEBE SESs. Range: 0 to (2^{32}–1) cells.
187	Path BIP8 Severely Err Secs	Number of BIP-8 SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.

Stat ID	BXM and BNI T3/E3/OC3 Physical Line Statistics	Description
188	Path FEBE Severely Err Secs	Number of FEBE SESs. Range: 0 to (2^{32}–1) cells.
189	Line Unavailable Secs	Number of seconds that the line is unavailable after the occurrence of 10 contiguous line SESs. Range: 0 to (2^{32}–1) cells.
190	Line Farend Unavailable Secs	Number of far end UASs. Range: 0 to (2^{32}–1) cells.
191	Path Unavailable Secs	Number of seconds that the line is unavailable after the occurrence of 10 contiguous path SESs. Range: 0 to (2^{32}–1) cells.
192	Path Farend Unavailable Secs	Number of seconds that the line is unavailable after the occurrence of 10 contiguous path far end SESs. Range: 0 to (2^{32}–1) cells.
214	HCS Correctable Error	Number of loss of cell delineation header checksum errors that are corrected. Range: 0 to (2^{32}–1) cells.

AXSM-E T1/E1 Physical Line

This section describes the statistics contained in the AXSME_Phyline_T1E1 group. The AXSM-E T1/E1 physical line statistics in this group apply to the Cisco MGX 8850 PXM45-based switch. The following table lists the attributes that are common to the AXSM-E T1/E1 physical line statistics.

Front Card	AXSM-16-T1E1-E
Back Cards	RJ48-8-T1-Y, SMB-8-E1
Object Type	11
Subobject Type	3
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The AXSM-E T1/E1 physical line statistics are used primarily for gathering troubleshooting and performance data. The tables in this section describe each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Note AXSM-E statistics are only collected at measurement points 1, 2, and 13.

Stat ID	AXSM-E T1/E1 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Errored Seconds	—	—	Number of line code violation ESs. Range: 0 to (2^{32}–1) cells.
1	Severely Errored Seconds	—	—	Number of line code violation SESs detected on the interface. Range: 0 to (2^{32}–1) cells.

Stat ID	AXSM-E T1/E1 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
2	Severely Errored Framing Seconds	No	Ingress–1	Number of SEFSs that occur within the collection interval on the T1/E1 line. Range: 0 to (2^{40}–1) cells.
3	Unavailable Seconds	No	Ingress–1	Number of UASs on the T1/E1 line. Range: 0 to (2^{40}–1) cells.
4	Path coding violations	—	—	Number of path CVs detected on the interface. Range: 0 to (2^{32}–1) cells.
5	Line Errored Seconds	—	—	Number of line code violation ESs. Range: 0 to (2^{32}–1) cells.
6	Line Severely Errored Seconds	—	—	Number of line code violation SESs detected on the interface. Range: 0 to (2^{32}–1) cells.
7	Path SEF/AIS (PSAS) Encountered	—	—	Number of severely errored frames or an alarm indication signals (AIS) detected on the T1/E1 line. Range: 0 to (2^{32}–1) cells.
8	Number of occurrences of Loss of Signal	No	Ingress–1	Number of times an LOS is detected on the T1/E1 line. Range: 0 to (2^{40}–1) cells.
9	Number of occurrences of Out of Frame	No	Ingress–1	Number of times an OOF is detected. Range: 0 to (2^{32}–1) cells.
10	Number of occurrences of RAI	No	Ingress–1	Number of remote alarm indication (RAI) occurrences on the T1/E1 line. Range: 0 to (2^{32}–1) cells.
11	Far-end Errored Seconds	No	Ingress–1	Number of seconds errors are detected at the far end of the T1/E1 line. Range: 0 to (2^{40}–1) cells.
12	Far-end severely Errored Seconds	—	—	Number of far end SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
13	Far-end severely Errored Framing Seconds	No	Ingress–1	Number of SEFSs that occur within the collection interval on the T1/E1 line. Range: 0 to (2^{40}–1) cells.
14	Far-end Unavailable Seconds	No	Ingress–1	Number of UASs at the far end of the T1/E1 line. Range: 0 to (2^{40}–1) cells.
15	Far-end line errored seconds	—	—	Number of line code violation ESs at the far end. Range: 0 to (2^{32}–1) cells.
16	Far-end path coding violations	—	—	Number of path CVs that are encountered at the far end. Range: 0 to (2^{32}–1) cells.
17	Line code violations	No	Ingress–1	Number of line CVs encountered by the T1/E1 line. Range: 0 to (2^{40}–1) cells.)

AXSM-E T3/E3 Physical Line

This section describes the statistics contained in the AXSME_Phyline_T3E3 group. The AXSM-E T3/E3 physical line statistics in this group apply to the Cisco MGX 8850 PXM45-based switch. The following table lists the attributes that are common to the AXSM-E T3/E3 physical line statistics.

Front Card	AXSM-16-T3E3-E
Back Cards	SMB-8-T3, SMB-8-E3
Object Type	11
Subobject Type	4
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The AXSM-E T3/E3 physical line statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1. (AXSM-E statistics are only collected at measurement points 1, 2, and 13.)

Stat ID	AXSM-E T3/E3 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Loss of Signal Occurrences	No	Ingress–1	Number of times an LOS is detected on the T3 line. Range: 0 to (2^{40}–1) cells.
1	Loss of Frame Occurrences	No	Ingress–1	Number of LOFs detected on the T3 line. Range: 0 to (2^{40}–1) cells.
2	Alarm Indication Signal Occurrences	No	Ingress–1	Number of AIS instances on the T3 line. Range: 0 to (2^{40}–1) cells.
3	Yellow Alarm Occurrences	No	Ingress–1	Number of times yellow alarms are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
4	Number of line code violations	No	Ingress–1	Number of line CVs encountered by the T3 line. Range: 0 to (2^{40}–1) cells.
5	Number of p-bit parity code violations	No	Ingress–1	Number of P-bit parity codes that do not match the locally calculated parity code on the T3 line. Range: 0 to (2^{40}–1) cells.
6	Number of c-bit parity code violations	No	Ingress–1	Number of C-bit parity CVs that do not match the locally calculated parity code on the T3 line. Range: 0 to (2^{40}–1) cells.
7	Far end blocked errors	No	Ingress–1	Number of far end block errors that occur within the collection interval on the T3 line. Range: 0 to (2^{40}–1) cells.
8	Seconds with at least one LCV + number of LOS	No	Ingress–1	Number of seconds with at least one line code violation (LCV) and one LOS on the T3 line. Range: 0 to (2^{40}–1) cells.

Stat ID	AXSM-E T3/E3 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
9	Seconds with at least one PCV + number of LOF	No	Ingress–1	Number of seconds with at least one PCVs and one LOF on the T3 line. Range: 0 to (2^{40}–1) cells.
10	Seconds with at least one CCV + number of LOF	No	Ingress–1	Number of seconds with at least one C-bit code violation and one LOF on the T3 line. Range: 0 to (2^{40}–1) cells.
11	Seconds with 45/34(T3)LCV + number of LOS	No	Ingress–1	Number of seconds with 45/34 LCVs and LOSs on the T3 line. Range: 0 to (2^{40}–1) cells.
12	Seconds with 44(T3)PCV + number of LOF	No	Ingress–1	Number of seconds with 44 PCVs and LOFs on the T3 line. Range: 0 to (2^{40}–1) cells.
13	Seconds with 44(T3)CCV + number of LOF	No	Ingress–1	Number of seconds with 44 CCVs and LOFs on the T3 line. Range: 0 to (2^{40}–1) cells.
14	Seconds with severely errored framing	No	Ingress–1	Number of SEFSs that occur within the collection interval on the T3 line. Range: 0 to (2^{40}–1) cells.
15	Unavailable seconds	No	Ingress–1	Number of UASs on the T3 line. Range: 0 to (2^{40}–1) cells.
16	PLCP Loss of Frames	No	Ingress–1	Number of loss of frames detected by the PLCP interface on the T3 line. Range: 0 to (2^{40}–1) cells.
17	PLCP YEL-LOW	No	Ingress–1	Number of times that PLCP yellow defects are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
18	PLCP bip 8-errors	No	Ingress–1	Number of PLCP BIP-8 errors on the T3 line. Range: 0 to (2^{40}–1) cells.
19	PLCP far end blocked errors	No	Ingress–1	Number of far end block errors detected on the PLCP interface on the T3 line. Range: 0 to (2^{40}–1) cells.
20	Seconds with at least one PLCP bip-8 error	No	Ingress–1	Number of seconds with at least one PLCP BIP-8 error detected on the T3 line. Range: 0 to (2^{40}–1) cells.
21	Seconds with 5 PLCP bip-8 errors n	No	Ingress–1	Number of seconds with at least five PLCP BIP-8 errors that are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
22	Seconds with T3 PLCP far end blocked errors	No	Ingress–1	Number of seconds with PLCP far end block errors that are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
23	Seconds with 5 PLCP FEBE errors + PLCP YEL	No	Ingress–1	Number of seconds with at least five PLCP far end block errors (FEBE) and yellow defects detected on the T3 line. Range: 0 to (2^{40}–1) cells.
24	Seconds with T3 severely errored framing	No	Ingress–1	Number of SEFSs that occur within the collection interval on the T3 line. Range: 0 to (2^{40}–1) cells.
25	T3 PLCP Unavailabl e Seconds	No	Ingress–1	Number of UASs on the T3 line. Range: 0 to (2^{40}–1) cells.
26	PLCP Framing Errors	No	Ingress–1	Number of framing errors that are detected by the PLCP interface on the T3 line. Range: 0 to (2^{40}–1) cells.
27	PLCP Framing Error Seconds	No	Ingress–1	Number of seconds that framing errors are detected by PLCP interface on the T3 line. Range: 0 to (2^{40}–1) cells.
28	PLCP Severely Errored Framing Seconds	No	Ingress–1	Number of SESs based on PLCP framing errors detected on the T3 line. Range: 0 to (2^{40}–1) cells.

Stat ID	AXSM-E T3/E3 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
29	Occurrences of loss of cell delineation	No	Ingress–1	Number of loss of cell delineation defect states on the T3 line. Range: 0 to (2^{40}–1) cells.
30	T3 far end errored seconds	No	Ingress–1	Number of seconds errors are detected at the far end of the T3 line. Range: 0 to (2^{40}–1) cells.
31	T3 far end severely errored seconds	T3 far end errored seconds	Ingress–1	Number of SESs that occur at the far end of the T3 line. Range: 0 to (2^{40}–1) cells.
32	T3 far end unavailable seconds	No	Ingress–1	Number of UASs at the far end of the T3 line. Range: 0 to (2^{40}–1) cells.
50	loss of signal occurrences	No	Ingress–1	Number of times an LOS is detected on the E3 line. Range: 0 to (2^{40}–1) cells.
51	loss of frame occurrences	No	Ingress–1	Number of LOFs detected on the E3 line. Range: 0 to (2^{40}–1) cells.
52	alarm indication signal occurrences	No	Ingress–1	Number of AIS instances on the E3 line. Range: 0 to (2^{40}–1) cells.
53	yellow alarms occurrences	No	Ingress–1	Number of times yellow alarms are detected on the E3 line. Range: 0 to (2^{40}–1) cells.
54	loss of cell delineation occurrences	No	Ingress–1	Number of loss of cell delineation defect states on the E3 line. Range: 0 to (2^{40}–1) cells.
55	trail trace byte mismatch	No	Ingress–1	Number of trail trace byte (TTB) mismatch occurrences on the E3 line. Range: 0 to (2^{40}–1) cells.
56	line code violations	No	Ingress–1	Number of line CVs encountered by the E3 line. Range: 0 to (2^{40}–1) cells.
57	Seconds with at least one LCV + number of LOS	No	Ingress–1	Number of seconds with at least one line code violation (LCV) and one loss of signal (LOS) on the E3 line. Range: 0 to (2^{40}–1) cells.
58	Seconds with 45/34 (E3) LCV+ number of LOS	No	Ingress–1	Number of seconds with 45/34 LCVs and LOSs on the E3 line. Range: 0 to (2^{40}–1) cells.
59	Number of p-bit parity code violations	No	Ingress–1	Number of P-bit parity codes that do not match the locally calculated parity code on the E3 line. Range: 0 to (2^{40}–1) cells.
60	Seconds with at least one PCV + number of LOF	No	Ingress–1	Number of seconds with at least one PCVs and one loss of frame (LOF) on the E3 line. Range: 0 to (2^{40}–1) cells.
61	Seconds with at least one CCV + number of LOF	No	Ingress–1	Number of seconds with at least one C-bit code violation and one LOF on the E3 line. Range: 0 to (2^{40}–1) cells.
62	Seconds with severely errored framing	No	Ingress–1	Number of SEFSs that occur within the collection interval on the E3 line. Range: 0 to (2^{40}–1) cells.
63	Unavailable Seconds	No	Ingress–1	Number of UASs on the E3 line. Range: 0 to (2^{40}–1) cells.
64	Far end blocked errors	No	Ingress–1	Number of far end block errors that occur within the collection interval on the E3 line. Range: 0 to (2^{40}–1) cells.

Stat ID	AXSM-E T3/E3 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
65	Far end errored seconds	No	Ingress–1	Number of seconds errors are detected at the far end of the E3 line. Range: 0 to (2^{40}–1) cells.
66	Far end severely errored seconds	Far end errored seconds	Ingress–1	Number of SESs that occur at the far end of the E3 line. Range: 0 to (2^{40}–1) cells.
67	Far end unavailable seconds	No	Ingress–1	Number of UASs at the far end of the E3 line. Range: 0 to (2^{40}–1) cells.

AXSM-E SONET Physical Line

This section describes the statistics contained in the AXSME_Phyline_SONET group. The AXSM-E SONET physical line statistics in this group apply to the Cisco MGX 8850 PXM45-based switch. The following table lists the attributes that are common to the AXSM-E SONET physical line statistics.

Front Cards	AXSM-8-155-E, AXSM-2-622-E
Back Cards	SMB-4-155, SMFLR-4-155, SMFIR-4-155, MMF-4-155, SMFLR-1-622, SMFIR-1-622
Object Type	11
Subobject Type	5
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The AXSM-E SONET physical line statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1. (AXSM-E statistics are only collected at measurement points 1, 2, and 13.)

Stat ID	AXSM-E SONET Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	LOS defect state occurrences	No	Ingress–1	Number of times an LOS is detected on the SONET line. Range: 0 to (2^{40}–1) cells.
1	LOF defect state occurrences	No	Ingress–1	Number of LOFs detected on the SONET line. Range: 0 to (2^{40}–1) cells.
2	AIS defect state occurrences	No	Ingress–1	Number of AIS instances on the SONET line. Range: 0 to (2^{40}–1) cells.
3	Yellow Alarm defect state occurrences	No	Ingress–1	Number of times yellow alarms are detected on the SONET line. Range: 0 to (2^{40}–1) cells.
4	Loss of Cell delineation defect occurrences	No	Ingress–1	Number of loss of cell delineation defect states on the SONET line. Range: 0 to (2^{40}–1) cells.

Stat ID	AXSM-E SONET Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
5	Number of instances of Loss of Pointer	No	Ingress–1	Number of loss of pointer defect states on the SONET line. Range: 0 to (2^{40}–1) cells.
6	Number of instances of Path AIS	No	Ingress–1	Number of AIS instances on the path. Range: 0 to (2^{40}–1) cells.
7	Number of instances of Path Yellow	No	Ingress–1	Number of times yellow alarms are detected on the path. Range: 0 to (2^{40}–1) cells.
8	Trace section	No	Ingress–1	Number of section traces. Range: 0 to (2^{40}–1) cells.
9	Trace path	No	Ingress–1	Number of path traces. Range: 0 to (2^{40}–1) cells.
10	Aps_mis	No	Ingress–1	Number of total automatic protection system (APS) mismatches. Range: 0 to (2^{40}–1) cells.
11	Aps_psbf	No	Ingress–1	Number of protection switching byte failures (PSBFs) that are detected on the SONET line. Range: 0 to (2^{40}–1) cells.
12	Aps_chan_mis	No	Ingress–1	Number of APS channel mismatches that are detected on the SONET line. Range: 0 to (2^{40}–1) cells.
13	Aps_mode_mis	No	Ingress–1	Number of APS mode mismatches that are detected on the SONET line. Range: 0 to (2^{40}–1) cells.
14	Aps_fe_prot	No	Ingress–1	Number of switches to fast Ethernet protocol. Range: 0 to (2^{40}–1) cells.
15	Code violations for section	No	Ingress–1	Number of section CVs. Range: 0 to (2^{40}–1) cells.
16	Errored seconds for section	No	Ingress–1	Number of section ESs that occur within the collection interval. Range: 0 to (2^{40}–1) cells.
17	Severely Errored seconds for section	No	Ingress–1	Number of section SESs that occur within the collection interval. Range: 0 to (2^{40}–1) cells.
18	Unavailable seconds for section	No	Ingress–1	Number of section UASs. Range: 0 to (2^{40}–1) cells.
19	Code violations for line	No	Ingress–1	Number of CVs encountered by the SONET line. Range: 0 to (2^{40}–1) cells.
20	Errored seconds for line	No	Ingress–1	Number of ESs that occur within the collection interval on the SONET line. Range: 0 to (2^{40}–1) cells.
21	SESs for line	No	Ingress–1	Number of SESs that occur within the collection interval on the SONET line. Range: 0 to (2^{40}–1) cells.
22	Unavailable seconds for line	No	Ingress–1	Number of UASs on the SONET line. Range: 0 to (2^{40}–1) cells.
23	Code violations for line at far end	No	Ingress–1	Number of CVs at the far end of the line. Range: 0 to (2^{40}–1) cells.
24	Errored seconds for line at far end	No	Ingress–1	Number of ESs that occur at the far end of the line. Range: 0 to (2^{40}–1) cells.
25	Severely Errored seconds for line at far end	No	Ingress–1	Number of SESs at the far end of the line. Range: 0 to (2^{40}–1) cells.

Stat ID	AXSM-E SONET Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
26	Unavailable seconds for line at far end	No	Ingress–1	Number of section UASs for the line. Range: 0 to (2^{40}–1) cells.
27	Code violations for path	No	Ingress–1	Number of path CVs. Range: 0 to (2^{40}–1) cells.
28	Errored seconds for path	No	Ingress–1	Number of path ESs. Range: 0 to (2^{40}–1) cells.
29	SESs for path	No	Ingress–1	Number of path SESs. Range: 0 to (2^{40}–1) cells.
30	Unavailable seconds for path	No	Ingress–1	Number of path UASs for the line. Range: 0 to (2^{40}–1) cells.
31	Code violations for path at far end	No	Ingress–1	Number of path CVs at the far end of the line. Range: 0 to (2^{40}–1) cells.
32	Errored seconds for path at far end	No	Ingress–1	Number of path ESs that occur at the far end of the line. Range: 0 to (2^{40}–1) cells.
33	SESs for path at far end	No	Ingress–1	Number of path SESs at the far end of the line. Range: 0 to (2^{40}–1) cells.
34	Unavailable seconds for path at far end	No	Ingress–1	Number of path UASs for the line. Range: 0 to (2^{40}–1) cells.

FRSM12 T3 Line

This section describes the statistics contained in the FRSM12 Line T3 group. The FRSM12 T3 line statistics in this group apply to the Cisco MGX 8850 PXM45-based node. The following table lists the attributes that are common to the FRSM12 T3 line statistics.

Front Cards	FRSM-12T3E3
Back Cards	SMB-6T3
Object Type	11
Subobject Type	6
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The FRSM12 T3 physical line statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	FRSM12 T3 Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	No. of occurrences of Loss of Signal	No	Ingress–1	Number of times an LOS is detected on the T3 line. Range: 0 to (2^{40}–1) cells.

Stat ID	FRSM12 T3 Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
1	No. of occurrences of Loss of Frame	No	Ingress–1	Number of LOFs detected on the T3 line. Range: 0 to (2^{40}–1) cells.
2	No. of occurrences of AIS	No	Ingress–1	Number of AIS instances on the T3 line. Range: 0 to (2^{40}–1) cells.
3	No. of occurrences of Yellow alarm	No	Ingress–1	Number of times yellow alarms are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
4	No. of line code violations	No	Ingress–1	Number of line CVs encountered by the T3 line. Range: 0 to (2^{40}–1) cells.
5	No. of p-bit parity code violations	No	Ingress–1	Number of P-bit parity codes that do not match the locally calculated parity code on the T3 line. Range: 0 to (2^{40}–1) cells.
6	No. of c-bit parity code violations	No	Ingress–1	Number of C-bit parity CVs that do not match the locally calculated parity code on the T3 line. Range: 0 to (2^{40}–1) cells.
7	Far end blocked errors.	No	Ingress–1	Number of far end block errors that occur within the collection interval on the T3 line. Range: 0 to (2^{40}–1) cells.
8	Secs. with at least one LCV +no. of LOS	No	Ingress–1	Number of ESs with at least one LCV plus the number of LOS on the T3 line. Range: 0 to (2^{40}–1) cells.
9	Secs. with at least one PCV +no. of LOF	No	Ingress–1	Number of seconds with at least one PCV plus the number of LOFs on the T3 line. Range: 0 to (2^{40}–1) cells.
10	Secs. with at least one CCV +no. of LOF	No	Ingress–1	Number of seconds with at least one CCV plus the number of LOFs the T3 line. Range: 0 to (2^{40}–1) cells.
11	Secs. with 45/34(T3) LCV + no. of LOS	No	Ingress–1	Number of severely errored that occur on the T3 line. These seconds include 45/34 LCV plus the number of LOS. Range: 0 to (2^{40}–1) cells.
12	Secs. with 44(T3) PCV + no. of LOF	No	Ingress–1	Number of P-bit SESs on the T3 line. These seconds include 44 PCVs plus the number of LOFs. Range: 0 to (2^{40}–1) cells.
13	Secs. with 44(T3) CCV + no. of LOF	No	Ingress–1	Number of C-bit SESs on the T3 line. These seconds include 44 CCVs plus the number of LOFs. Range: 0 to (2^{40}–1) cells.
14	Secs. with Severely Errored Framing	No	Ingress–1	Number of SEFSs that occur within the collection interval on the T3 line. Range: 0 to (2^{40}–1) cells.
15	Unavailable seconds	No	Ingress–1	Number of UASs on the T3 line. Range: 0 to (2^{40}–1) cells.
16	PLCP Loss of Frames	No	Ingress–1	Number of LOFs detected by the PLCP interface on the T3 line. Range: 0 to (2^{40}–1) cells.
17	PLCP YEL-LOW	No	Ingress–1	Number of times that PLCP yellow defects are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
18	PLCP bip-8 errors	No	Ingress–1	Number of PLCP BIP-8 errors on the T3 line. Range: 0 to (2^{40}–1) cells.
19	PLCP far end blocked errors	No	Ingress–1	Number of far end block errors detected on the PLCP interface on the T3 line. Range: 0 to (2^{40}–1) cells.

Stat ID	FRSM12 T3 Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
20	Secs. with at least one PLCP bip-8 err	No	Ingress–1	Number of seconds with at least one PLCP BIP-8 error detected on the T3 line. Range: 0 to (2^{40}–1) cells.
21	Secs. with 5 PLCP bip-8 errors	No	Ingress–1	Number of SESs with at least one PLCP BIP-8 error detected on the T3 line. Range: 0 to (2^{40}–1) cells.
22	Secs. with T3 PLCP far end blocked errs	No	Ingress–1	Number of seconds with PLCP far end block errors that are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
23	Secs. with 5 PLCP FEBE errs + PLCP YEL	No	Ingress–1	Number of seconds with far end block errors that are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
24	Secs. with T3 severely errored framing	No	Ingress–1	Number of SEFSs that occur within the collection interval on the T3 line. Range: 0 to (2^{40}–1) cells.
25	T3 PLCP unavailable seconds	No	Ingress–1	Number of UASs on the T3 line. Range: 0 to (2^{40}–1) cells.
26	PLCP Framing Errors	No	Ingress–1	Number of framing errors that are detected by the PLCP interface on the T3 line. Range: 0 to (2^{40}–1) cells.
27	PLCP Framing Error Secs.	No	Ingress–1	Number of seconds that framing errors are detected by PLCP interface on the T3 line. Range: 0 to (2^{40}–1) cells.
28	PLCP Severely Errored Framing Secs.	No	Ingress–1	Number of SESs based on PLCP framing errors detected on the T3 line. Range: 0 to (2^{40}–1) cells.
29	occurrences of loss of cell delineation	No	Ingress–1	Number of occurrences of loss of cell delineation. Range: 0 to (2^{40}–1) cells.
30	Far end errored seconds	No	Ingress–1	Number of ESs that are detected at the far end of the T3 line. Range: 0 to (2^{40}–1) cells.
31	Far end severely errored seconds	Far end errored seconds	Ingress–1	Number of SESs that occur at the far end of the T3 line. Range: 0 to (2^{40}–1) cells.
32	Far end unavailable seconds	No	Ingress–1	Number of UASs at the far end of the T3 line. Range: 0 to (2^{40}–1) cells.)

FRSM12 E3 Line

This section describes the statistics contained in the FRSM12 Line E3 group. The FRSM12 E3 line statistics in this group apply to the Cisco MGX 8850 PXM45-based node. The following table lists the attributes that are common to the FRSM12 E3 line statistics.

Front Cards	FRSM-12T3E3
Back Cards	SMB-6E3
Object Type	11
Subobject Type	7

Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The FRSM12 E3 physical line statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	FRSM12 E3 Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	No. of occurrences of Loss of Signal	No	Ingress–1	Number of times an LOS is detected on the E3 line. Range: 0 to (2^{40}–1) cells.
1	No. of occurrences of Loss of Frame	No	Ingress–1	Number of LOFs detected on the E3 line. Range: 0 to (2^{40}–1) cells.
2	No. of occurrences of AIS	No	Ingress–1	Number of AIS instances on the E3 line. Range: 0 to (2^{40}–1) cells.
3	No. of occurrences of Yellow alarm	No	Ingress–1	Number of times yellow alarms are detected on the E3 line. Range: 0 to (2^{40}–1) cells.
4	No. of line code violations	No	Ingress–1	Number of line CVs encountered by the E3 line. Range: 0 to (2^{40}–1) cells.
5	No. of p-bit parity code violations	No	Ingress–1	Number of P-bit parity codes that do not match the locally calculated parity code on the E3 line. Range: 0 to (2^{40}–1) cells.
6	No. of c-bit parity code violations	No	Ingress–1	Number of C-bit parity CVs that do not match the locally calculated parity code on the E3 line. Range: 0 to (2^{40}–1) cells.
7	Far end blocked errors.	No	Ingress–1	Number of far end block errors that occur within the collection interval on the E3 line. Range: 0 to (2^{40}–1) cells.
8	Secs. with at least one LCV +no. of LOS	No	Ingress–1	Number of ESs with at least one LCV plus the number of LOS on the E3 line. Range: 0 to (2^{40}–1) cells.
9	Secs. with at least one PCV +no. of LOF	No	Ingress–1	Number of seconds with at least one PCV plus the number of LOFs on the E3 line. Range: 0 to (2^{40}–1) cells.
10	Secs. with at least one CCV +no. of LOF	No	Ingress–1	Number of seconds with at least one CCV plus the number of LOFs the E3 line. Range: 0 to (2^{40}–1) cells.
11	Secs. with 45/34(T3) LCV + no. of LOS	No	Ingress–1	Number of severely errored that occur on the E3 line. Range: 0 to (2^{40}–1) cells.
12	Secs. with 44(T3) PCV + no. of LOF	No	Ingress–1	Number of P-bit SESs on the E3 line. Range: 0 to (2^{40}–1) cells.
13	Secs. with 44(T3) CCV + no. of LOF	No	Ingress–1	Number of C-bit SESs on the E3 line. Range: 0 to (2^{40}–1) cells.
14	Secs. with Severely Errored Framing	No	Ingress–1	Number of SEFSs that occur within the collection interval on the E3 line. Range: 0 to (2^{40}–1) cells.
15	Unavailable seconds	No	Ingress–1	Number of UASs on the E3 line. Range: 0 to (2^{40}–1) cells.

Stat ID	FRSM12 E3 Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
16	PLCP Loss of Frames	No	Ingress–1	Number of loss of frames detected by the PLCP interface on the E3 line. Range: 0 to (2^{40}–1) cells.
17	PLCP YEL-LOW	No	Ingress–1	Number of times that PLCP yellow defects are detected on the E3 line. Range: 0 to (2^{40}–1) cells.
18	PLCP bip-8 errors	No	Ingress–1	Number of PLCP BIP-8 errors on the E3 line. Range: 0 to (2^{40}–1) cells.
19	PLCP far end blocked errors	No	Ingress–1	Number of far end block errors detected on the PLCP interface on the E3 line. Range: 0 to (2^{40}–1) cells.
20	Secs. with at least one PLCP bip-8 err	No	Ingress–1	Number of seconds with at least one PLCP BIP-8 error detected on the E3 line. Range: 0 to (2^{40}–1) cells.
21	Secs. with 5 PLCP bip-8 errors	No	Ingress–1	Number of SESs with at least one PLCP BIP-8 error detected on the E3 line. Range: 0 to (2^{40}–1) cells.
22	Secs. with T3 PLCP far end blocked errs	No	Ingress–1	Number of seconds with PLCP far end block errors that are detected on the E3 line. Range: 0 to (2^{40}–1) cells.
23	Secs. with 5 PLCP FEBE errs + PLCP YEL	No	Ingress–1	Number of seconds with far end block errors that are detected on the E3 line. Range: 0 to (2^{40}–1) cells.
24	Secs. with T3 severely errored framing	No	Ingress–1	Number of SEFSs that occur within the collection interval on the E3 line. Range: 0 to (2^{40}–1) cells.
25	T3 PLCP unavailable seconds	No	Ingress–1	Number of UASs on the E3 line. Range: 0 to (2^{40}–1) cells.
26	PLCP Framing Errors	No	Ingress–1	Number of framing errors that are detected by the PLCP interface on the E3 line. Range: 0 to (2^{40}–1) cells.
27	PLCP Framing Error Secs.	No	Ingress–1	Number of seconds that framing errors are detected by PLCP interface on the T3 line. Range: 0 to (2^{40}–1) cells.
28	PLCP Severely Errored Framing Secs.	No	Ingress–1	Number of SESs based on PLCP framing errors detected on the E3 line. Range: 0 to (2^{40}–1) cells.
29	occurrences of loss of cell delineation	No	Ingress–1	Number of occurrences of loss of cell delineation. Range: 0 to (2^{40}–1) cells.
30	Far end errored seconds	No	Ingress–1	Number of seconds errors are detected at the far end of the E3 line. Range: 0 to (2^{40}–1) cells.
31	Far end severely errored seconds	FE_ES	Ingress–1	Number of SESs that occur at the far end of the E3 line. Range: 0 to (2^{40}–1) cells.
32	Far end unavailable seconds	No	Ingress–1	Number of UASs at the far end of the E3 line. Range: 0 to (2^{40}–1) cells.)

PXM1E T3 Physical Line

This section describes the statistics contained in the PXM1E Physical Line T3 group. The PXM1E T3 line statistics in this group apply to the Cisco MGX 8830 and Cisco MGX 8850 PXM1E-based nodes. The following table lists the attributes that are common to the PXM1E T3 line statistics.

Front Cards	PXM1E-8-T3E3, PXM1E-T3E3-155 (combo card)
Back Cards	MGX-SMB-8T3, MGX-FRU-T3E3-155
Object Type	11
Subobject Type	8
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The PXM1E T3 physical line statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	PXM1E T3 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	occurrences of LOS defect st. (T3)	No	Ingress–1	Number of times an LOS is detected on the T3 line. Range: 0 to (2^{40}–1) cells.
1	occurrences of LOF defect st. (T3)	No	Ingress–1	Number of LOFs detected on the T3 line. Range: 0 to (2^{40}–1) cells.
2	occurrences of AIS defect st. (T3)	No	Ingress–1	Number of AIS instances on the T3 line. Range: 0 to (2^{40}–1) cells.
3	occurrences of YEL defect st. (T3)	No	Ingress–1	Number of times yellow alarms are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
4	Line Code Violation Count (T3)	No	Ingress–1	Number of line CVs encountered by the T3 line. Range: 0 to (2^{40}–1) cells.
5	P-Bit Code Violation Count (T3)	No	Ingress–1	Number of P-bit parity codes that do not match the locally calculated parity code on the T3 line. Range: 0 to (2^{40}–1) cells.
6	C-Bit Code Violation Count (T3)	No	Ingress–1	Number of C-bit parity CVs that do not match the locally calculated parity code on the T3 line. Range: 0 to (2^{40}–1) cells.
7	Far End Block Error Count (T3)	No	Ingress–1	Number of far end block errors that occur within the collection interval on the T3 line. Range: 0 to (2^{40}–1) cells.
8	Line error secs (T3)	No	Ingress–1	Number of ESs on the T3 line. Range: 0 to (2^{40}–1) cells.
9	P-bit error secs. (T3)	No	Ingress–1	Number of seconds with at least one P-bit error on the T3 line. Range: 0 to (2^{40}–1) cells.
10	C-bit error secs (T3)	No	Ingress–1	Number of seconds with at least one C-bit error the T3 line. Range: 0 to (2^{40}–1) cells.

Stat ID	PXM1E T3 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
11	Line severe error secs. (T3)	No	Ingress–1	Number of severely errored that occur on the T3 line. Range: 0 to (2^{40}–1) cells.
12	P-bit severe error secs. (T3)	No	Ingress–1	Number of P-bit SESs on the T3 line. Range: 0 to (2^{40}–1) cells.
13	C-bit severe error secs (T3)	No	Ingress–1	Number of C-bit SESs on the T3 line. Range: 0 to (2^{40}–1) cells.
14	Severe Errored Framing Secs. (T3)	No	Ingress–1	Number of SEFSs that occur within the collection interval on the T3 line. Range: 0 to (2^{40}–1) cells.
15	Unavailable Seconds (T3)	No	Ingress–1	Number of UASs on the T3 line. Range: 0 to (2^{40}–1) cells.
16	occurrences of T3 PLCP LOF (T3)	No	Ingress–1	Number of loss of frames detected by the PLCP interface on the T3 line. Range: 0 to (2^{40}–1) cells.
17	occurrences of T3 PLCP YELLOW (T3)	No	Ingress–1	Number of times that PLCP yellow defects are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
18	PLCP BIP-8 Errs. (T3)	No	Ingress–1	Number of PLCP BIP-8 errors on the T3 line. Range: 0 to (2^{40}–1) cells.
19	PLCP Far End Block Errs. (T3)	No	Ingress–1	Number of far end block errors detected on the PLCP interface on the T3 line. Range: 0 to (2^{40}–1) cells.
20	PLCP BIP-8 error secs. (T3)	No	Ingress–1	Number of seconds with at least one PLCP BIP-8 error detected on the T3 line. Range: 0 to (2^{40}–1) cells.
21	PLCP BIP-8 severe error secs. (T3)	No	Ingress–1	Number of SESs with at least one PLCP BIP-8 error detected on the T3 line. Range: 0 to (2^{40}–1) cells.
22	secs with PLCP Far End Block Err. (T3)	No	Ingress–1	Number of seconds with PLCP far end block errors that are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
23	severe Far End Block error secs. (T3)	No	Ingress–1	Number of seconds with far end block errors that are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
24	T3 Severe Erred Framing Seconds. (T3)	No	Ingress–1	Number of SEFSs that occur within the collection interval on the T3 line. Range: 0 to (2^{40}–1) cells.
25	T3 PLCP Unavailable Seconds. (T3)	No	Ingress–1	Number of UASs on the T3 line. Range: 0 to (2^{40}–1) cells.
26	PLCP Framing Errs (T3)	No	Ingress–1	Number of framing errors that are detected by the PLCP interface on the T3 line. Range: 0 to (2^{40}–1) cells.
27	PLCP Framing Err Seconds (T3)	No	Ingress–1	Number of seconds that framing errors are detected by PLCP interface on the T3 line. Range: 0 to (2^{40}–1) cells.
28	PLCP Severely Erred Framing Secs (T3)	No	Ingress–1	Number of SESs based on PLCP framing errors detected on the T3 line. Range: 0 to (2^{40}–1) cells.
29	Far End Err Seconds (T3)	No	Ingress–1	Number of seconds errors are detected at the far end of the T3 line. Range: 0 to (2^{40}–1) cells.
30	Far end severely errored secs. (T3)	T3 far end errored seconds	Ingress–1	Number of SESs that occur at the far end of the T3 line. Range: 0 to (2^{40}–1) cells.

Stat ID	PXM1E T3 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
31	Far end line unavailable secs. (T3)	No	Ingress–1	Number of UASs at the far end of the T3 line. Range: 0 to (2^{40}–1) cells.)

PXM1E E3 Physical Line

This section describes the statistics contained in the PXM1E Physical Line E3 group. The PXM1E E3 line statistics in this group apply to the Cisco MGX 8830 and 8850 PXM1E-based nodes. The following table lists the attributes that are common to the PXM1E E3 line statistics.

Front Cards	PXM1E-8-T3E3, PXM1E-T3E3-155 (combo card)
Back Cards	MGX-SMB-8E3, MGX-FRU-T3E3-155
Object Type	11
Subobject Type	9
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The PXM1E E3 physical line statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	PXM1E E3 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	occurrences of LOS defect st. (E3)	No	Ingress–1	Number of times an LOS is detected on the E3 line. Range: 0 to (2^{40}–1) cells.
1	occurrences of LOF defect st. (E3)	No	Ingress–1	Number of LOFs detected on the E3 line. Range: 0 to (2^{40}–1) cells.
2	occurrences of AIS defect st. (E3)	No	Ingress–1	Number of AIS instances on the E3 line. Range: 0 to (2^{40}–1) cells.
3	occurrences of YEL defect st. (E3)	No	Ingress–1	Number of times yellow alarms are detected on the E3 line. Range: 0 to (2^{40}–1) cells.
4	occurrences of LOC state (E3)	No	Ingress–1	Number of loss of cell delineation defect states on the E3 line. Range: 0 to (2^{40}–1) cells.
5	Trail trace byte mismatch (E3)	No	Ingress–1	Number of trail trace byte (TTB) mismatch occurrences on the E3 line. Range: 0 to (2^{40}–1) cells.
6	Line Code Violation Count (E3)	No	Ingress–1	Number of line CVs encountered by the E3 line. Range: 0 to (2^{40}–1) cells.
7	Line error secs. (E3)	No	Ingress–1	Number of ESs on the E3 line. Range: 0 to (2^{40}–1) cells.
8	Line severe error secs. (E3)	No	Ingress–1	Number of SESs that occur on the E3 line. Range: 0 to (2^{40}–1) cells.

Stat ID	PXM1E E3 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
9	P-Bit Code Violation Count (E3)	No	Ingress–1	Number of P-bit parity codes that do not match the locally calculated parity code on the E3 line. Range: 0 to (2^{40}–1) cells.
10	P-bit error secs. (E3)	No	Ingress–1	Number of seconds with at least one P-bit error on the E3 line. Range: 0 to (2^{40}–1) cells.
11	P-bit severe error secs. (E3)	No	Ingress–1	Number of P-bit SESs on the E3 line. Range: 0 to (2^{40}–1) cells.
12	Severe Errored Framing Secs. (E3)	No	Ingress–1	Number of SEFSs that occur within the collection interval on the E3 line. Range: 0 to (2^{40}–1) cells.
13	Unavailable Seconds (E3)	No	Ingress–1	Number of UASs on the E3 line. Range: 0 to (2^{40}–1) cells.
14	Far End Block Error Count (E3)	No	Ingress–1	Number of far end block errors that occur within the collection interval on the E3 line. Range: 0 to (2^{40}–1) cells.
15	Far End Err Seconds (E3)	No	Ingress–1	Number of seconds errors are detected at the far end of the E3 line. Range: 0 to (2^{40}–1) cells.
16	Far end severely errored secs. (E3)	No	Ingress–1	Number of SESs that occur at the far end of the T3 line. Range: 0 to (2^{40}–1) cells.
17	Far end line unavailable secs. (E3)	No	Ingress–1	Number of UASs at the far end of the E3 line. Range: 0 to (2^{40}–1) cells.)

PXM1E SONET Physical Line

This section describes the statistics contained in the PXM1E_SONET_ATM group. The PXM1E SONET physical line statistics in this group apply to the Cisco MGX 8830 and 8850 PXM1E-based switches. The following table lists the attributes that are common to the PXM1E SONET physical line statistics.

Front Cards	PXM1E-8-155, PXM1E-2-622, PXM1E-T3E3-155 (combo card)
Back Cards	MGX-SMFIR-8-155LC/B, MGX-SMFLR-8-155LC/B, MGB-MMF-8-155/B, MGX-SMFIR-8-155LC/C, MGX-SMFLR-8-155LC/C, MGB-MMF-8-155/C, MGX-SMFIR-2-622/B, MGX-SMFLR-2-622/B, MGX-SMFIR-2-622/C, MGX-SMFLR-2-622/C, MGX-FRU-T3E3-155
Object Type	11
Subobject Type	10
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The PXM1E SONET physical line statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	PXM1E SONET Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	occurrences LOS defect st. (OC)	No	Ingress–1	Number of times an LOS is detected on the SONET line. Range: 0 to (2^{40}–1) cells.
1	occurrences LOF defect st. (OC)	No	Ingress–1	Number of LOFs detected on the SONET line. Range: 0 to (2^{40}–1) cells.
2	occurrences AIS defect st. (OC)	No	Ingress–1	Number of AIS instances on the SONET line. Range: 0 to (2^{40}–1) cells.
3	occurrences YEL defect st. (OC)	No	Ingress–1	Number of times yellow alarms are detected on the SONET line. Range: 0 to (2^{40}–1) cells.
4	occurrences of LOC state (OC)	No	Ingress–1	Number of loss of cell delineation defect states on the SONET line. Range: 0 to (2^{40}–1) cells.
5	Instances of Loss of Pointer (OC)	No	Ingress–1	Number of loss of pointer defect states on the SONET line. Range: 0 to (2^{40}–1) cells.
6	Instances of Path AIS (OC)	No	Ingress–1	Number of AIS instances on the path. Range: 0 to (2^{40}–1) cells.
7	Instances of Path Yellow (OC)	No	Ingress–1	Number of times yellow alarms are detected on the path. Range: 0 to (2^{40}–1) cells.
8	Trace section	No	Ingress–1	Number of section traces. Range: 0 to (2^{40}–1) cells.
9	Trace Path	No	Ingress–1	Number of path traces. Range: 0 to (2^{40}–1) cells.
10	Aps_mis	No	Ingress–1	Number of total automatic protection system (APS) mismatches. Range: 0 to (2^{40}–1) cells.
11	Aps_psbf	No	Ingress–1	Number of protection switching byte failures (PSBFs) that are detected on the SONET line. Range: 0 to (2^{40}–1) cells.
12	Aps_chan_mis	No	Ingress–1	Number of APS channel mismatches that are detected on the SONET line. Range: 0 to (2^{40}–1) cells.
13	Aps_mode_mis	No	Ingress–1	Number of APS mode mismatches that are detected on the SONET line. Range: 0 to (2^{40}–1) cells.
14	Aps_fe_prot	No	Ingress–1	Number of switches to fast Ethernet protocol. Range: 0 to (2^{40}–1) cells.
15	Code violations for section (OC)	No	Ingress–1	Number of section CVs. Range: 0 to (2^{40}–1) cells.
16	Errored secs for section (OC)	No	Ingress–1	Number of section ESs that occur within the collection interval. Range: 0 to (2^{40}–1) cells.
17	SES for section (OC)	No	Ingress–1	Number of section SESs that occur within the collection interval. Range: 0 to (2^{40}–1) cells.
18	SEFS for section (OC)	No	Ingress–1	Number of section SEFSs. Range: 0 to (2^{40}–1) cells.

Stat ID	PXM1E SONET Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
19	Code violations for line (OC)	No	Ingress–1	Number of CVs encountered by the SONET line. Range: 0 to (2^{40}–1) cells.
20	Erred secs for line (OC)	No	Ingress–1	Number of ESs that occur within the collection interval on the SONET line. Range: 0 to (2^{40}–1) cells.
21	Severely errored secs for line (OC)	No	Ingress–1	Number of SESs that occur within the collection interval on the SONET line. Range: 0 to (2^{40}–1) cells.
22	Unavailable secs for line (OC)	No	Ingress–1	Number of UASs on the SONET line. Range: 0 to (2^{40}–1) cells.
23	CV for line at far end (OC)	No	Ingress–1	Number of CVs at the far end of the line. Range: 0 to (2^{40}–1) cells.
24	Errored secs for line at far end (OC)	No	Ingress–1	Number of ESs that occur at the far end of the line. Range: 0 to (2^{40}–1) cells.
25	SES at far end for line (OC)	No	Ingress–1	Number of SESs at the far end of the line. Range: 0 to (2^{40}–1) cells.
26	UAS at far end for line (OC)	No	Ingress–1	Number of section UASs for the line. Range: 0 to (2^{40}–1) cells.
27	Code violations for path (OC)	No	Ingress–1	Number of path CVs. Range: 0 to (2^{40}–1) cells.
28	Erred secs for path (OC)	No	Ingress–1	Number of path ESs. Range: 0 to (2^{40}–1) cells.
29	Severely errored secs for path (OC)	No	Ingress–1	Number of path SESs. Range: 0 to (2^{40}–1) cells.
30	Unavailable secs for path (OC)	No	Ingress–1	Number of path UASs for the line. Range: 0 to (2^{40}–1) cells.
31	CV for path at far end (OC)	No	Ingress–1	Number of path CVs at the far end of the line. Range: 0 to (2^{40}–1) cells.
32	Erred secs for path at far end (OC)	No	Ingress–1	Number of path ESs that occur at the far end of the line. Range: 0 to (2^{40}–1) cells.
33	SES at far end for path (OC)	No	Ingress–1	Number of path SESs at the far end of the line. Range: 0 to (2^{40}–1) cells.
34	UAS at far end for path (OC)	No	Ingress–1	Number of path UASs for the line. Range: 0 to (2^{40}–1) cells.

PXM1E T1E1 Physical Line Statistics

This section describes the statistics contained in the PXM1E T1E1 physical line statistics. The PXM1E T1/E1 statistics apply to the Cisco MGX 8830 and 8850 PXM45-based switches. The following table lists the attributes that are common to the PXM1E T1/E1 statistics.

Front Cards	PXM1E-16T1E1
Back Cards	16 Port T1E1 RJ48, 16 Port E1 MCC
Object Type	11

Subobject Type	11
Default Peak Interval	300 seconds

The PXM1E T1/E1 statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	PXM1E T1/E1 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Errored Seconds	—	—	Number of line code violation ESs. Range: 0 to (2^{32}–1) cells.
1	Severely Errored Seconds	—	—	Number of near end SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
2	Severely Errored Framing Seconds	No	Ingress–1	Number of SEFSs that occur within the collection interval on the T1/E1 line. Range: 0 to (2^{40}–1) cells.
3	Unavailable Seconds	No	Ingress–1	Number of UASs on the T1/E1 line. Range: 0 to (2^{40}–1) cells.
4	Path coding violations	—	—	Number of path CVs detected on the interface. Range: 0 to (2^{32}–1) cells.
5	Line Errored Seconds	—	—	Number of line code violation ESs. Range: 0 to (2^{32}–1) cells.
6	Line Severely Errored Seconds	—	—	Number of line code violation SESs detected on the interface. Range: 0 to (2^{32}–1) cells.
7	Path SEF/AIS Encountered	—	—	Number of severely errored frames or an alarm indication signals (AIS) detected on the T1/E1 line. Range: 0 to (2^{32}–1) cells.
8	No. of occurrences of Loss of Signal	No	Ingress–1	Number of times an LOS is detected on the T1/E1 line. Range: 0 to (2^{40}–1) cells.
9	No. of occurrences of Out of Frame	No	Ingress–1	Number of times an OOF is detected. Range: 0 to (2^{32}–1) cells.
10	No. of occurrences of RAI	No	Ingress–1	Number of remote alarm indication (RAI) occurrences on the T1/E1 line. Range: 0 to (2^{32}–1) cells.
11	Far-end Errored Seconds	No	Ingress–1	Number of seconds errors are detected at the far end of the T1/E1 line. Range: 0 to (2^{40}–1) cells.
12	Far-end severely Errored Seconds	—	—	Number of far end SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
13	Far-end severely Errored Framing Secs	No	Ingress–1	Number of SEFSs that occur within the collection interval on the T1/E1 line. Range: 0 to (2^{40}–1) cells.
14	Far-end Unavailable Seconds	No	Ingress–1	Number of UASs at the far end of the T1/E1 line. Range: 0 to (2^{40}–1) cells.
15	Far-end line errored Seconds	—	—	Number of line code violation ESs at the far end. Range: 0 to (2^{32}–1) cells.

Stat ID	PXM1E T1/E1 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
16	Far-end path coding violations	—	—	Number of path CVs that are encountered at the far end. Range: 0 to (2^{32}–1) cells.
17	Line code violations	No	Ingress–1	Number of line CVs encountered by the T1/E1 line. Range: 0 to (2^{40}–1) cells.)

AXSM-XG SONET Physical Line

This section describes the statistics contained in the AXSM-XG_Phyline_SONET group. The AXSM-XG SONET physical line statistics apply to the AXSM-XG cards on the MGX 8850 PXM45-based and MGX 8950 nodes. The following table lists the common attributes for AXSM-XG SONET physical line statistics.

Front Card	AXSM-XG, AXSM-4-2488CH
Back Card	SMFSR-1-9953, SMFLR-1-9953, SMFIR-1-9953, SMFXLR-1-9953, SMF-BC-4-2488
Object Type	11
Subobject Type	12
Default Peak Interval	300 seconds

The following table includes the AXSM-XG SONET physical line statistics.

Stat ID	AXSM-XG SONET Physical Line Statistics	Description
0	LOS defect state occurrences	Number of times an LOS is detected. Range: 0 to (2^{64}–1) cells.
1	LOF defect state occurrences	Number of LOFs detected on a SONET line. Range: 0 to (2^{64}–1) cells.
2	AIS defect state occurrences	Number of AIS instances on the line. Range: 0 to (2^{64}–1) cells.
3	Yellow Alarm defect state occurrences	Number of remote defect indications (RDIs)/yellow alarms that occur. Range: 0 to (2^{64}–1) cells.
4	Loss of Cell delineation defect occurrences	Number of occurrences of the loss of cell (LOC) delineation defect state. Range: 0 to (2^{64}–1) cells.
5	Number of instances of Loss of Pointer	Number of instances of loss of pointer (LOP). Range: 0 to (2^{64}–1) cells.
8	Trace Section	Number of trace section. Range: 0 to (2^{64}–1) cells.
10	Aps_mis	Provides a count for K1 and K2 changing. Range: 0 to (2^{64}–1) cells.
11	Aps_psbf	Number of APS protected switch byte failures. Range: 0 to (2^{64}–1) cells.
12	Aps_chan_mis	Number of APS channel mismatches. Range: 0 to (2^{64}–1) cells.
13	Aps_mode_mis	Number of APS mode mismatches (different APS mode from the far-end). Range: 0 to (2^{64}–1) cells.
14	Aps_fe_prot	Number of LOS on the protected far-end. Range: 0 to (2^{64}–1) cells.

Stat ID	AXSM-XG SONET Physical Line Statistics	Description
15	Code violations for section	Number of CVs for the section. Range: 0 to (2^{64}–1) cells.
16	Errored seconds for section	Number of ESs for the section. Range: 0 to (2^{64}–1) cells.
17	Severely Errored seconds for section	Number of SESs for the section. Range: 0 to (2^{64}–1) cells.
18	Unavailable seconds for section	Number of UASs for the section. Range: 0 to (2^{64}–1) cells.
19	Code violations for line	Number of CVs for the line. Range: 0 to (2^{64}–1) cells.
20	Errored seconds for line	Number of ESs for the line. Range: 0 to (2^{64}–1) cells.
21	SESs for line	Number of SESs for the line. Range: 0 to (2^{64}–1) cells.
22	Unavailable seconds for line	Number of UASs for the line. Range: 0 to (2^{64}–1) cells.
23	Code violations for line at far end	Number of CVs for the line at the far end. Range: 0 to (2^{64}–1) cells.
24	Errored seconds for line at far end	Number of ESs for the line at the far end. Range: 0 to (2^{64}–1) cells.
25	SESs for line at far end	Number of SESs for line at the far end. Range: 0 to (2^{64}–1) cells.
26	Unavailable seconds for line at far end	Number of UASs for the line at the far end. Range: 0 to (2^{64}–1) cells.)

VXSM SONET Physical Line

This section describes the statistics contained in the VXSM_Phyline_SONET group. The VXSM SONET physical line statistics apply to the VXSM cards on the Cisco MGX 8850 and 8880 PXM45-based nodes. The following table lists the common attributes for VXSM SONET physical line statistics.

Front Card	VXSM
Back Card	VXSM-BC-4-155
Object Type	11
Subobject Type	13
Default Peak Interval	300 seconds

The following table includes the VXSM SONET physical line statistics.

Stat ID	VXSM SONET Physical Line Statistics	Description
0	LOS defect state occurrences	Number of times an LOS is detected. Range: 0 to (2^{64}–1) cells.
1	LOF defect state occurrences	Number of LOFs detected on a SONET line. Range: 0 to (2^{64}–1) cells.

Stat ID	VXSM SONET Physical Line Statistics	Description
2	AIS defect state occurrences	Number of AIS instances on the line. Range: 0 to (2^{64}–1) cells.
3	Yellow Alarm defect state occurrences	Number of remote defect indications (RDIs)/yellow alarms that occur. Range: 0 to (2^{64}–1) cells.
4	Trace Section	Number of trace section. Range: 0 to (2^{64}–1) cells.
5	Aps_mis	Provides a count for K1 and K2 changing. Range: 0 to (2^{64}–1) cells.
6	Aps_psbf	Number of APS protected switch byte failures. Range: 0 to (2^{64}–1) cells.
7	Aps_chan_mis	Number of APS channel mismatches. Range: 0 to (2^{64}–1) cells.
8	Aps_mode_mis	Number of APS mode mismatches (different APS mode from the far-end). Range: 0 to (2^{64}–1) cells.
9	Aps_fe_prot	Number of LOS on the protected far-end. Range: 0 to (2^{64}–1) cells.
10	Code violations for section	Number of CVs for the section. Range: 0 to (2^{64}–1) cells.
11	Errored seconds for section	Number of ESs for the section. Range: 0 to (2^{64}–1) cells.
12	Severely Errored seconds for section	Number of SESs for the section. Range: 0 to (2^{64}–1) cells.
13	Unavailable seconds for section	Number of UASs for the section. Range: 0 to (2^{64}–1) cells.
14	Code violations for line	Number of CVs for the line. Range: 0 to (2^{64}–1) cells.
15	Errored seconds for line	Number of ESs for the line. Range: 0 to (2^{64}–1) cells.
16	SESs for line	Number of SESs for the line. Range: 0 to (2^{64}–1) cells.
17	Unavailable seconds for line	Number of UASs for the line. Range: 0 to (2^{64}–1) cells.

VXSM T1E1 Physical Line Statistics

This section describes the statistics contained in the VXSM T1E1 physical line statistics. The VXSM T1/E1 statistics apply to the VXSM cards on the Cisco MGX 8850 and 8880 PXM45-based nodes. The following table lists the attributes that are common to the VXSM T1/E1 statistics.

Front Cards	VXSM-48T1E1
Back Cards	48 Port T1E1 RJ48, 48 Port E1 MCC
Object Type	11
Subobject Type	14
Default Peak Interval	300 seconds

The VXSM T1/E1 statistics are used primarily for gathering performance data. The following table describes each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	VXSM T1/E1 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	Errored Seconds	—	—	Number of line code violation ESs. Range: 0 to (2^{32}–1) cells.
1	Severely Errored Seconds	—	—	Number of near end SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
2	Severely Errored Framing Seconds	No	Ingress–1	Number of SEFSs that occur within the collection interval on the T1/E1 line. Range: 0 to (2^{40}–1) cells.
3	Unavailable Seconds	No	Ingress–1	Number of UASs on the T1/E1 line. Range: 0 to (2^{40}–1) cells.
4	Path coding violations	—	—	Number of path CVs detected on the interface. Range: 0 to (2^{32}–1) cells.
5	No. of occurrences of Out of Frame	No	Ingress–1	Number of times an OOF is detected. Range: 0 to (2^{32}–1) cells.
6	No. of occurrences of RAI	No	Ingress–1	Number of remote alarm indication (RAI) occurrences on the T1/E1 line. Range: 0 to (2^{32}–1) cells.
7	Far-end Errored Seconds	No	Ingress–1	Number of seconds errors are detected at the far end of the T1/E1 line. Range: 0 to (2^{40}–1) cells.
8	Far-end severely Errored Seconds	—	—	Number of far end SESs that occur within the collection interval. Range: 0 to (2^{32}–1) cells.
9	Far-end severely Errored Framing Secs	No	Ingress–1	Number of SEFSs that occur within the collection interval on the T1/E1 line. Range: 0 to (2^{40}–1) cells.
10	Far-end Unavailable Seconds	No	Ingress–1	Number of UASs at the far end of the T1/E1 line. Range: 0 to (2^{40}–1) cells.
11	Far-end line errored Seconds	—	—	Number of line code violation ESs at the far end. Range: 0 to (2^{32}–1) cells.
12	Far-end path coding violations	—	—	Number of path CVs that are encountered at the far end. Range: 0 to (2^{32}–1) cells.
13	LOF count	—	—	Number of LOFs. Range: 0 to (2^{64}–1) cells.
14	Remote AIS Count	—	—	Number of remote AIS instances on the DS1 path. Range: 0 to (2^{64}–1) cells.
15	Bursty Errored Seconds	—	—	Number of bursty errored seconds (BESs). Range: 0 to (2^{64}–1) cells.
16	Controlled Slip Seconds	—	—	Number of controlled slip seconds (CSSs). Range: 0 to (2^{64}–1) cells.

MPSM T3 Physical Line

This section describes the statistics contained in the MPSM Physical Line T3 group. The MPSM T3 line statistics in this group apply to the Cisco MGX 8950 and 8850 PXM45-based nodes. The following table lists the attributes that are common to the MPSM T3 physical line statistics.

Front Cards	MPSM155
Back Cards	MGX-SMB-8T3, MGX-FRU-T3E3-155
Object Type	11
Subobject Type	15
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The MPSM T3 physical line statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	MPSM T3 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	occurrences of LOS defect st. (T3)	No	Ingress–1	Number of times an LOS is detected on the T3 line. Range: 0 to (2^{40}–1) cells.
1	No. of occurrences of Out of Frame	No	Ingress–1	Number of times an OOF is detected on the T3 line. Range: 0 to (2^{32}–1) cells.
3	occurrences of YEL defect st. (T3)	No	Ingress–1	Number of times yellow alarms are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
4	Line Code Violation Count (T3)	No	Ingress–1	Number of line CVs encountered by the T3 line. Range: 0 to (2^{40}–1) cells.
20	G.832 BIP-8 errors	No	Ingress–1	Number of G.832 BIP-8 errors detected on the T3 line. Range: 0 to (2^{40}–1) cells.
6	C-Bit Code Violation Count (T3)	No	Ingress–1	Number of C-bit parity CVs that do not match the locally calculated parity code on the T3 line. Range: 0 to (2^{40}–1) cells.
7	Far End C-Bit Code Violation Count (T3)	No	Ingress–1	Number of far end C-bit parity CVs that do not match the locally calculated parity code on the T3 line. Range: 0 to (2^{40}–1) cells.
8	Line error secs (T3)	No	Ingress–1	Number of ESs on the T3 line. Range: 0 to (2^{40}–1) cells.
9	P-bit error secs. (T3)	No	Ingress–1	Number of seconds with at least one P-bit error on the T3 line. Range: 0 to (2^{40}–1) cells.
10	C-bit error secs (T3)	No	Ingress–1	Number of seconds with at least one C-bit error the T3 line. Range: 0 to (2^{40}–1) cells.
11	Line severe error secs. (T3)	No	Ingress–1	Number of severely errored that occur on the T3 line. Range: 0 to (2^{40}–1) cells.

Stat ID	MPSM T3 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
12	Seconds with at least one G.832 BIP-8 error	No	Ingress–1	Number of seconds with at least one G.832 BIP-8 error detected on the T3 line. Range: 0 to (2^{40}–1) cells.
14	Severe Errored Framing Secs. (T3)	No	Ingress–1	Number of SEFSs that occur within the collection interval on the T3 line. Range: 0 to (2^{40}–1) cells.
15	Unavailable Seconds (T3)	No	Ingress–1	Number of UASs on the T3 line. Range: 0 to (2^{40}–1) cells.
16	occurrences of T3 PLCP LOF (T3)	No	Ingress–1	Number of loss of frames detected by the PLCP interface on the T3 line. Range: 0 to (2^{40}–1) cells.
17	occurrences of T3 PLCP YELLOW (T3)	No	Ingress–1	Number of times that PLCP yellow defects are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
18	PLCP BIP-8 Errs. (T3)	No	Ingress–1	Number of PLCP BIP-8 errors on the T3 line. Range: 0 to (2^{40}–1) cells.
19	PLCP Far End Block Errs. (T3)	No	Ingress–1	Number of far end block errors detected on the PLCP interface on the T3 line. Range: 0 to (2^{40}–1) cells.
20	PLCP BIP-8 error secs. (T3)	No	Ingress–1	Number of seconds with at least one PLCP BIP-8 error detected on the T3 line. Range: 0 to (2^{40}–1) cells.
21	PLCP BIP-8 severe error secs. (T3)	No	Ingress–1	Number of SESs with at least one PLCP BIP-8 error detected on the T3 line. Range: 0 to (2^{40}–1) cells.
22	secs with PLCP Far End Block Err. (T3)	No	Ingress–1	Number of seconds with PLCP far end block errors that are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
23	severe Far End Block error secs. (T3)	No	Ingress–1	Number of seconds with far end block errors that are detected on the T3 line. Range: 0 to (2^{40}–1) cells.
30	Far-end Errored Seconds (T3)	No	Ingress–1	Number of errored seconds (SESs) that occur at the far end of the T3 line. Range: 0 to (2^{40}–1) cells.
31	Far end severely errored secs. (T3)	T3 far end errored seconds	Ingress–1	Number of SESs that occur at the far end of the T3 line. Range: 0 to (2^{40}–1) cells.
32	Far end line unavailable secs. (T3)	No	Ingress–1	Number of UASs at the far end of the T3 line. Range: 0 to (2^{40}–1) cells.)

MPSM E3 Physical Line

This section describes the statistics contained in the MPSM Physical Line E3 group. The MPSM E3 line statistics in this group apply to the Cisco MGX 8830 and 8850 PXM45-based nodes. The following table lists the attributes that are common to the MPSM E3 line statistics.

Front Cards	MSPM155
Back Cards	MGX-SMB-8E3, MGX-FRU-T3E3-155
Object Type	11
Subobject Type	16
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The MPSM E3 physical line statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	MPSM E3 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	occurrences of LOS defect st. (E3)	No	Ingress–1	Number of times an LOS is detected on the E3 line. Range: 0 to (2^{40}–1) cells.
1	occurrences of LOF defect st. (E3)	No	Ingress–1	Number of LOFs detected on the E3 line. Range: 0 to (2^{40}–1) cells.
2	occurrences of AIS defect st. (E3)	No	Ingress–1	Number of AIS instances on the E3 line. Range: 0 to (2^{40}–1) cells.
3	occurrences of YEL defect st. (E3)	No	Ingress–1	Number of times yellow alarms are detected on the E3 line. Range: 0 to (2^{40}–1) cells.
6	Line Code Violation Count (E3)	No	Ingress–1	Number of line CVs encountered by the E3 line. Range: 0 to (2^{40}–1) cells.
7	Line error secs. (E3)	No	Ingress–1	Number of ESs on the E3 line. Range: 0 to (2^{40}–1) cells.
8	Line severe error secs. (E3)	No	Ingress–1	Number of SESs that occur on the E3 line. Range: 0 to (2^{40}–1) cells.
9	P-Bit Code Violation Count (E3)	No	Ingress–1	Number of P-bit parity codes that do not match the locally calculated parity code on the E3 line. Range: 0 to (2^{40}–1) cells.
10	P-bit error secs. (E3)	No	Ingress–1	Number of seconds with at least one P-bit error on the E3 line. Range: 0 to (2^{40}–1) cells.
11	P-bit severe error secs. (E3)	No	Ingress–1	Number of P-bit SESs on the E3 line. Range: 0 to (2^{40}–1) cells.
13	Unavailable Seconds (E3)	No	Ingress–1	Number of UASs on the E3 line. Range: 0 to (2^{40}–1) cells.

Stat ID	MPSM E3 Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
14	Far End Block Error Count (E3)	No	Ingress–1	Number of far end block errors that occur within the collection interval on the E3 line. Range: 0 to (2^{40}–1) cells.
15	Far End Err Seconds (E3)	No	Ingress–1	Number of seconds errors are detected at the far end of the E3 line. Range: 0 to (2^{40}–1) cells.
16	Far end severely errored secs. (E3)	No	Ingress–1	Number of SESs that occur at the far end of the T3 line. Range: 0 to (2^{40}–1) cells.
17	Far end line unavailable secs. (E3)	No	Ingress–1	Number of UASs at the far end of the E3 line. Range: 0 to (2^{40}–1) cells.)

MPSM SONET Physical Line

This section describes the statistics contained in the MPSM_SONET_Line group. The MPSM SONET physical line statistics in this group apply to the Cisco MGX 8950 and Cisco MGX 8850 PXM45-based switches. The following table lists the attributes that are common to the MPSM SONET physical line statistics.

Front Cards	MPSM155
Back Cards	MGX-SMFIR-8-155LC/B, MGX-SMFLR-8-155LC/B, MGB-MMF-8-155/B, MGX-SMFIR-8-155LC/C, MGX-SMFLR-8-155LC/C, MGB-MMF-8-155/C, MGX-SMFIR-2-622/B, MGX-SMFLR-2-622/B, MGX-SMFIR-2-622/C, MGX-SMFLR-2-622/C, MGX-FRU-T3E3-155
Object Type	11
Subobject Type	17
Allowable Peak Intervals	60 seconds, 300 seconds
Default Peak Interval	300 seconds

The MPSM SONET physical line statistics are used primarily for gathering troubleshooting and performance data. The tables in this section include the description of each statistic and the point in the data flow at which the data is collected. Each measurement point refers to the corresponding point in Figure 4-1.

Stat ID	MPSM SONET Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
0	occurrences LOS defect st. (OC)	No	Ingress–1	Number of times an LOS is detected on the SONET line. Range: 0 to (2^{40}–1) cells.
1	occurrences LOF defect st. (OC)	No	Ingress–1	Number of LOFs detected on the SONET line. Range: 0 to (2^{40}–1) cells.

Stat ID	MPSM SONET Physical Line Statistics	Subset of Other Stats	Ingress/Egress Measurement Point	Description
2	occurrences AIS defect st. (OC)	No	Ingress–1	Number of AIS instances on the SONET line. Range: 0 to (2^{40}–1) cells.
3	occurrences YEL defect st. (OC)	No	Ingress–1	Number of times yellow alarms are detected on the SONET line. Range: 0 to (2^{40}–1) cells.
15	Code violations for section (OC)	No	Ingress–1	Number of section CVs. Range: 0 to (2^{40}–1) cells.
16	Errored secs for section (OC)	No	Ingress–1	Number of section ESs that occur within the collection interval. Range: 0 to (2^{40}–1) cells.
17	SES for section (OC)	No	Ingress–1	Number of section SESs that occur within the collection interval. Range: 0 to (2^{40}–1) cells.
18	SEFS for section (OC)	No	Ingress–1	Number of section SEFSs. Range: 0 to (2^{40}–1) cells.
19	Code violations for line (OC)	No	Ingress–1	Number of CVs encountered by the SONET line. Range: 0 to (2^{40}–1) cells.
20	Erred secs for line (OC)	No	Ingress–1	Number of ESs that occur within the collection interval on the SONET line. Range: 0 to (2^{40}–1) cells.
21	Severely errored secs for line (OC)	No	Ingress–1	Number of SESs that occur within the collection interval on the SONET line. Range: 0 to (2^{40}–1) cells.
22	Unavailable secs for line (OC)	No	Ingress–1	Number of UASs on the SONET line. Range: 0 to (2^{40}–1) cells.
23	CV for line at far end (OC)	No	Ingress–1	Number of CVs at the far end of the line. Range: 0 to (2^{40}–1) cells.
24	Errored secs for line at far end (OC)	No	Ingress–1	Number of ESs that occur at the far end of the line. Range: 0 to (2^{40}–1) cells.
25	SES at far end for line (OC)	No	Ingress–1	Number of SESs at the far end of the line. Range: 0 to (2^{40}–1) cells.
26	UAS at far end for line (OC)	No	Ingress–1	Number of section UASs for the line. Range: 0 to (2^{40}–1) cells.

MPSM16-T1E1 T1 Line Statistics

This section describes the line level statistics in the T1 Line in the MPSM16-T1E1 T1_Line_stats group. The statistics in this group apply to the MPSM16-T1E1 card on the Cisco MGX 8850 PXM45-based and Cisco MGX 8830 nodes. The following table lists the attributes that are common to the T1 Line statistics.

Front Cards	MPSM16-T1E1
Back Cards	RBBN-16T1E1, MCC-16E1, RBBN-16-T1E1-1N, MCC-16-E1-1N, RED-16-T1E1
Object Type	11
Subobject Type	18
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM16-T1E1 T1 Line Statistics
0	Near-end errored seconds
1	Near-end severely errored seconds
2	Near-end SEFSs
3	Near-end unavailable seconds
4	Near-end path coding violations
5	Near-end line errored seconds
11	Far-end errored seconds
12	Far-end severely errored seconds
13	Far-end SEFSs
14	Far-end unavailable seconds
15	Far-end line errored seconds
16	Far-end path coding violations
17	Far-end line code violations
21	Far-end bursty errored seconds
22	Far-end degraded minutes
23	Far-end controlled slip seconds
24	IMA link violations
25	IMA link OIF volitions
26	IMA link severed Errored Seconds
27	IMA link FE severed errored seconds
28	IMA link Unavailable Seconds
29	IMA link FE Unavailable Seconds
30	IMA link Transmit Unusable seconds
31	IMA link Receive Unusable seconds
32	IMA link FE Transmit Unusable seconds
33	IMA link FE Receive Unusable seconds
34	IMA linkTransmit Failure
35	IMA link Receive Failure
36	IMA link FE Transmit failure
37	IMA link FE Receive Failure
38	IMA link Transmit Stuff events
39	IMA link Receive stuff events

MPSM16-T1E1 E1 Line Statistics

This section describes the line level statistics in the E1 Line in the MPSM16-T1E1 MPSM16-T1E1_E1_Line_Stats group. The statistics in this group apply to the MPSM16-T1E1 card on the Cisco MGX 8850 PXM45-based and Cisco MGX 8830 nodes. The following table lists the attributes that are common to the E1 Line statistics.

Front Cards	MPSM16-T1E1
Back Cards	RBBN-16T1E1, MCC-16E1, RBBN-16-T1E1-1N, MCC-16-E1-1N, RED-16-T1E1
Object Type	11
Subobject Type	19
Default Peak Interval	300 seconds

The following table describes each statistic.

Stat ID	MPSM16-T1E1 E1 Line Statistics
0	Near end errored seconds
1	Near end severely errored seconds
2	Near end SEFSs
3	Near end unavailable seconds
4	Near end path coding violations
5	Near end line errored seconds
11	Far-end errored seconds
12	Far-end severely errored seconds
13	Far-end SEFSs
14	Far-end unavailable seconds
15	Far-end line errored seconds
16	Far-end path coding violations
17	Near end line code violations
21	Near end bursty errored seconds
22	Near end degraded minutes
23	Near end controlled slip seconds
24	IMA link violations
25	IMA link OIF volitions
26	IMA link severed Errored Seconds
27	IMA link FE severed errored seconds
28	IMA link Unavailable Seconds
29	IMA link FE Unavailable Seconds

Stat ID	MPSM16-T1E1 E1 Line Statistics
30	IMA link Transmit Unusable seconds
31	IMA link Receive Unusable seconds
32	IMA link FE Transmit Unusable seconds
33	IMA link FE Receive Unusable seconds

Database Management

This appendix describes how to manage the Informix database. For additional information on using the Informix database, refer to the Informix documentation located at the following URL:

http://www-3.ibm.com/software/data/informix/pubs/library/

Coldstart Script

As of Release 15.1, the CWM contains a **coldstart** script to cold start the system.

- The **coldstart** script with the optional -F (**coldstart -F**) drops the network data and user data tables and recreates them again. Dropping the tables removes the tables from the database.
- The coldstart without the optional -F script drops all network data tables and creates them again. The user data tables are preserved.

Executing the coldstart script without the optional -F argument removes all network data while preserving the existing user data in the following databases:

- stratacom
- statsdb
- scmdb

To execute the **coldstart** script, complete the following steps:

Step 1 Log in as **svplus**.

Step 2 Shut down CWM by selecting option **2** (**Stop Core**) from the CWM MAIN MENU.

Step 3 At the prompt, enter the **coldstart** command.

host% **coldstart** or **coldstart -F**

User Data Preserved

This section contains the user-defined data preserved when executing the coldstart script without the optional -F argument. The lists of files are from the following databases:

- stratacom

- statsdb
- scmdb

Stratacom Database User Data Preserved

The following user data tables are preserved in the stratacom database:

- cwm_info
- xpvc_preferred
- node_parent
- user_info
- sec_profile
- sct_vc
- sct_cosb
- sct
- sct_usage
- sct_vcdesc
- sct_vcdescxg
- sct_cosbdesc
- sct_deployment
- conn_template
- conn_templ_param
- user_conn_desc
- node_info
- cwm_role_info
- scmcollsvr
- scmnodeenable
- scmcardenable
- scmnodecollhost
- scmcardcollhost
- scmnodecoll
- scmnodecollstatus
- scmcardcoll
- scmcardcollstatus
- scmnodetemplate
- scmcardtemplate
- scmcolpar
- scmcolparsubobj
- scmcolparstat

- packet_ln_data
- circuit_ln_data
- serial_ln_data
- frp_data
- connection_data
- axsm_conn_data
- axsme_conn_data
- axsmxg_conn_data
- pxm1e_conn_data
- frsm12_conn_data
- fpd_conn_data
- asi_ln_data
- pnni_pn_port_data
- pnni_nodal_data
- axsmxg_path_data
- axsmxg_ds3_ln_data
- axsmxg_ln_data
- mgx3_ln_data
- mgx3_cd_data
- phy_ln_data
- asi_port_data
- ftc_port_data
- ausm_port_data
- axsmxg_port_data
- mgx3_port_data
- station_data
- axsmxg_pl_data
- mgx3_pl_data
- ima_group_data
- ima_link_data
- stat_enable

Statsdb User Data Preserved

The following user data tables are preserved in the statsdb database

- statsdb_config
- scmenablelist
- scmnode

- scmcollsvr
- voice_conn_data
- data_conn_data
- fpsv_conn_data
- fr_conn_data
- fpv_conn_data
- fpd_conn_data
- fpfr_conn_data
- atm_conn_data
- axisfr_conn_data
- axisatm_conn_data
- axisce_conn_data
- bb_conn_data
- t1_line_data
- e1j1_line_data
- asi_line_data
- axisatm_line_data
- axist1_line_data
- serial_line_data
- axist3_line_data
- phyt1_line_data
- phye1_line_data
- phyt3_line_data
- sonet_line_data
- narrow_trk_data
- ipxatm_trk_data
- bpxatm_trk_data
- axisnb_trk_data
- axisatm_trk_data
- sonet_trk_data
- ftc_trk_data
- igxatm_trk_data
- fr_port_data
- asi_port_data
- ftc_port_data
- axisfr_port_data
- atm_port_data
- voice_port_data

- bb_port_data
- sdlc_port_data
- bsc_port_data
- asi_vport_data
- axsm_conn_data
- axsm_line_data
- axsm_card_data
- axsm_port_data
- axsme_conn_data
- axsme_line_data
- axsme_port_data
- axsmet3e3_pl_data
- axsmesonet_pl_data

Scmdb User Data Preserved

The following user data tables are preserved in the scmdb database:

- node_info
- collsvr_info
- statsdb_info
- coll_info
- sync_info
- sync_list
- coll_summ_list

Backup and Restore of the Informix OnLine Database

When the Informix OnLine database is either full or in danger of being full, back up the database. This section provides the procedures for backing up and restoring the database to a file or standard 150-megabyte Sun tape.

To backup the whole database, complete the following steps:

Step 1 Log in as user **svplus**.

Step 2 To back up the database, do the following:

a. Shut down the CWM by selecting option **2** (**Stop Core**) from the CWM main menu

b. Do one of the following:

- Enter the **pkill** command to kill the Guard and AuditLogger processes:

  pkill Guard
  pkill AuditLogger

- Issue the following commands:

  cleanGD
  cleanAL

c. Change to the /usr/users/svplus/bin directory where the **dbexport** command is located.

d. To backup a database to another directory, enter the following **dbexport** command:

host% **dbexport** -c **-o** <*output directory*> <*database name*>

For example, **dbexport -c -o /usr/users/informix92/export stratacom**

A *stratacom.exp* directory is created. This directory contains the entire stratacom database.

Step 3 To back up a database to a tape drive, enter the following **dbexport** command:

host% **dbexport** **<***database name*> **-t** <*tape drive location*> **-b** <*tape block size*> **-s** <*tape size*>

For example, **dbexport stratacom -t /dev/rst0 -b 16 -s 144000**

A prompt indicates when to insert additional tapes, as necessary.

To restore the database from an output directory or tape, complete the following steps:

Step 1 Log in as user **svplus**.

Step 2 To restore the database from an output directory, enter the following **dbimport** command.

host% **dbimport** <*database name*> **-i** <*incoming directory*>

For example, **dbimport stratacom -i /usr/users/informix92/export**

Step 3 To restore the database from a tape, rewind or fast forward the tape to where the file is stored.

host% **mt -f** <*tape name*> **rewind**

For example, **mt -f /dev/nrst4 rewind**

or

host% **mt -f** <*tape name*> **fsf** <*count - number of files to fast forward*>

For example, **mt -f /dev/nrst4 fsf 6**

Step 4 Enter the following **dbimport** command:

host% **dbimport** <*database name*> **-t** <*tape drive location*> **-b** <*tape block size*> **-s** <*tape size*>

For example, **dbimport stratacom -t /dev/rst0 -b 16 -s 144000**

Note The tape size of 144 megabytes is appropriate for a standard 150-megabyte Sun tape.

A prompt indicates when to insert additional tapes, as necessary.

After the restore is complete, start CWM by selecting the **Start Core** option from the CWM MAIN MENU.

Changes to the Size of the Informix OnLine Database

Changing the size of the Informix OnLine database eradicates the data stored in the database. Therefore, save the database before changing the size of it.

To change the size of the database edit the *onconfig* file found in the */usr/users/informix92/etc* directory by completing the following steps:

Step 1 Log in as user **informix**.

The default directory is */usr/users/informix92*.

Step 2 Shut down CWM by selecting option **2** (**Stop Core**) from the CWM MAIN MENU.

Step 3 Change to the */etc* directory.

Step 4 Open the *onconfig* file in vi Editor.

host% **vi onconfig**

Step 5 Change the **ROOTSIZE** parameter to the new value.

Step 6 Save and close the file.

Step 7 Back up then restore the database using the procedures listed in "Backup and Restore of the Informix OnLine Database" section on page A-5.

After the restore is complete, start CWM by selecting the **Start Core** option from the CWM MAIN MENU.

Additional Databases

To add a database, complete the following steps:

Step 1 Log in as user **svplus**.

Step 2 Shut down CWM by selecting option **2** (**Stop Core**) from the CWM MAIN MENU.

Step 3 To create the statsdb or the scmdb database, enter the following command:

host% **create statsdb** or **create scmdb**

Step 4 To create the stratacom database, enter the following command:

host% **coldstartCWM**

Note Subsequently created databases share the same disk space as the default database. When the addition of other databases results in insufficient space, add another CWM workstation to the network.

To avoid database inconsistencies, enter the **create_db** command before restarting CWM.

After the restore is complete, start CWM by selecting the **Start Core** option from the CWM MAIN MENU.

CWM User Data Backup Procedures

Step 1 Stop the core

Step 2 Perform a **coldstart** (this will drop all the network data and only have the user data left in db)

Step 3 If you are planning to restore the user data onto a different machine, then perform a **coldstartSCM –F** to drop all the SCM tables. These tables contain the machine name.

Step 4 Create a /usr/users/svplus/dbexports directory. (Note: Please ensure there is at least 2 GB in this directory.)

For example, ***mkdir /usr/users/svplus/dbexports***

Go to this directory /usr/users/svplus/dbexports

For example, ***cd /usr/users/svplus/dbexports***

Step 5 Export the following databases

- stratacom
- statsdb
- scmdb

For example,

dbexport stratacom (stratacom.exp is created in the /usr/users/svplus/dbexports directory. Save a copy of the dbexport.out file if necessary.)

dbexport statsdb (statsdb.exp is created in the /usr/users/svplus/dbexports directory. Save a copy of the dbexport.out file if necessary.)

dbexport scmdb (scmdb.exp is created in the /usr/users/svplus/dbexports directory. Save a copy of the dbexport.out file if necessary.)

Step 6 Tar up the /usr/users/svplus/dbexports directory

For example,

cd */usr/users/svplus*

tar cvf /tmp/<server name-date>.tar dbexports/*

Step 7 ftp this tar file to another system for safe keeping.

CWM User Data Restore Procedures

Step 1 Down load or copy the <server name-date>.tar file to the local directory. For example, **/tmp**

Step 2 Go to that local directory. For example, ***cd /tmp***

Step 3 Untar the <server name-date>.tar file.

For example, ***tar xvfp <server name-date>.tar***

Step 4 Import the following databases:

- stratacom
- statsdb

- scmdb

For example,

dbimport stratacom -i /tmp/dbexports

dbimport statsdb -i /tmp/dbexports

dbimport scmdb –i /tmp/dbexports

BPX Trunk Statistics Mapping

The BPX Trunk statistics IDs listed in the CWM database differ from those IDs listed in the statistics file collected from the switch.

Table B-1 contains the statistics ID mapping table for the BPX Trunk statistics: Object Type = 2, Subobject Type = 2.

Table B-1 BPX Trunk Statistics Mapping

BPX Trunk Statistics	CWM Statistics ID	Statistics File ID
Tx Voice Cells Dropped	47	0
Tx TS Cells Dropped	48	1
Tx Non-TS Cells Dropped	49	2
Tx High Priority Cell Dropped	50	3
Tx BData A Cells Dropped	51	4
Tx BData B Cells Dropped	52	5
TS Cells Tx to Line	54	7
Non-TS Cells Tx to Line	55	8
High Priority Cells Tx to Line	56	9
BData A Cells Tx to Line	57	10
BData B Cells Tx to Line	58	11
Total Cells Tx to Line	61	45
Tx BData A CLP Cells Dropped	62	12
Tx BData B CLP Cells Dropped	63	13
Tx Voice CLP Cells Dropped	155	14
Tx TS CLP Cells Dropped	156	15
Tx Non-TS CLP Cells Dropped	157	16
Tx High Priority CLP Cell Dropped	158	17
Tx CBR Cells Served	160	18
Tx VBR Cells Served	161	19
Tx ABR Cells Served	162	20
Tx CBR CLP Drpd Cells	163	21

Table B-1 BPX Trunk Statistics Mapping

BPX Trunk Statistics	CWM Statistics ID	Statistics File ID
Tx VBR CLP Drpd Cells	164	22
Tx ABR CLP Drpd Cells	165	23
Tx CBR Overflow Drpd Cells	166	24
Tx VBR Overflow Drpd Cells	167	25
Tx ABR Overflow Drpd Cells	168	26
Tx NTS Cells discarded	196	27
Tx Hi-Pri Cells discarded	197	28
Tx Voice Cells discarded	198	29
Tx TS Cells discarded	199	30
Tx BData A Cells discarded	200	31
Tx BData B Cells discarded	201	32
Tx CBR Cells discarded	202	33
Tx ABR Cells discarded	203	34
Tx VBR Cells discarded	204	35
Egress NTS Cells Rx	205	36
Egress Hi-Pri Cells Rx	206	37
Egress TS Cells Rx	207	39
Egress BData A Cells Rx	208	40
Egress BData B Cells Rx	209	41
Egress CBR Cells Rx	210	42
Egress ABR Cells Rx	211	43
Egress VBR Cells Rx	212	44
CLP0 cells Rx	213	46
CLP1 cells Rx	214	47
CLP0 cells congestion discard	215	48
CLP1 cells congestion discard	216	49
CLP0 cells Tx	217	50
CLP1 cells Tx	218	51
Total cells Rx	219	52
Ingress OAM cell count	220	53
Egress OAM cell count	221	54
Ingress RM cell count	222	55
Egress RM cell count	223	56
Egress Voice Cells Rx	224	38
Cells served out of Qbin 10	9057	57
Cells discarded by Qbin 10	9058	58

Table B-1 BPX Trunk Statistics Mapping

BPX Trunk Statistics	CWM Statistics ID	Statistics File ID
Cells RX by Qbin 10	9059	59
Cells served out of Qbin 11	9060	60
Cells discarded by Qbin 11	9061	61
Cells RX by Qbin 11	9062	62
Cells served out of Qbin 12	9063	63
Cells discarded by Qbin 12	9064	64
Cells RX by Qbin 12	9065	65
Cells served out of Qbin 13	9066	66
Cells discarded by Qbin 13	9067	67
Cells RX by Qbin 13	9068	68
Cells served out of Qbin 14	9069	69
Cells discarded by Qbin 14	9070	70
Cells RX by Qbin 14	9071	71
Cells served out of Qbin 15	9072	72
Cells discarded by Qbin 15	9073	73
Cells RX by Qbin 15	9074	74

APPENDIX C

Legacy Mappings

This appendix provides the mappings of the legacy statistics fields to the CWM 15.1 database schema.

Table C-1 Legacy Mappings for the CWM Database

Object Type	SubObject Type	Table Name	Keys (Key Name - Key Size in bytes)
0	0	voice_conn_data	l_slot - 1, l_line - 1, l_channel - 1
0	1	data_conn_data	l_slot - 1, l_line - 1, l_channel - 1
0	2	fr_conn_data	l_slot - 1, l_channel - 1, l_dlci - 2
0	3	fpv_conn_data	l_slot - 1, l_port - 1, l_fpdslot, l_fpdport- 1
0	4	fpsv_conn_data	l_slot - 1, l_port - 1, l_fpdslot, l_fpdport- 1
0	5	fpd_conn_data	l_slot - 1, l_port - 1, l_fpdslot, l_fpdport- 1
0	6	fpfr_conn_data	l_slot - 1, l_port - 1, l_fpdslot, l_fpdport- 1, l_fpddlci - 2
0	7	atm_conn_data	L_slot - 1, l_port - 1, l_vpi - 2, l_vci - 3
0	8	axisfr_conn_data	l_slot - 1, lcn - 2
0	9	axisatm_conn_data	l_slot - 1, lcn - 2
0	10	axisce_conn_data	l_slot - 1, lcn - 2
0	11	bb_conn_data	l_slot - 1, lcn - 2
1	0	t1_line_data	l_line - 1
1	1	e1j1_line_data	l_line - 1
1	2	asi_line_data	L_slot - 1, l_port - 1
1	3	axist1_line_data	slot - 1, line - 1
1	4	axisatm_line_data	slot - 1, line - 1
1	5	serial_line_data	slot - 1, line - 1
1	6	axist3_line_data	slot - 1, line - 1
1	7	phyt1_line_data	L_slot - 1, l_port - 1
1	8	phye1_line_data	L_slot - 1, l_port - 1
1	9	phyt3_line_data	L_slot - 1, l_port - 1
1	10	sonet_line_data	slot - 1, line - 1
2	0	narrow_trk_data	l_line - 1

Table C-1 Legacy Mappings for the CWM Database (continued)

Object Type	SubObject Type	Table Name	Keys (Key Name - Key Size in bytes)
2	1	ipxatm_trk_data	l_line - 1
2	2	bpxatm_trk_data	l_line - 1
2	3	axisnb_trk_data	l_slot - 1, l_line - 1
2	4	axisatm_trk_data	l_slot - 1, l_line - 1
2	5	sonet_trk_data	l_slot - 1, l_line - 1
2	6	ftc_trk_data	l_slot - 1, l_line - 1
2	7	igxatm_trk_data	l_line - 1
3	0	fr_port_data	l_slot - 1, l_port - 1
3	1	asi_port_data	l_slot - 1, l_port - 1
3	2	ftc_port_data	l_slot - 1, l_port - 1
3	3	axisfr_port_data	l_slot - 1, logical_port - 1
3	4	atm_port_data	l_slot - 1, l_port - 1
3	5	voice_port_data	l_slot - 1, l_port - 1
3	6	sdlc_port_data	slot - 1, port - 1, address - 1
3	7	bsc_port_data	slot - 1, logical_port - 1, address - 1
3	8	bb_port_data	l_slot - 1, l_port - 1
3	10	vport_port_data	l_slot - 1, l_port - 1,l_vport - 1

APPENDIX D

Mapping FTP Configuration Files

This appendix provides information about mapping the FTP files that are uploaded from the cards to the database schema. The tables in this section use the following format:

- Mapping follows the same sequence as in the FTP files.
- *DB Schema Mapping* column shows the mapping of the fields in the tables of the database.

PXM45 Shelf Generic File

The CARD_01_cc.cd file contains configuration information about the PXM45 card shelf.

Table D-1 CARD_01_CC.CF to the PXM45 Card Shelf

MIB Group	MIB varBind in File	DB Schema Mapping
—	—	node table
—	shelfIntegratedAlarm	alarm_state
entPhysicalTable	—	card table shelf table peripheral table
entPhysicalIndex	—	ent_phy_idx bc_ent_phy_idx sec_bc_ent_phy_idx
—	entPhysicalDescr	fc_descrp bc_descrp sec_bc_descrp
—	entPhysicalVendorType	fc_type bc_type sec_bc_type
—	entPhysicalContainedIn	shelf
—	entPhysicalClass	—
—	entPhysicalParentRelPos	slot
—	entPhysicalName	—

Table D-1 CARD_01_CC.CF to the PXM45 Card Shelf

MIB Group	MIB varBind in File	DB Schema Mapping
—	entPhysicalHardwareRev	fc_hw_rev bc_hw_rev sec_bc_hw_rev
—	entPhysicalFirmwareRev	fc_fw_rev bc_fw_rev sec_bc_fw_rev
—	entPhysicalSoftwareRev	fc_fw_rev bc_fw_rev sec_bc_fw_rev
—	entPhysicalSerialNum	fc_serial_num bc_serial_num sec_bc_serial_num
—	entPhysicalMfgName	—
ifXTable	—	ausm_port table
ifIndex	—	if_index
—	ifName	—
—	ifHighSpeed	high_speed
ifTable	—	ausm_port table
ifIndex	—	if_index
—	ifDescr	—
—	ifType	interface_type
—	ifSpeed	port_speed
—	ifAdminStatus	admin_status
—	ifOperStatus	status
cefcModuleTable	—	card table
entPhysicalIndex	—	—
—	cefcModuleOperStatus	fc_state
—	cefcModuleAdminStatus	fc_admin_status
—	cefcModuleResetReason	fc_reset_reason
smRedMapTable	—	redundantCard table
redPrimarySlotNum	—	pri_slot
—	redPrimaryState	pri_status
—	redSecondarySlotNum	sec_slot
—	redSecondaryState	sec_status
—	redType	red_type
—	redCoveringSlot	covered_slot

Table D-1 CARD_01_CC.CF to the PXM45 Card Shelf

MIB Group	MIB varBind in File	DB Schema Mapping
cvcConfTable	—	controller table
cvcConfControllerID	—	ctrlr_id
—	cvcConfControllerType	ctrlr_type
—	cvcConfControllerShelfLocation	ctrlr_loc
—	cvcConfControllerLocation	—
—	cvcConfControllerName	ctrlr_name
—	cvcConfVpi	attached_vpi
—	cvcConfVci	attached_vci
cwSctFileMgmtTable	—	sct_deployment table
—	cwSctCardType	card_type
—	cwSctType	sct_type
—	cwSctId	sct_id
—	cwSctMajorVersion	major_version
—	cwSctFileName	location
—	cwSctFileMinorVersion	minor_version
—	cwSctFileChecksum	checksum
—	cwSctFileDescription	description
—	cwSctFileOperStatus	oper_status
—	cwSctFileRowStatus	row_status

PNNI

The PNNI_01_cc.cf file contains configuration information about PNNI in *CISCO-WAN-SVC-MIB.my* in the **/usr/users/svplus/mibs/mibdir** directory.

Table D-2 PNNI_1_CC.CF

MIB Group	MIB varBind in File	DB Schema Mapping
ciscoWANSvcInfo	—	controller table
—	cwsControllerStatus	ctrlr_status
—	cwsSwRevision	sw_rev
cwspConfigTable	—	svc_port table
ifIndex	—	if_index
—	cwspAdminStatus	admin_status
—	cwspOperStatus	oper_status
—	cwspSvcBlocked	svc_blocked
—	cwspSpvcBlocked	spvc_blocked

Table D-2 PNNI_1_CC.CF (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cwspSignallingVpi	signalling_vpi
—	cwspSignallingVci	signalling_vci
—	cwspRoutingVpi	routing_vpi
—	cwspRoutingVci	routing_vci
—	cwspUniVersion	uni_version
—	cwspNniVersion	nni_version
—	cwspUniType	uni_type
—	cwspSide	side
—	cwspMinSvccVpi	svcc_vpi_lo
—	cwspMaxSvccVpi	svcc_vpi_hi
—	cwspMinSvccVci	svcc_vci_lo
—	cwspMaxSvccVci	svcc_vci_hi
—	cwspMinSvpcVpi	svpc_vpi_lo
—	cwspMaxSvpcVpi	svpc_vpi_hi
—	cwspEnhancedIisp	enhanced_lisp
cwspCacConfigTable	—	svc_cac table
ifIndex	—	if_index
—	cwspUtilFactorCbr	util_fact_cbr
—	cwspUtilFactorRtVbr	util_fact_rt_vbr
—	cwspUtilFactorNrtVbr	util_fact_nrt_vbr
—	cwspUtilFactorAbr	util_fact_abr
—	cwspUtilFactorUbr	util_fact_ubr
—	cwspMaxBwCbr	max_bw_cbr
—	cwspMaxBwRtVbr	max_bw_rt_vbr
—	cwspMaxBwNrtVbr	max_bw_nrt_vbr
—	cwspMaxBwAbr	max_bw_abr
—	cwspMaxBwUbr	max_bw_ubr
—	cwspMinBwCbr	min_bw_cbr
—	cwspMinBwRtVbr	min_bw_rt_vbr
—	cwspMinBwNrtVbr	min_bw_nrt_vbr
—	cwspMinBwAbr	min_bw_abr
—	cwspMinBwUbr	min_bw_ubr
—	cwspMaxVcCbr	max_vc_cbr
—	cwspMaxVcRtVbr	max_vc_rt_vbr
—	cwspMaxVcNrtVbr	max_vc_nrt_vbr
—	cwspMaxVcAbr	max_vc_abr

Table D-2 PNNI_1_CC.CF (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cwspMaxVcUbr	max_vc_ubr
—	cwspMinVcCbr	min_vc_cbr
—	cwspMinVcRtVbr	min_vc_rt_vbr
—	cwspMinVcNrtVbr	min_vc_nrt_vbr
—	cwspMinVcAbr	min_vc_abr
—	cwspMinVcUbr	min_vc_ubr
—	cwspMaxVcBwCbr	max_vc_bw_cbr
—	cwspMaxVcBwRtVb	max_vc_bw_rt_vbr
—	cwspMaxVcBwNrtVbr	max_vc_bw_nrt_vbr
—	cwspMaxVcBwAbr	max_vc_bw_abr
—	cwspMaxVcBwUbr	max_vc_bw_ubr
—	cwspDefaultCdvtCbr	def_cdvt_cbr
—	cwspDefaultCdvtRtVbr	def_cdvt_rt_vbr
—	cwspDefaultCdvtNrtVbr	def_cdvt_nrt_vbr
—	cwspDefaultCdvtAbr	def_cdvt_abr
—	cwspDefaultCdvtUbr	def_cdvt_ubr
—	cwspDefaultMbsRtVbr	def_mbs_rt_vbr
—	cwspDefaultMbsNrtVbr	def_mbs_nrt_vbr
cwspOperationTable	—	svc_operation table
ifIndex	—	if_index
—	cwspOperIlmiEnable	ilmi_enable
—	cwspOperIfcType	ifc_type
—	cwspOperIfcSide	ifc_side
—	cwspOperMaxVPCs	max_vpcs
—	cwspOperMaxVCCs	max_vccs
—	cwspOperMaxVpiBits	max_vpibits
—	cwspOperMaxVciBits	max_vcibits
—	cwspOperUniType	uni_type
—	cwspOperUniVersion	uni_version
—	cwspOperDeviceType	device_type
—	cwspOperIlmiVersion	ilmi_version
—	cwspOperNniSigVersioin	nni_sig_version
—	cwspOperMaxSvpcVpi	max_svpc_vpi
—	cwspOperMinSvpcVpi	min_svpc_vpi
—	cwspOperMaxSvccVpi	max_svcc_vpi
—	cwspOperMinSvccVpi	min_svcc_vpi

Table D-2 PNNI_1_CC.CF (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cwspOperMaxSvccVci	max_svcc_vci
—	cwspOperMinSvccVci	min_svcc_vci
—	cwspOperAddrPlanSupported	—
pnniIfTable	—	pnni_if table
ifIndex	—	if_index
—	pnniIfAggrToken	if_aggr_token
—	pnniIfAdmWeightCbr	if_admwt_cbr
—	pnniIfAdmWeightRtVbr	if_admwt_rtvbr
—	pnniIfAdmWeightNrtVbr	if_admwt_nrtvbr
—	pnniIfAdmWeightAbr	if_admwt_abr
—	pnniIfAdmWeightUbr	if_admwt_vbr
cwspAddressTable	—	atm_addr table
ifIndex	—	if_index
cwspAtmAddress	—	atm_addr
cwspAddrLen	—	addr_length
—	cwspAddrType	addr_type
—	cwspAddrProto	addr_proto
—	cwspAddrPlan	addr_plan
—	cwspAddrScope	addr_scope
—	cwspAddrRedistribute	addr_redistribute
cwaCugTable	—	cug table
cwaAtmAddress	—	atm_addr
cwaAddressLength	—	addr_length
—	—	cug_index
—	cwaAddressPlan	addr_plan
—	cwaInterlockCode	cug_ic_code
—	cwaCallsBarred	calls_barred
—	—	—
cwaAddressCugTable	—	addr_cug table
cwaAtmAddress	—	atm_addr
cwaAddressLength	—	length
—	cwaAddressPlan	addr_plan
—	cwaIncomingAccess	in_access
—	cwaOutgoingAccess	out_access
—	cwaPreferentialCug	pref
Point-to-Multipoint	—	—

Table D-2 PNNI_1_CC.CF (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
cwaPartyConfigTable	cwaPartyConfigEntry	party table
cwaRootIfIndex	—	rt_ifindex
cwaRootVpi	—	rt_vpi
cwaRootVci	—	rt_vci
cwaPartyReference	—	party_ref
—	cwaPartyNSAPAddress	p_nsap_addr
—	cwaPartyVpi	p_vpi
—	cwaPartyVci	p_vci
—	cwaPartyAdminStatus	admin_status
—	cwaPartyOperStatus	oper_status
—	cwaPartyIdentifier	party_id
—	cwaPartyUploadCounter	upd_counter
—	cwaRootPhysicalId	The value to this varBind has this format: "*slot:bay.port:line*" It maps to these 4 db column: rt_slot, rt_bay, rt_port, rt_line
—	—	—
Preferred Routes	—	—
cwaPrefRouteConfTable	—	pref_route_config table
cwaPrefRouteConfEntry	—	—
cwaPrefRouteId	—	pref_route_id
—	cwaPrefRouteNwElemCount	ne_count
—	—	—
cwaPrefRouteNwElem Table	—	pref_route_nw_elem table
cwaPrefRouteNwElem Entry	—	—
cwaPrefRouteId	—	pref_route_id
cwaPrefRouteNwElemPos	—	ne_pos
—	cwaPrefRouteNwElemNodeId	ne_node_name
—	cwaPrefRouteNwElemPortId	ne_slot, ne_bay, ne_line, ne_port

SCT

The SCT_1_cc.cf file contains configuration information about the service connection template (SCT) defined in the node. This file is contained in the sct.mib.

Table D-3 SCT_1_CC.CF

MIB Group	MIB varBind in File	DB Schema Mapping
cwSctVcDescTable	—	sct_vc table
cwSctId	—	sct_id
cwSctVcDescServiceType	—	service_type
—	cwSctVcDescServiceCategory	service_catgy
—	cwSctVcDescCosbNumber	cosb_num
—	cwSctVcDescCacTreatment	cac_treatment
—	cwSctVcDescUpcEnable	upc_enable
—	cwSctVcDescUpcClpSelection	upc_clp_sel
—	cwSctVcDescPolicingActGcra1	pol_act_gcra1
—	cwSctVcDescPolicingActGcra2	pol_act_gcra2
—	cwSctVcDescPcr	pcr
—	cwSctVcDescScr	scr
—	cwSctVcDescMcr	mcr
—	cwSctVcDescIcr	icr
—	cwSctVcDescMbs	mbs
—	cwSctVcDescMfs	mfs
—	cwSctVcDescCdvt	cdvt
—	cwSctVcDescVcPktDiscdMode	pkt_discard_mode
—	cwSctVcDescMaxThreshold	max_thresh
—	cwSctVcDescClp1HighThreshold	clp1_high_thresh
—	cwSctVcDescClp1LowOrEpd1Thresh	clp1_low_thresh
—	cwSctVcDescEpd0Threshold	epd0_thresh
—	cwSctVcDescEfciThreshold	efci_thresh
—	cwSctVcDescCosScalingClass	cos_scaling_class
—	cwSctVcDescLogicalPortScaling	l_port_scaling
—	cwSctVcDescCiControl	ci_control
—	cwSctVcDescCrmCells	crm_cells
—	cwSctVcDescVsvd	vsvd
—	cwSctVcDescAdtf	adtf
—	cwSctVcDescRdf	rdf
—	cwSctVcDescRif	rif
—	cwSctVcDescNrm	nrm

Table D-3 SCT_1_CC.CF (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cwSctVcDescTrm	trm
—	cwSctVcDescCdf	cdf
—	cwSctVcDescTbe	tbe
—	cwSctVcDescFrtt	frtt
—	cwSctVcDescWfqEnable	wfq
cwSctCosbTable	—	sct_cosb table
cwSctCosbSctId	—	sct_id
cwSctCosbNumber	—	cosb_num
—	cwSctCosbMinRate	cosb_min_rate
—	cwSctCosbMaxReservableRate	max_reserv_rate
—	cwSctCosbMinPriority	cosb_min_pri
—	cwSctCosbExcessPriority	cosb_excess_pri
—	cwSctCosbMaxThreshold	max_thresh
—	cwSctCosbClp1HighThreshold	clp1_high_thresh
—	cwSctCosbClp1LowOrEpd1Threshold	clp1_low_thresh
—	cwSctCosbEpd0Threshold	epd0_thresh
—	cwSctCosbEfciThreshold	efci_thresh
—	cwSctCosbErs	ers
—	cwSctCosbRedSelection	red_sel
—	cwSctCosbRedThreshold	red_thresh
—	cwSctCosbRedProbabilityFactor	red_prob_factor
—	cwSctCosbWfq	red_wfq
—	cwSctCosbBestEffortIndicator	best_effort_ind
—	cwSctCosbDiscardAlarmEnable	disc_alarm_enable
—	cwSctCosbDiscardAlarmThresh	disc_alarm_thresh

PTSE

The PTSE_01_cc.cf file contains PNNI topology state element (PTSE) information.

Table D-4 PTSE_01_CC.CF

MIB Group	MIB varBind in File	DB Schema Mapping
pnniPtseTable	—	nodal_ig table pnni_link_ig table

Table D-4 PTSE_01_CC.CF (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	pnniPtseOriginatingNodeId	pnni_node_id
—	pnniPtseInfo	pgl_prority pgl lowest_level complex_node_rep restricted_branching atm_address parent_lgn_id type l_pnni_node_id l_port r_pnni_node_id r_port aggr_token

SM_CON_1_<Logical_Slot#>.CF to the Conn File

This file contains configuration information about the MIBS from the *CISCO-WAN-ATM-CONN-MIB.my* file in the **/usr/users/svplus/mibs/mibdir**.

Table D-5 SM_CON_1_<Logical_Slot#>.CF to the Conn File

MIB Group	MIB varBind in File	DB Schema Mapping
cwAtmChanCnfgTable	—	atm_connection table
ifIndex	—	if_index
cwaChanVpi	—	l_vpi
cwaChanVci	—	l_vci
—	cwaChanServiceCategory	par_subtype
—	cwaChanVpcFlag	vp_flag
—	cwaChanIdentifier	lcn
—	cwaChanUploadCounter	upd_counter
—	cwaChanStatsEnable	stats
—	cwaChanCCEnable	cc
—	cwaChanLocalVpi	routing_l_vpi
—	cwaChanLocalVci	routing_l_vci
—	cwaChanLocalNSAPAddr	l_nsap_addr
—	cwaChanRemoteVpi	r_vpi

Table D-5 SM_CON_1_<Logical_Slot#>.CF to the Conn File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cwaChanRemoteVci	r_vci
—	cwaChanRemoteNSAPAddr	r_nsap_addr
—	cwaChanControllerId	ctlr_id
—	cwaChanRoutingMastership	master_flag
—	cwaChanMaxCost	max_cost
—	cwaChanFrameDiscard	frame_dis
—	cwaChanOperStatus	oper_status
—	cwaChanPCR	u_pcr01
—	cwaChanMCR	mir
—	cwaChanSCR	cir
—	cwaChanCDV	ccdv
—	cwaChanCTD	cctd
—	cwaChanMBS	cbs
—	cwaChanCDVT	u_ccdv01
—	cwaChanPercentUtil	lper_util
—	cwaChanRemotePCR	r_pcr
—	cwaChanRemoteMCR	r_mcr
—	cwaChanRemotePercentUtil	rper_util
—	cwaChanAbrICR	icr
—	cwaChanAbrADTF	fst_qir_to
—	cwaChanAbrRDF	fst_rate_dn
—	cwaChanAbrRIF	fst_rate_up
—	cwaChanAbrNRM	nrm
—	cwaChanAbrTRM	fst_max_adj
—	cwaChanAbrCDF	cdf
—	cwaChanAbrFRTT	frtt
—	cwaChanAbrTBE	tbe
—	cwaChanAbrERS	ers
—	cwaChanAbrVSVDEnable	vsvd

SM_CARD_1_<Logical_Slot#>.CF to the AXSM Cards

This file contains information contained in the AXSM card generic file.

Table D-6 SM_CARD_1_<Logical_slot#>.CF to the AXSM Card

MIB Group	MIB varBind in File	DB Schema Mapping
ifXTable	—	ausm_port table
ifIndex	—	if_index
—	ifName	l_slot bay line l_port
—	ifHighSpeed	high_speed
ifTable	—	ausm_port table
ifIndex	—	if_index
—	ifDescr	—
—	ifType	interface_type
—	ifSpeed	port_speed
—	ifAdminStatus	ausm_port table: admin_status line table: enable atm_phy table: enable
—	ifOperStatus	line table sonet line: alarm_state ausm_port table: status atm_phy table: alarm_state
caviTable	—	ausm_port table
caviIndex	—	—
—	caviPhyIfIndex	—
—	caviViIfIndex	if_index
—	caviMinRate	min_rate
—	caviMaxRate	max_rate
—	caviFileId	sct_id
—	caviIfType	port_type
—	caviVpiNum	vpi_num
—	caviMinVpiNum	bbif_vpi_low
—	caviMaxVpiNum	bbif_vpi_high
cwmConfigTable	—	card table
cwmIndex	—	—
—	cwmIngressSCTFileId	sct_id
dsx3ConfigTable	—	line table
dsx3LineIndex	—	—

Table D-6 SM_CARD_1_<Logical_slot#>.CF to the AXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	dsx3IfIndex	if_index
—	dsx3LineCoding	coding
—	dsx3SendCode	—
—	dsx3LoopbackConfig	loopback
—	dsx3LineStatus	alarm_state (DS3 line only)
—	dsx3TransmitClockSource	clock_src
—	dsx3LineLength	length
cds3ConfigTable	—	line table
ifIndex	—	if_index
—	cds3LineType	subtype
—	cds3LineAIScBitsCheck	aisc_check
—	cds3LineRcvFEACValidation	—
—	cds3LineOOFCriteria	oof_criteria
cds3AlarmConfigTable	—	line table
ifIndex	—	if_index
—	cds3StatisticalAlarmSeverity	stat_severity
—	cds3LineStatisticalAlarmState	stat_alarm_state
cds3AlarmPlcpTable	—	plcp table
ifIndex	—	—
—	cds3PlcpLineAlarmState	alarm_state
—	cds3PlcpLineStatisticalAlarmState	stat_alarm_state
cds3AlarmConfigPlcpTable	—	plcp table
ifIndex	—	—
—	cds3PlcpStatisticalAlarmSeverity	stat_severity
csConfigTable	—	line table
ifIndex	—	if_index
—	csConfigLoopbackType	loopback
—	csConfigXmtClockSource	clock_src
—	csConfigFrameScramble	frame_scramble
—	csConfigType	subtype
sonetMediumTable	—	line table
ifIndex	—	if_index
—	sonetMediumType	line_type
—	sonetMediumLineCoding	coding
—	sonetMediumLineType	—
sonetSectionCurrentTable	—	line table

Table D-6 SM_CARD_1_<Logical_slot#>.CF to the AXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
ifIndex	—	if_index
—	sonetSectionCurrentStatus	section_state
sonetLineCurrentTable	—	line table
ifIndex	—	if_index
—	sonetLineCurrentStatus	line_state
sonetPathCurrentTable	—	line table
ifIndex	—	if_index
—	sonetPathCurrentStatus	path_state
cwsSectionAlarmTable	—	line table
ifIndex	—	if_index
—	cwsSectionStatisticalAlarmSeverity	section_stat_sev
—	cwsSectionStatAlarmStatus	section_stat_state
cwsPathAlarmTable	—	line table
ifIndex	—	if_index
—	cwsPathStatisticalAlarmSeverity	path_stat_sev
—	cwsPathStatAlarmStatus	path_stat_state
cwsLineAlarmTable	—	line table
ifIndex	—	if_index
—	cwsLineStatisticalAlarmSeverity	line_stat_sev
—	cwsLineStatAlarmStatus	line_stat_state
csApsConfigTable	—	aps table
csApsWorkingIndex	—	work_index
—	csApsProtectionIndex	prot_index
—	csApsEnable	enable
—	csApsArchMode	arch_mode
—	csApsActiveLine	active_line
—	csApsSigFaultBER	sig_fault_ber
—	csApsSigDegradeBER	sig_degrade_ber
—	csApsWaitToRestore	wait_to_restore
—	csApsDirection	direction
—	csApsRevertive	revertive
cwRsrcPartConfTable	—	rsc_part table
ifIndex	—	if_index
cwRsrcPartID	—	part_id
—	cwRsrcPartController	ctrlr_id
—	cwRsrcPartEgrGuarPctBwConf	egr_guar_bw

Table D-6 SM_CARD_1_<Logical_slot#>.CF to the AXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cwRsrcPartEgrMaxPctBwConf	egr_max_bw
—	cwRsrcPartIngGuarPctBwConf	ing_guar_bw
—	cwRsrcPartIngMaxPctBwConf	ing_max_bw
—	cwRsrcPartVpiLo	vpi_low
—	cwRsrcPartVpiHigh	vpi_high
—	cwRsrcPartVciLo	vci_low
—	cwRsrcPartVciHigh	vci_high
—	cwRsrcPartGuarCon	part_guar_con
—	cwRsrcPartMaxCon	part_max_con
cwRsrcPartIlmiTable	—	rsc_part table
ifIndex	—	if_index
cwRsrcPartID	—	part_id
—	cwRsrcPartIlmiEnabled	ilmi_enabled
—	cwRsrcPartSignallingVpi	signal_vpi
—	cwRsrcPartSignallingVci	signal_vci
—	cwRsrcPartIlmiTrapEnable	ilmi_trap_enable
—	cwRsrcPartIlmiEstablishConPollIntvl	ilmi_e_poll_intvl
—	cwRsrcPartIlmiCheckConPollIntv	ilmi_ck_poll_intvl
—	cwRsrcPartIlmiConPollInactFactor	ilmi_poll_intvl_fr
caclConfigTable	—	atm_phy table
ifIndex	—	if_index
—	caclNullCellHeader	null_cell_header
—	caclNullCellPayload	null_cell_payload
—	caclHecCosetEnable	hec_coset
—	caclPayloadScramblingEnable	payload_scramble

AXSM Static Connection File

The SM_CON_ST_<shelf>_<slot>_<TransactionIdRequested >.CF file contains the AXSM static connection information. The table maps the file formats in the CISCO-WAN-ATM-CONN.MIB to the database.

Table D-7 SM_CON_ST_<shelf>_<slot>_<TransactionIdRequested>.CF

MIB Group	MIB varBind in File	DB Schema Mapping
cardMibTable	—	card
—	TransactionId	tx_id
cwAtmChanCnfgTable	—	atm_connection table

Table D-7 SM_CON_ST_<shelf>_<slot>_<TransactionIdRequested>.CF (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
ifIndex	—	if_index
cwaChanVpi	—	l_vpi
cwaChanVci	—	l_vci
—	cwaChanServiceCategory	par_subtype
—	cwaChanVpcFlag	vp_flag
—	cwaChanIdentifier	lcn
—	cwaChanUploadCounter	upd_counter
—	cwaChanStatsEnable	stats
—	cwaChanCCEnable	cc
—	cwaChanLocalVpi	routing_l_vpi
—	cwaChanLocalVci	routing_l_vci
—	cwaChanLocalNSAPAddr	l_nsap_addr
—	cwaChanRemoteVpi	r_vpi
—	cwaChanRemoteVci	r_vci
—	cwaChanRemoteNSAPAddr	r_nsap_addr
—	cwaChanControllerId	ctlr_id
—	cwaChanRoutingMastership	master_flag
—	cwaChanSlaveType	slave_type
—	cwaChanMaxCost	max_cost
—	cwaChanFrameDiscard	frame_dis
—	cwaChanOperStatus	oper_status
—	cwaChanPCR	u_pcr01
—	cwaChanMCR	mir
—	cwaChanSCR	cir
—	cwaChanCDV	ccdv
—	cwaChanCTD	cctd
—	cwaChanMBS	cbs
—	cwaChanCDVT	u_ccdv01
—	cwaChanPercentUtil	lper_util
—	cwaChanRemotePCR	r_pcr
—	cwaChanRemoteMCR	r_mcr
—	cwaChanRemotePercentUtil	rper_util
—	cwaChanAbrICR	icr
—	cwaChanAbrADTF	fst_qir_to
—	cwaChanAbrRDF	fst_rate_dn
	cwaChanAbrRIF	fst_rate_up

Table D-7 SM_CON_ST_<shelf>_<slot>_<TransactionIdRequested>.CF (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
	cwaChanAbrNRM	nrm
	cwaChanAbrTRM	fst_max_adj
	cwaChanAbrCDF	cdf
	cwaChanAbrFRTT	frtt
	cwaChanAbrTBE	tbe
	cwaChanAbrERS	ers
	cwaChanAbrVSVDEnable	vsvd
	cwaChanIntAbrVSVD	int_vsvd
	cwaChanExtAbrVSVD	ext_vsvd
	cwaChanAisIWCapability	ais_iw_cap
	cwaChanCLR	clr
	cwaChanRemoteCLR	remote_clr
	cwaChanOamSegEpEnable	seg_endpoint
	cwaChanSlaveType	slave_type
	cwaChanRoutingPriority	rout_pri
	cwaChanP2MP	cast_type
	cwaChanPrefRouteId	pref_route_id
	cwaChanDirectRoute	direct_route_flag

SM_RPM <Shelf #>.CF: RPM Card File

This file contains generic RPM and RPM-PR card information.

Table D-8 SM_RPM <Shelf #>.CF: RPM Card File

MIB Group	MIB varBind in File	DB Schema Mapping
ifXTable	—	virtual_port table
ifIndex	—	—
—	ifName	slot port
ifTable	—	virtual_port table
ifIndex	—	if_index
—	ifDescr	—
—	ifType	if_type
cwRpmSubIfTable	—	rpm_port table
cwrSubIfSlotNum	—	l_slot
cwrSubIfNum	—	l_port

Table D-8 SM_RPM <Shelf #>.CF: RPM Card File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cwrSubIfAdapterIf	adapter_if
—	cwrSubIfType	subif_type
—	cwrSubIfIpAddress	ip_address
—	cwrSubIfSubnetMask	subnet_mask
cwRsrcPartConfTable	—	rsc_part table
ifIndex	—	—
cwRsrcPartID	—	part_id
—	cwRsrcPartController	ctrlr_id
—	cwRsrcPartEgrGuarPctBwConf	egr_guar_bw
—	cwRsrcPartEgrMaxPctBwConf	egr_max_bw
—	cwRsrcPartIngGuarPctBwConf	ing_guar_bw
—	cwRsrcPartIngMaxPctBwConf	ing_max_bw
—	cwRsrcPartVpiLo	vpi_low
—	cwRsrcPartVpiHigh	vpi_high
—	cwRsrcPartVciLo	vci_low
—	cwRsrcPartVciHigh	vci_high
—	cwRsrcPartGuarCon	part_guar_con
—	cwRsrcPartMaxCon	part_max_con
cwAtmChanCnfgTable	—	rpm_connection table
ifIndex	—	if_index
cwaChanVpi	—	l_vpi
cwaChanVci	—	l_vci
—	cwaChanServiceCategory	sub_type
—	cwaChanVpcFlag	vp_flag
—	cwaChanIdentifier	lcn
—	cwaChanUploadCounter	upd_counter
—	cwaChanLocalVpi	r_vpi if cwaChanRoutingMastership is false
—	cwaChanLocalVci	r_vci if cwaChanRoutingMastership is false)
—	cwaChanLocalNSAPAddr	l_nsap_addr
—	cwaChanRemoteVpi	r_vpi if cwaChanRoutingMastership is true)

Table D-8 SM_RPM <Shelf #>.CF: RPM Card File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cwaChanRemoteVci	r_vci if cwaChanRoutingMastership is true)
—	cwaChanRemoteNSAPAddr	r_nsap_addr
—	cwaChanControllerId	ctlr_id
—	cwaChanRoutingMastership	master_flag
—	cwaChanMaxCost	max_cost
—	cwaChanOperStatus	oper_status
—	cwaChanPCR	pcr
—	cwaChanMCR	mcr
—	cwaChanSCR	scr
—	cwaChanCDV	cdv
—	cwaChanCTD	ctd
—	cwaChanMBS	mbs
—	cwaChanCDVT	cdvt
—	cwaChanPercentUtil	lper_util
—	cwaChanRemotePCR	r_pcr
—	cwaChanRemoteMCR	r_mcr
—	cwaChanRemotePercentUtil	rper_util
—	cwaChanAbrICR	icr
—	cwaChanAbrADTF	adtf
—	cwaChanAbrRDF	rate_down
—	cwaChanAbrRIF	rate_up
—	cwaChanAbrNRM	nrm
—	cwaChanAbrTRM	trm
—	cwaChanAbrCDF	cdf
—	cwaChanAbrFRTT	frtt
—	cwaChanAbrTBE	tbe
—	cwaChanAisIWCapability	ais_iw_cap
—	cwaChanCLR	clr
cwRpmChanExtTable	—	rpm_connection table
ifIndex	—	if_index
cwaChanVpi	—	l_vpi
cwaChanVci	—	l_vci
—	cwrChanSubInterface	l_port
—	cwrChanVcd	vcd
—	cwrChanAalEncapType	aal_encap

Table D-8 SM_RPM <Shelf #>.CF: RPM Card File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cwrChanVirtualTemplate	virtual_template
—	cwrChanInArpInterval	inverse_arp
—	cwrChanOamLoopbkTxInterval	oam
—	cwrChanOamManage	oam_mgr
—	cwrChanOamRetryUpCount	oam_up_count
—	cwrChanOamRetryDownCount	oam_dn_count
—	cwrChanOamRetryInterval	oam_retry_intvl
cwAtmChanStateTable	—	rpm_connection table
ifIndex	—	if_index
cwaChanVpi	—	l_vpi
cwaChanVci	—	l_vci
—	cwaChanAlarmState	status

RPM-PR

This section maps the RPM-PR objects to the database.

Table D-9 RPM-PR Mapping

MIB Group	MIB varBind in File	DB Schema Mapping
cwRpmSubIfTable	—	rpm_port table
cwrSubIfSlotNum	—	l_slot
cwrSubIfNum	—	l_port
—	cwrSubIfAdapterIf	adapter_if
—	cwrSubIfType	subif_type
—	cwrSubIfIpAddress	ip_address
—	cwrSubIfSubnetMask	subnet_mask
—	cwrSubIfRowStatus	admin_status
—	cwrSubIfOperStatus	status
cwRsrcPartConfTable	—	rsc_part table
ifIndex	—	—
cwRsrcPartID	—	part_id
—	cwRsrcPartController	ctrlr_id
—	cwRsrcPartEgrGuarPctBwConf	egr_guar_bw
—	cwRsrcPartEgrMaxPctBwConf	egr_max_bw
—	cwRsrcPartIngGuarPctBwConf	ing_guar_bw
—	cwRsrcPartIngMaxPctBwConf	ing_max_bw

Table D-9 RPM-PR Mapping (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cwRsrcPartVpiLo	vpi_low
—	cwRsrcPartVpiHigh	vpi_high
—	cwRsrcPartVciLo	vci_low
—	cwRsrcPartVciHigh	vci_high
—	cwRsrcPartGuarCon	part_guar_con
—	cwRsrcPartMaxCon	part_max_con
cwAtmChanCnfgTable	—	rpm_connection table
ifIndex	—	if_index
cwaChanVpi	—	l_vpi
cwaChanVci	—	l_vci
—	cwaChanServiceCategory	sub_type
—	cwaChanVpcFlag	vp_flag
—	cwaChanIdentifier	lcn
—	cwaChanUploadCounter	upd_counter
—	cwaChanLocalVpi	l_vpi
—	cwaChanLocalVci	l_vci
—	cwaChanLocalNSAPAddr	r_slot, r_port (for slave end)
—	cwaChanRemoteVpi	r_vpi
—	cwaChanRemoteVci	r_vci
—	cwaChanRemoteNSAPAddr	r_slot, r_port (for master end)
—	cwaChanControllerId	ctlr_id
—	cwaChanRoutingMastership	master_flag
—	cwaChanMaxCost	max_cost
—	cwaChanOperStatus	oper_status
—	cwaChanPCR	pcr
—	cwaChanMCR	mcr
—	cwaChanSCR	scr
—	cwaChanCDV	cdv
—	cwaChanCTD	ctd
—	cwaChanMBS	mbs
—	cwaChanCDVT	cdvt
—	cwaChanPercentUtil	lper_util
—	cwaChanRemotePCR	r_pcr
—	cwaChanRemoteMCR	r_mcr
—	cwaChanRemotePercentUtil	rper_util

Table D-9 RPM-PR Mapping (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cwaChanAbrICR	icr
—	cwaChanAbrADTF	adtf
—	cwaChanAbrRDF	rate_down
—	cwaChanAbrRIF	rate_up
—	cwaChanAbrNRM	nrm
—	cwaChanAbrTRM	trm
—	cwaChanAbrCDF	cdf
—	cwaChanAbrFRTT	frtt
—	cwaChanAbrTBE	tbe
—	cwaChanAisIWCapability	ais_iw_cap
—	cwaChanCLR	clr
—	—	—
cwRpmChanExtTable	—	rpm_connection table
ifIndex	—	if_index
cwaChanVpi	—	l_vpi
cwaChanVci	—	l_vci
—	cwrChanSubInterface	l_port
—	cwrChanVcd	vcd
—	cwrChanAalEncapType	aal_encap
—	cwrChanVirtualTemplate	virtual_template
—	cwrChanInArpInterval	inverse_arp
—	cwrChanOamLoopbkTxInterval	oam
—	cwrChanOamManage	oam_mgr
—	cwrChanOamRetryUpCount	oam_up_count
—	cwrChanOamRetryDownCount	oam_dn_count
—	cwrChanOamRetryInterval	oam_retry_intvl
—	—	—
cwAtmChanStateTable	—	rpm_connection table
ifIndex	—	if_index
cwaChanVpi	—	l_vpi
cwaChanVci	—	l_vci
—	cwaChanAlarmState	status

CARD_<Shelf#>_CC.CF: PXM1E Shelf Generic File

This file contains generic PXM1E shelf information.

Table D-10 CARD_<Shelf#>_CC.CF:PXM1E Shelf Generic File

MIB Group	MIB varBind in File	DB Schema Mapping
entPhysicalTable	—	card table shelf table peripheral table
entPhysicalIndex	—	ent_phy_idx bc_ent_phy_idx sec_bc_ent_phy_idx
—	entPhysicalDescr	fc_descrp bc_descrp sec_bc_descrp
—	entPhysicalVendorType	fc_type bc_type sec_bc_type
—	entPhysicalContainedIn	shelf
—	entPhysicalClass	—
—	entPhysicalParentRelPos	slot
—	entPhysicalName	—
—	entPhysicalHardwareRev	fc_hw_rev bc_hw_rev sec_bc_hw_rev
—	entPhysicalFirmwareRev	fc_fw_rev bc_fw_rev sec_bc_fw_rev
—	entPhysicalSoftwareRev	fc_fw_rev bc_fw_rev sec_bc_fw_rev
—	entPhysicalSerialNum	fc_serial_num bc_serial_num sec_bc_serial_num
—	entPhysicalMfgName	—
cefcModuleTable	—	card table
entPhysicalIndex	—	—
—	cefcModuleAdminStatus	fc_admin_status
—	cefcModuleOperStatus	fc_state
—	cefcModuleResetReason	fc_reset_reason
smRedMapTable	—	redundantCard table

Table D-10 CARD_<Shelf#>_CC.CF:PXM1E Shelf Generic File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
redPrimarySlotNum	—	pri_slot
—	redPrimaryState	pri_status
—	redSecondarySlotNum	sec_slot
—	redSecondaryState	sec_status
—	redType	red_type
—	redCoveringSlot	covered_slot
—	—	—
cvcConfTable	—	controller table
cvcConfControllerID	—	ctrlr_id
—	cvcConfControllerType	ctrlr_type
—	cvcConfControllerShelfLocation	ctrlr_loc
—	cvcConfControllerLocation	—
—	cvcConfControllerName	ctrlr_name
—	cvcConfVpi	attached_vpi
—	cvcConfVci	attached_vci

SM_CARD_<Shelf#>_<Logical_slot#>.CF: PXM1E Card Generic File

This file contains generic PXM1E card information.

Table D-11 SM_CARD_<Shelf#>_<Logical_slot#>.CF:PXM1E Card Generic File

MIB Group	MIB varBind in File	DB Schema Mapping
ifXTable	—	line ausm_port ima_group table
ifIndex	—	if_index
—	ifName	l_slot bay line l_port
—	ifHighSpeed	high_speed
ifTable	—	line ausm_port ima_group table

Table D-11 SM_CARD_<Shelf#>_<Logical_slot#>.CF:PXM1E Card Generic File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
ifIndex	—	if_index
—	ifDescr	—
—	ifType	interface_type
—	ifSpeed	port_speed
—	ifAdminStatus	ausm_port table: admin_status line table: enable atm_phy table: enable
—	ifOperStatus	line table: alarm_state sonet line: alarm_state ausm_port table: status atm_phy table: alarm_state
caviTable	—	ausm_port table
caviIndex	—	—
—	caviPhyIfIndex	—
—	caviViIfIndex	if_index
—	caviMinRate	min_rate
—	caviMaxRate	max_rate
—	caviFileId	sct_id
—	caviIfType	port_type
—	caviVpiNum	vpi_num
—	caviMinVpiNum	bbif_vpi_low
—	caviMaxVpiNum	bbif_vpi_high
cwmConfigTable	—	card table
cwmIndex	—	—
—	cwmIngressSCTFileId	sct_id
dsx3ConfigTable	—	line table
dsx3LineIndex	—	—
—	dsx3IfIndex	if_index
—	dsx3LineCoding	coding
—	dsx3SendCode	—
—	dsx3LoopbackConfig	loopback
—	dsx3LineStatus	alarm_state (for DS3 line only)
—	dsx3TransmitClockSource	clock_src
—	dsx3LineLength	length
cds3ConfigTable	—	line table
ifIndex	—	if_index

Table D-11 SM_CARD_<Shelf#>_<Logical_slot#>.CF:PXM1E Card Generic File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cds3LineType	subtype
—	cds3LineAIScBitsCheck	aisc_check
—	cds3LineRcvFEACValidation	—
—	cds3LineOOFCriteria	oof_criteria
cds3AlarmConfigTable	—	line table
ifIndex	—	if_index
—	cds3StatisticalAlarmSeverity	stat_severity
—	cds3LineStatisticalAlarmState	stat_alarm_state
cds3AlarmPlcpTable	—	plcp table
ifIndex	—	—
—	cds3PlcpLineAlarmState	alarm_state
—	cds3PlcpLineStatisticalAlarmState	stat_alarm_state
cds3AlarmConfigPlcp Table	—	plcp table
ifIndex	—	—
—	cds3PlcpStatisticalAlarmSeverity	stat_severity
csConfigTable	—	line table
ifIndex	—	if_index
—	csConfigLoopbackType	loopback
—	csConfigXmtClockSource	clock_src
—	csConfigFrameScramble	frame_scramble
—	csConfigType	subtype
sonetMediumTable	—	line table
ifIndex	—	if_index
—	sonetMediumType	line_type
—	sonetMediumLineCoding	coding
—	sonetMediumLineType	subtype
sonetSectionCurrent Table	—	line table
ifIndex	—	if_index
—	sonetSectionCurrentStatus	section_state
sonetLineCurrentTable	—	line table
ifIndex	—	if_index
—	sonetLineCurrentStatus	line_state
sonetPathCurrentTable	—	line table
ifIndex	—	if_index
—	sonetPathCurrentStatus	path_state

Table D-11 SM_CARD_<Shelf#>_<Logical_slot#>.CF:PXM1E Card Generic File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
cwsSectionAlarmTable	—	line table
ifIndex	—	if_index
—	cwsSectionStatisticalAlarmSeverity	section_stat_sev
—	cwsSectionStatAlarmStatus	section_stat_state
cwsPathAlarmTable	—	line table
ifIndex	—	if_index
—	cwsPathStatisticalAlarmSeverity	path_stat_sev
—	cwsPathStatAlarmStatus	path_stat_state
cwsLineAlarmTable	—	line table
ifIndex	—	if_index
—	cwsLineStatisticalAlarmSeverity	line_stat_sev
—	cwsLineStatAlarmStatus	line_stat_state
csApsConfigTable	—	aps table
csApsWorkingIndex	—	work_index
—	csApsProtectionIndex	prot_index
—	csApsEnable	enable
—	csApsArchMode	arch_mode
—	csApsActiveLine	active_line
—	csApsSigFaultBER	sig_fault_ber
—	csApsSigDegradeBER	sig_degrade_ber
—	csApsWaitToRestore	wait_to_restore
—	csApsDirection	direction
—	csApsRevertive	revertive
—	csApsFailureStatus	failure_status
—	csApsSwitchReason	switch_reason
—	csApsPrimarySection	primary_section
cwRsrcPartConfTable	—	rsc_part table
ifIndex	—	if_index
cwRsrcPartID	—	part_id
—	cwRsrcPartController	ctrlr_id
—	cwRsrcPartEgrGuarPctBwConf	egr_guar_bw
—	cwRsrcPartEgrMaxPctBwConf	egr_max_bw
—	cwRsrcPartIngGuarPctBwConf	ing_guar_bw
—	cwRsrcPartIngMaxPctBwConf	ing_max_bw
—	cwRsrcPartVpiLo	vpi_low
—	cwRsrcPartVpiHigh	vpi_high

Table D-11 SM_CARD_<Shelf#>_<Logical_slot#>.CF:PXM1E Card Generic File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cwRsrcPartVciLo	vci_low
—	cwRsrcPartVciHigh	vci_high
—	cwRsrcPartGuarCon	part_guar_con
—	cwRsrcPartMaxCon	part_max_con
cwRsrcPartIlmiTable	—	rsc_part table
ifIndex	—	if_index
cwRsrcPartID	—	part_id
—	cwRsrcPartIlmiEnabled	ilmi_enabled
—	cwRsrcPartSignallingVpi	signal_vpi
—	cwRsrcPartSignallingVci	signal_vci
—	cwRsrcPartIlmiTrapEnable	ilmi_trap_enable
—	cwRsrcPartIlmiEstablishConPollIntvl	ilmi_e_poll_intvl
—	cwRsrcPartIlmiCheckConPollIntv	ilmi_ck_poll_intvl
—	cwRsrcPartIlmiConPollInactFactor	ilmi_poll_intvl_fr
caclConfigTable	—	atm_phy table
ifIndex	—	if_index
—	caclNullCellHeader	null_cell_header
—	caclNullCellPayload	null_cell_payload
—	caclHecCosetEnable	hec_coset
—	caclPayloadScramblingEnable	payload_scramble
dsx1ConfigTable	—	line
—	Index	line
—	dsx1IfIndex	if_index
—	dsx1LineType	subtype
—	dsx1LineCoding	coding
—	dsx1LoopbackConfig	loopback
—	dsx1LineStatus	alarm_state
—	dsx1TransmitClockSource	clock_src
—	dsx1LineLength	length
cds1AlarmConfigTable	—	line
—	Index	line
—	cds1StatisticalAlarmSeverity	stat_severity
—	cds1StatisticalAlarmState	stat_alarm_state
imaGroupTable	—	ima_group table
imaGroupNumber	—	grp_num
—	imaGroupIndex	if_index

Table D-11 SM_CARD_<Shelf#>_<Logical_slot#>.CF:PXM1E Card Generic File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	imaGroupIfIndex	if_index
—	imaGroupSymmetry	symmetry
—	imaGroupMinNumTxLinks	min_tx_links
—	imaGroupMinNumRxLinks	min_rx_links
—	imaGroupMinNumRxLinks	ne_tx_clk_mode
—	imaGroupTxImaId	tx_ima_id
—	imaGroupTxFrameLength	tx_frame_length
—	imaGroupDiffDelayMax	diff_delay_max
—	imaGroupAlphaValue	alpha_val
—	imaGroupBetaValue	beta_val
—	imaGroupGammaValue	gamma_val
—	imaGroupNumTxCfgLinks	tx_cfg_links
—	imaGroupNumRxCfgLinks	rx_cfg_links
—	imaGroupTxOamLabelValue	tx_oam_val
—	imaGroupRxOamLabelValue	rx_oam_val
imaLinkTable	—	ima_link table
imaLinkIndex	—	if_index
—	imaLinkNeTxState	ne_tx_state
—	imaLinkNeRxState	ne_rx_state
—	imaLinkFeTxState	fe_tx_state
—	imaLinkFeRxState	fe_rx_state
—	imaLinkTxLid	tx_id
—	imaLinkRxLid	rx_id
—	imaLinkRelDelay	rel_delay
—	imaLinkGroupIndex	group_if_index

SM_CON_<Shelf#>_<Logical_Slot#>.CF:PXM1E Connection File

This file contains PXM1E connection information.

Table D-12 SM_CON_<Shelf#>_<Logical_slot#>.CF:PXM1E Connection File

MIB Group	MIB varBind in File	DB Schema Mapping
cwAtmChanCnfgTable	—	atm_connection table
ifIndex	—	—
cwaChanVpi	—	l_vpi

Table D-12 SM_CON_<Shelf#>_<Logical_slot#>.CF:PXM1E Connection File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
cwaChanVci	—	l_vci
—	cwaChanServiceCategory	par_subtype
—	cwaChanVpcFlag	vp_flag
—	cwaChanIdentifier	lcn
—	cwaChanUploadCounter	upd_counter
—	cwaChanStatsEnable	stats
—	cwaChanCCEnable	cc
—	cwaChanLocalVpi	routing_l_vpi
—	cwaChanLocalVci	routing_l_vci
—	cwaChanLocalNSAPAddr	l_nsap_addr
—	cwaChanRemoteVpi	r_vpi
—	cwaChanRemoteVci	r_vci
—	cwaChanRemoteNSAPAddr	r_nsap_addr
—	cwaChanControllerId	ctlr_id
—	cwaChanRoutingMastership	master_flag
—	cwaChanMasterType	slave_type
—	cwaChanMaxCost	max_cost
—	cwaChanFrameDiscard	frame_dis
—	cwaChanOperStatus	oper_status
—	cwaChanPCR	u_pcr01
—	cwaChanMCR	mir
—	cwaChanSCR	cir
—	cwaChanCDV	ccdv
—	cwaChanCTD	cctd
—	cwaChanMBS	cbs
—	cwaChanCDVT	u_ccdv01
—	cwaChanPercentUtil	lper_util
—	cwaChanRemotePCR	r_pcr
—	cwaChanRemoteMCR	r_mcr
—	cwaChanRemotePercentUtil	rper_util
—	cwaChanAbrICR	icr
—	cwaChanAbrADTF	fst_qir_to
—	cwaChanAbrRDF	fst_rate_dn
—	cwaChanAbrRIF	fst_rate_up
—	cwaChanAbrNRM	nrm
—	cwaChanAbrTRM	fst_max_adj

Table D-12 SM_CON_<Shelf#>_<Logical_slot#>.CF:PXM1E Connection File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cwaChanAbrCDF	cdf
—	cwaChanAbrFRTT	frtt
—	cwaChanAbrTBE	tbe
—	cwaChanAbrERS	ers
—	cwaChanAbrVSVDEnable	vsvd
—	cwaChanIntAbrVSVD	internal_vsvd
—	cwaChanExtAbrVSVD	external_vsvd
—	cwaChanCLR	clr
—	cwaChanRemoteCLR	remote_clr
—	cwaChanPriority	priority

SM_<Shelf#>_<LogicalSlot#>.CF: AUSM-8T1/E1

This file contains AUSM-8T1/E1 shelf information.

Table D-13 SM_<Shelf#>_<LogicalSlot#>.CF:AUSM-8T1/E1 Shelf Configuration File

MIB Group	MIB varBind in File	DB Schema Mapping
smFeatures	—	card table
—	channelizedAllowed	chan_allowed
—	rateControlAllowed	rate_ctrl_allowed
smRateControlConfig	—	card table
—	qirTimeout	qir_timeout
dsx1CnfGrpTable	—	line table
lineNum	—	line
—	lineConnectorType	connector
—	lineEnable	enable
—	lineType	subtype
—	lineCoding	coding
—	lineLength	length
—	lineXmtClockSource	clock_src
—	lineLoopbackCommand	loopback
—	lineSendCode	sendcode
—	lineUsedTimeslotsBitMap	line_bitmap
dsx1AlmCnfGrpTable	—	line table
almCnfLineNum	—	line
—	redSeverity	red_severity

Table D-13 SM_<Shelf#>_<LogicalSlot#>.CF:AUSM-8T1/E1 Shelf Configuration File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	rAISeverity	rai_severity
ausmLineCnfPlcpGrp Table	—	plcp table
plcpCnfPortNum	—	line
—	cellFraming	cell_frm
—	cellScramble	scramble
—	plppLoopBack	loopback
—	singleBitErrCorrEna	bit_err_corr
ausmLinePlcpAlmCnf GrpTable	—	plcp table
plcpAlmCnfPortNum	—	line
—	cellDelineationSeverity	lss_severity
—	tCStatisticalAlarmSeverity	stat_severity
ausmPortCnfPortGrp Table	—	ausm_port table
ausmPortNum	—	l_port
—	portEnable	active
—	ausmPortType	port_type
—	ausmPortIfType	interface_type
—	ausmPortSpeed	port_speed
—	ausmLineNum	line
ausmPortCnfService QueGrpTable	—	port_ques table
servicePortNum	—	l_port
egrQIndex	—	q_index
—	egrQDepthMax	q_depth
—	egrQCLPThreshHigh	clp_hi_thresh
—	egrQCLPThreshLow	clp_lo_thresh
—	egrQEfciThresh	efci_thresh
ausmPortCnfSigILMI GrpTable	—	ausm_port table
sigPortNum	—	l_port
—	ausmSignallingProtocolType	protocol_type
—	signallingVpi	signalling_vpi
—	signallingVci	signalling_vci
—	iLMITrapEnable	ilmi_trap_enable
—	minTrapInterval	trap_interval

Table D-13 SM_<Shelf#>_<LogicalSlot#>.CF:AUSM-8T1/E1 Shelf Configuration File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	keepAlivePollingEnable	keep_alive
—	errorThresholdN491	err_thresh
—	eventThresholdN492	event_thresh
—	pollingIntervalT491	poll_timer
—	minEnquiryIntervalT493	min_enquiry
ausmPortCnfPortIma GrpTable	—	ausm_port table
imaPortNum	—	l_port
—	imaPortEnable	active
—	imaPortSpeed	port_speed
—	numLinksInImaGrp	Not used
—	listOfLinksInImaGrp	line_map
—	numRedundantLinks	num_red_links
—	maxTolerableDiffDelay	max_delay
—	imaPortType	port_type
—	axisImaGroupSymmetry	ima_symmetry
—	axisImaGroupMinNumRxLinks	min_rx_links
—	axisImaGroupMinNumTxLinks	min_tx_links
—	axisImaGroupNeTxClkMode	ne_tx_clk_mode
—	axisImaGroupTestLinkIfIndex	test_link_if_Index
—	axisImaGroupTestPattern	test_pattern
—	axisImaGroupTestProcStatus	test_proc_status
—	axisImaGroupIntegrationUpTime	int_up_time
—	axisImaGroupIntegrationDownTime	int_down_time
ausmInterfaceConf Table	—	ausm_port table
ausmInterfacePortNum	—	l_port
—	ausmInterfaceMyNeighborIpAddress	intf_ip_addr
bbIfCnfRscPartGrp Table	—	rsc_part table
bbRscPartIfNum	—	port
bbRscPartCtrlrNum	—	ctrlr_type
—	bbIfRscPrtIngrPctBandwidth	ingr_pctbw
—	bbIfRscPrtEgrPctBandwidth	egr_pctbw
—	bbIfRscPrtVpiLow	vpi_low
—	bbIfRscPrtVpiHigh	vpi_high
—	bbIfRscPrtVciLow	vci_low

Table D-13 SM_<Shelf#>_<LogicalSlot#>.CF:AUSM-8T1/E1 Shelf Configuration File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	bbIfRscPrtVciHigh	vci_high
—	bbIfRscPrtMaxChans	max_chans
—	bbIfRscPartCtrlrID	ctrlr_id, part_id
ausmChanCnfGrpTable	—	atm_connection table
ausmChanNum	—	lcn
—	chanConnType	vp_flag
—	chanServiceType	sub_type
—	chanSvcFlag	con_type
—	ausmChanPortNum	l_port
—	chanVpi	l_vpi
—	chanVci	l_vci
—	ingrQDepth	vc_q_depth
—	ingrQCLPThreshHigh	clp_hi
—	ingrQCLPThreshLow	clp_lo
—	ingrQEfciThresh	efci_q_thresh
—	ingrUpcEnable	upc_enable
—	ingrUpcPCR01	u_pcr01
—	ingrUpcCIR	cir
—	ingrUpcCCDV	u_ccdv01
—	ingrUpcCBS	cbs
—	ingrUpcIBS	ibs
—	ingrUpcSCRPolicing	u_scr_policing
—	ingrUpcCDVT0	u_ccdv0
—	ingrUpcCLPTagEnable	clp_tagging
—	ingrUpcFGCRAEnable	u_fgcra
—	foresightEnable	con_info_flag
—	ausmChanIngrPercentUtil	lper_util
—	ausmChanEgrPercentUtil	rper_util
—	ausmChanEgrSrvRate	egr_srv_rate
—	ausmChanOvrSubOvrRide	chan_sub_ovr_ride
—	ausmChanLocalVpId	Not Used
—	ausmLocalNSAP	l_nsap_addr, l_slot, l_port
—	ausmRemoteVpi	r_vpi
—	ausmRemoteVci	r_vci
—	ausmRemoteNSAP	r_nsap_addr, r_slot, r_port
—	ausmMastership	master_flag

Table D-13 SM_<Shelf#>_<LogicalSlot#>.CF:AUSM-8T1/E1 Shelf Configuration File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	ausmVpcFlag	vp_flag
—	ausmConnServiceType	par_subtype
—	ausmRoutingPriority	rout_pri
—	ausmMaxCost	max_cost
—	ausmConnAdminStatus	oper_status
ausmStdABRCnfGrp Table	—	atm_connection table
ausmStdABRCnfChan Num	—	lcn
—	ausmStdABRType	behaviour_type
—	ausmStdABRTBE	tbe
—	ausmStdABRFRTT	frtt
—	ausmStdABRRDF	fst_rate_dn
—	ausmStdABRRIF	fst_rate_up
—	ausmStdABRNrm	nrm
—	ausmStdABRTrm	fst_max_adj
—	ausmStdABRCDF	cdf
—	ausmStdABRADTF	fst_qir_to
—	ausmStdABRICR	qir
—	ausmStdABRMCR	mir
—	ausmStdABRPCR	pir
dsx1AlmGrpTable	—	line table
almLineNum	—	line
—	lineAlarmState	alarm_state
ausmLinePlcpAlmGrp Table	—	plcp table
plcpAlmPortNum	—	line
—	tCAlarmState	alarm_state
—	tCStatisticalAlarmState	stat_alarm_state
ausmPortStateGrpTable	—	ausm_port table
ausmStatePortNum	—	l_port
—	ausmPortState	status
ausmPortStateImaGrp Table	—	ausm_port table
imaPortNum	—	l_port
—	imaPortState	status
—	numLinksPresentInImaGroup	Not used

Table D-13 SM_<Shelf#>_<LogicalSlot#>.CF:AUSM-8T1/E1 Shelf Configuration File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	listLinksPresentInImaGroup	line_order
—	remoteImaId	rmt_ima_id
—	locImaId	lcl_ima_id
—	imaArbitrationWinner	ima_master
—	imaObsDiffDelay	obs_delay

SM_<Shelf#>_<LogicalSlot#>.CF:CESM-8T1/E1

This file contains CESM-8T1/E1 shelf information.

Table D-14 SM_<Shelf#>_<LogicalSlot#>.CF:CESM-8T1/E1 Shelf Configuration File

MIB Group	MIB varBind in File	DB Schema Mapping
smFeatures	—	card table
—	channelizedAllowed	chan_allowed
—	rateControlAllowed	rate_ctrl_allowed
dsx1CnfGrpTable	dsx1CnfGrpEntry	line table
lineNum	—	line
—	lineConnectorType	connector
—	lineEnable	enable
—	lineType	line_type
—	lineCoding	coding
—	lineLength	length
—	lineXmtClockSource	clock_src
—	lineLoopbackCommand	loopback
—	lineSendCode	sendcode
—	lineUsedTimeslotsBitMap	line_bitmap
dsx1AlmCnfGrpTable	dsx1AlmCnfGrpEntry	line table
almCnfLineNum	—	line
—	redSeverity	red_severity
—	rAISeverity	rai_severity
—	statisticalAlarmSeverity	stat_severity
cesmPortCnfGrpTable	cesmPortCnfGrpEntry	frp table
cesPortNum	—	l_port
—	cesPortLineNum	line
—	cesPortType	port_type
—	cesPortDs0ConfigBitMap	port_bitmap

Table D-14 SM_<Shelf#>_<LogicalSlot#>.CF:CESM-8T1/E1 Shelf Configuration File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cesPortNumOfDs0Slot	port_speed
—	cesPortSpeed	port_speed
—	cesPortState	active
cesmPortCnfResPart GrpTable	CesmPortCnfResPartGrpEntry	rsc_part table
cesmResPartPortNum	—	port
cesmResPartCtrlrNum	—	ctrlr_type
—	cesmResPartNumOfLcnAvail	max_chans
—	cesmResPartLcnLow	vci_low
—	cesmResPartLcnHigh	vci_high
—	cesmResPartIngrPctBW	ingr_pctbw
—	cesmResPartEgrPctBW	egr_pctbw
—	cesmResPartCtrlrID	ctrlr_id, part_id
cesmChanCnfGrpTable	cesmChanCnfGrpEntry	cesm_connection table
cesCnfChanNum	—	lcn
—	cesMapPortNum	l_line
—	cesMapVpi	l_vpi
—	cesMapVci	l_vci
—	cesCBRClockMode	cbr_clock_mode
—	cesCas	cas
—	cesPartialFill	partial_fill
—	cesBufMaxSize	max_buf_size
—	cesCDVRxT	cdv_rx_t
—	cesCellLossIntegrationPeriod	cell_loss_period
—	cesChanPortNum	l_port
—	cesChanConnType	con_type
—	cesChanIdleDetEnable	idle_detection
—	cesChanIdleSignalCode	idle_signalcode
—	cesChanIdleCodeIntgnPeriod	idle_codeIntgPer
—	cesChanOnhookCode	onhook_code
—	cesChanConditionedData	condition_data
—	cesmChanExtTrgIdleSupp	idle_suppression
—	cesLocalNSAP	l_nsap_addr
—	cesRemoteVpi	r_vpi
—	cesRemoteVci	r_vci
—	cesRemoteNSAP	r_nsap_addr

Table D-14 SM_<Shelf#>_<LogicalSlot#>.CF:CESM-8T1/E1 Shelf Configuration File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	cesMastership	master_flag
—	cesConnServiceType	par_subtype
—	cesRoutingPriority	par_rout_pri
—	cesMaxCost	par_max_cost
—	cesmConnAdminStatus	status
dsx1AlmGrpTable	dsx1AlmGrpEntry	line table
almLineNum	—	line
—	lineAlarmState	alarm_state
—	lineStatisticalAlarmState	stat_alarm_stat

SM_<Shelf#>_<LogicalSlot#>.CF: FRSM Configuration

This file contains FRSM shelf information.

Table D-15 SM_<Shelf#>_<LogicalSlot#>.CF:FRSM Shelf Configuration File

MIB Group	MIB varBind in File	DB Schema Mapping
smFeatures	smFeatures.0	card table
Note This entry is for FRSM-8T1/E1 only.	channelizedAllowed.0	chan_allowed
Note This entry is for all flavours of FRSM.	rateControlAllowed.0	rate_ctrl_allowed
Note This entry is for VHS only	egrQosFeature.0	egr_qos_feature
smRateControlConfig	smRateControlConfig.0	card table
—	qirTimeout.0	qir_timeout
cwDsx3ConfigTable x is dsx3LineNum	cwDsx3ConfigEntry	line table
—	cwDsx3LineType.x	line_type
—	cwDsx3LineCoding.x	coding
—	cwDsx3LineLength.x	length
—	dsx3LineOOFCriteria.x	oof_criteria
—	dsx3LineAIScBitsCheck.x	aisc_check
—	dsx3LineLoopbackCommand.x	loopback
—	dsx3LineEnable.x	enable
—	dsx3SubRateEnable.x	subrate_enable

Table D-15 SM_<Shelf#>_<LogicalSlot#>.CF:FRSM Shelf Configuration File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	dsx3DsuSelect.x	dsu_select
—	dsx3LineRate.x	rate
—	dsx3LineScrambleEnable.x	frame_scramble
dsx3AlarmConfigTable x is dsx3LineNum	dsx3AlarmConfigEntry	line table
—	dsx3RedSeverity.x	red_severity
—	dsx3RAISeverity.x	rai_severity
—	dsx3StatisticalAlarmSeverity.x	stat_severity
dsx1CnfGrpTable x is lineNum	dsx1CnfGrpEntry	line table
—	lineConnectorType.x	connector
—	lineEnable.x	enable
—	lineType.x	line_type
—	lineCoding.x	coding
—	lineLength.x	length
—	lineXmtClockSource.x	clock_src
—	lineLoopbackCommand.x	loopback
—	lineSendCode	sendcode
Note This object is for FRSM-T1/E1 only	lineUsedTimeslotsBitmap.x	line_bitmap
dsx1AlmCnfGrpTable x is almCnfLineNum	dsx1AlmCnfGrpEntry	line table
Note This table is for FRSM-T1/E1 only.	redSeverity.x	red_severity
—	raiSeverity.x	rai_severity
frPortCnfPortGrpTable x is portNum	frPortCnfPortGrpEntry	frp table
—	portNum	logical_port
—	portLineNum.x	line
—	portDs0ConfigBitMap.x	timeslot_num, l_port
—	portDs0Speed.x	timeslot_speed
—	portFlagsBetweenFrames.x	port_flag
—	portEqueueServiceRatio.x	port_equ
—	portSpeed.x	port_speed

Table D-15 SM_<Shelf#>_<LogicalSlot#>.CF:FRSM Shelf Configuration File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	portAdmin.x	Not mapped
—	portType.x	port_type
—	portM32EgrQueueThresh.x	port_eqth
frPortCnfSigLMIGrp Table x is lmiCnfPortNum	frPortCnfSigLMIGrpEntry	frp table
—	signallingProtocolType.x	protocol_type
—	asynchronousUpdates.x	asyn_upd
—	t391LinkIntegrityTimer.x	link_timer
—	t392PollingVerificationTimer.x	poll_timer
—	n391FullStatusPollingCounter.x	poll_counter
—	n392ErrorThreshold.x	err_thresh
—	n393MonitoredEventCount.x	event_count
—	enhancedLmi	elmi
frPortCnfSigCLLMGrp Table x is cllmCnfPortNum	frPortCnfSigCLLMGrpEntry	frp table
—	cllmEnable.x	cllm_ena
—	xmtCLLMStatusTimer.x	xmt_timer
—	rcvCLLMStatusTimer.x	rcv_timer
frPortServiceQueGrp Table x is frServPortNum y is portServiceQueueNo	frPortServiceQueGrpEntry	port_ques table
—	portEgresQDepth.x.y	q_depth
—	portEgresECNThresh.x.y	ecn_thresh
—	portEgresDEThresh.x.y	de_thresh
frPortCnfResPartGrp Table	frPortCnfResPartGrpEntry	rsc_part table
x = 1 -256, x is frResPartPortNum	frResPartPortNum	port
y = 1 - 3, y is frResPartCtrlrNum	frResPartCtrlrNum	ctrlr_type
Note This table is for FRSM-VHS only.	frResPartNumOfLcnAvail.x.y	max_chans
—	frResPartDlciLow.x.y	vpi_low

Table D-15 SM_<Shelf#>_<LogicalSlot#>.CF:FRSM Shelf Configuration File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	frResPartDlciHigh.x.y	vpi_high
—	frResPartIngrPctBW.x.y	ingr_pctbw
—	frResPartEgrPctBW.x.y	egr_pctbw
—	frResPartCtrlrID.x.y	ctrlr_id, part_id
frChanCnfGrpTable x is chanNum	frChanCnfGrpEntry	connection table
—	chanNum	lcn
—	chanPortNum.x	l_channel
—	dLCI.x	l_dlci
—	egressQSelect.x	eg_q_select
—	ingressQDepth.x	vc_q_depth
—	ingressQDEThresh.x	vc_de_thresh
—	ingressQECNThresh.x	vc_q_thresh
—	egressQDepth.x	eg_q_depth
—	egressQDEThresh.x	eg_q_de_thresh
—	egressQECNThresh.x	eg_q_ecn_thresh
—	deTaggingEnable.x	de_tag_ena
—	cir.x	cir
—	bc.x	bc
—	be.x	be
—	ibs.x	ibs
—	chanType.x	channel_type
—	chanFECNconfig.x	fecn
—	chanDEtoCLPmap.x	de_to_clp_map
—	chanCLPtoDEmap.x	clp_to_de_map
—	chanIngrPercentUtil.x	lper_util
—	chanEgrPercentUtil.x	rper_util
—	chanEgrSrvRate.x	egr_srv_rate
—	chanOvrSubOvrRide.x	con_info_flag
—	frLocalVpi.x	l_vpi
—	frLocalVci.x	l_vci
—	frLocalNSAP.x	l_nsap_addr (l_slot, l_channel for slave end)
—	frRemoteVpi.x	r_vpi
—	frRemoteVci.x	r_vci
—	frRemoteNSAP.x	r_nsap_addr (r_slot, r_channel (for master end)

Table D-15 SM_<Shelf#>_<LogicalSlot#>.CF:FRSM Shelf Configuration File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	frMastership.x	master_flag
—	frConnServiceType.x	par_subtype
—	frRoutingPriority.x	par_rout_pri
New range is: 1 - 2G	frMaxCost.x	par_max_cost
enum added to VHS only	chanServType.x	qbin_num
—	chanServiceRateOverride.x	con_info_flag
—	chanServiceRate.x	service_rate
—	zeroCirConEir.x	eir[1]
—	frConnAdminStatus.x	status
frstdABRCnfGrpTable x is frstdABRcnfChanNum	frstdABRCnfGrpEntry	connection table
—	frstdABRcnfChanNum.x	lcn
—	frstdABRTBE.x	tbe
—	frstdABRFRTT.x	frtt
—	frstdABRRDF.x	rdf
—	frstdABRRIF.x	rif
—	frstdABRNrm.x	nrm
—	frstdABRTrm.x	trm
—	frstdABRCDF.x	cdf
—	frstdABRADTF.x	adtf
—	frstdABRICR.x	qir
—	frstdABRMCR.x	mir
—	frstdABRPCR.x	pir
x21CnfGrpTable x is x21LineNum	x21CnfGrpEntry	line table
Note This table is for FRSM-HS2B-HSSI/HS2B-12In1 only.	x21LineEnable.x	enable
—	x21LineType.x	subtype
—	x21LineRate.x	rate
—	x21LineLoopbackCommand.x	loopback
—	x21LineSendCode.x	coding
—	x21LineLoopbackCodeDetection.x	lpbk_code
—	x21LineInterfaceType.x (not in MIB)	ln_intf_type

Table D-15 SM_<Shelf#>_<LogicalSlot#>.CF:FRSM Shelf Configuration File (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	x21ClkFrequencyThreshold.x (not in MIB)	clk_freq_threshold
—	serialLineRate.x	serl_ln_rate
—	serialLineRateVariation.x	serl_ln_rate_var
x21AlmCnfGrpTable x is x21AlmCnfLineNum	x21AlmCnfGrpEntry	line table
Note This table is for FRSM-HS2B-HSSI/HS2B-12In1 only.	x21Severity.x	red_severity
dsx3AlarmTable x = 1 - 2, x is dsx3LineNum	dsx3AlarmEntry	Line table
Note This table is for FRSM-2T3/2E3 only.	dsx3LineAlarmState.x	alarm_state
—	dsx3LineStatisticalAlarmState.x	stat_alarm_state
dsx1AlmGrpTable x is almLineNum	dsxAlmGrpEntry	line table
Note This table is for FRSM-T1/E1 only.	lineAlarmState.x	alarm_state
—	lineStatisticalAlarmState.x	stat_alarm_state
x21AlmGrpTable x is x21AlmLineNum	x21AlmGrpEntry	line table
Note This table is for FRSM-HS2B-HSSI/HS2B-12In1 only.	x21LineAlarmState.x	alarm_state
—	lineStatisticalAlarmState.x	stat_alarm_state
frPortStateGrpTable x is statePortNum	frPortStateGrpEntry	frp table
—	portState.x	status
—	portSignallingState.x	signal_state

1. If zeroCirConEir is non-zero, it is mapped to eir. Otherwise, eir is set to port_speed of FRP table.

SM_CARD_<Shelf#>_<LogicalSlot#>.CF:HSFR Card Bulk

This file contains high speed Frame Relay (HSFR) card information.

Table D-16 SM_CARD_<Shelf#>_<LogicalSlot#>.CF:HSFR Card Bulk

MIB Group	MIB varBind in File	DB Schema Mapping
ifXTable	—	frp table
—	ifIndex	ifIndex
—	ifName	l_slot, l_port, bay, port_type, line
—	ifHighSpeed	port_speed
ifTable	—	frp table
—	ifIndex	ifIndex
—	ifDescr	commentc
—	ifType	port_type
—	ifSpeed	port_speed
—	ifAdminStatus	status
—	ifOperStatus	active
dsx3ConfigTable	—	line table
—	dsx3LineIndex	if_index
—	dsx3IfIndex	if_index
—	dsx3LineCoding	coding
—	dsx3SendCode	send_code
—	dsx3LoopbackConfig	loopback
—	dsx3LineStatus	line_state
—	dsx3TransmitClockSource	clock_src
—	dsx3LineLength	length
cds3ConfigTable	—	line table
—	ifIndex	if_index
—	cds3LineType	subType
—	cds3LineAIScBitsCheck	aisc_check
—	cds3LineRcvFEACValidation	rcv_feac_validation
—	cds3LineOOFCriteria	oof_criteria
cds3AlarmConfigTable	—	line table
—	ifIndex	if_index
—	cds3StatisticalAlarmSeverity	stat_severity
—	cds3LineStatisticalAlarmState	stat_alarm_state
frPortCnfPortGrpTabel	—	frp table
—	portNum	ifIndex
—	portLineNum	line
—	portFlagsBetweenFrames	port_flag
—	portSpeed	port_speed

Table D-16 SM_CARD_<Shelf#>_<LogicalSlot#>.CF:HSFR Card Bulk (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	portAdmin	status
—	portType	port_type
—	portOverSubEnable	over_sub_enable
—	portHeaderLen	header_len
—	portFrameChkSumType	frame_chksum_type
—	portFileId	sct_id
frPortStateGrpTable	—	frp table
—	statePortNum (ifIndex)	ifIndex
—	portState	oper_status
—	portSignallingState	signal_state
—	portOversubscribed	oversubscribed
—	portIngrPercentUtil	ingr_per_util
—	portEgrPercentUtil	egr_per_util
frPortCnfSigLMIGrp Table	—	frp table
—	lmiCnfPortNum (ifIndex)	ifIndex
—	signallingProtocolType	protocol_type
—	asynchronousUpdates	async_upd
—	t391LinkIntegrityTimer	link_timer
—	t392PollingVerificationTimer	poll_timer
—	n391FullStatusPollingCounter	poll_counter
—	n392ErrorThreshold	err_thresh
—	n393MonitoredEventCount	event_count
—	enhancedLmi	elmi
—	portFRF1Dot2Support	frf1dot2_enable
frPortCnfSigCLLM GrpTable	—	frp table
—	cllmCnfPortNum (ifIndex)	ifIndex
—	cllmEnable	cllm_ena
—	xmtCLLMStatusTimer	xmt_timer
—	rcvCLLMStatusTimer	rcv_timer
frPortCnfResPartGrp Table	—	rsc_part table
—	frResPartPortNum (ifIndex)	port
—	frResPartCtrlrNum	ctrlr_type, part_id
—	frResPartCtrlrId	ctrlr_id
—	frResPartNumOfLcnAvail	max_chans

Table D-16 SM_CARD_<Shelf#>_<LogicalSlot#>.CF:HSFR Card Bulk (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	frResPartDlciLow	vpi_low
—	frResPartDlciHigh	vpi_high
—	frResPartIngrPctBW	egr_guar_bw
—	frResPartEgrPctBW	ing_guar_bw

SM_CON_<Shelf>_<LogicalSlot#>.CF:HSFR Connection

This file contains HSFR connection information.

Table D-17 SM_CON_<Shelf>_<LogicalSlot#>.CF:HSFR Connection

MIB Group	MIB varBind in File	DB Schema Mapping
frChanCnfGrpTable	—	connection table
—	chanNum	lcn
—	frConnAdminStatus	status
—	chanPortNum	l_channel
—	dLCI	l_dlci
—	egressQSelect	eg_q_select
—	deTaggingEnable	de_tag_ena
—	cir	cir
—	bc	bc
—	be	be
—	chanType	channel_type
—	chanFECNconfig	fecn
—	chanDEtoCLPmap	de_to_clp_map
—	chanCLPtoDEmap	clp_to_de_map
—	chanIngrPercentUtil	lper_util
—	chanEgrPercentUtil	rper_util
—	chanEgrSrvRate	egr_srv_rate
—	frLocalVpi	l_vpi
—	frLocalVci	l_vci
—	frLocalNSAP	r_slot, r_channel, (only for slave end)
—	frRemoteVpi	r_vpi
—	frRemoteVci	r_vci
—	frRemoteNSAP	r_slot, r_channel (only for master end)

Table D-17 SM_CON_<Shelf>_<LogicalSlot#>.CF:HSFR Connection (continued)

MIB Group	MIB varBind in File	DB Schema Mapping
—	frMastership	master_flag
—	frVpcFlag	vpc_flag
—	frConnServiceType	par_subtype
—	frRoutingPriority	par_rout_pri
—	frMaxCost	par_max_cost
—	frConnPCR	par_chan_pcr
—	frConnRemotePCR	par_chan_rpcr
—	frConnMCR	par_chan_mcr
—	frConnRemoteMCR	par_chan_rmcr
—	chanServType	qbin_num
—	frConnSCR	l_scr
—	frConnRemoteSCR	r_scr
—	frChanCnfIgnoreIncomingDE	upload_counter
—	frChanOamCCEnable	oam_cc_flag
—	frChanStatsEnable	stats_enable
—	frChanLocalLpbkEnable	local_lpbk_enable
—	frChanUpcEnable	upc_enable
—	frChanMasterType	master_type
frChanStateGrpTable	—	connection table
—	stateChanNum	lcn
—	chanState	status
—	chanStatusBitMap	alarm_status
frstdABRCnfGrpTable	—	connection table
—	frstdABRcnfChanNum	lcn
—	frstdABRTBE	tbe
—	frstdABRFRTT	frtt
—	frstdABRRDF	rdf
—	frstdABRRIF	rif
—	frstdABRNrm	nrm
—	frstdABRTrm	trm
—	frstdABRCDF	cdf
—	frstdABRADTF	adtf
—	frstdABRICR	qir

SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM card

This file contains VXSM card information.

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card

MIB Group	MIB varBind in File	DB Schema mapping
checksum signature	N/A	
Root Oid	Iso.org.dod.internet	
CISCO-MEDIA-GATEWAY-MIB .my		
cMediaGwTable	cMediaGwEntry	vxsm_card table
cmgwIndex		slot
	cmgwDomainName	dname
CISCO-MEDIA-GATEWAY-MIB .my		
cmgwSignalProtocolTable	cmgwSignalProtocolEntry	mg_sup_prtcl table
cmgwIndex		slot
cmgwSignalProtocolIndex		protocol
	cmgwSignalProtocol	type
	cmgwSignalProtocolVersion	name
	cmgwSignalProtocolPort	udp_port
CISCO-MEDIA-GATEWAY-MIB .my		
cMediaGwDomainNameConfigTable	cMediaGwDomainNameConfigEntry	mg_dname table
cmgwIndex		slot
cmgwConfigDomainNameIndex		index
	cmgwConfigDomainNameEntity	dname_type
	cmgwConfigDomainName	name
CISCO-MEDIA-GATEWAY-MIB .my		
cMediaGwDnsIpConfigTable	cMediaGwDnsIpConfigEntry	mgc_res table
cmgwIndex		slot
cmgwDnsIpIndex		index
	cmgwDnsDomainName	name

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
	cmgwDnsIpType	dns_ip_type
	cmgwDnsIp	ipaddr
CISCO-MEDIA-GATEWAY-MIB.my		
cmgwLifTable	cmgwLifEntry	lif table
cmgwIndex		slot
cmgwLifNumber		lif_num
	cmgwLifPvcCount	pvc_in_lif
	cmgwLifVoiceIfCount	ds1_in_lif
CISCO-MEDIA-GATEWAY-MIB.my		
cMediaGwCallControlConfigTable	CMediaGwCallControlConfigEntry	vxsm_card table
cmgwIndex		
	cMediaGwCcConfigControlTos	ctrl_tos
	cMediaGwCcConfigBearerTos	bearer_tos
	cMediaGwCcConfigNtePayload	nte_payload
	cMediaGwCcConfigNsePayload	nse_payload
	cMediaGwCcConfigNseRespTimer	nse_resp_timer
	cMediaGwCcCfgVbdJitterDelayMode	jitter_delay_mode
	cMediaGwCcCfgVbdJitterMaxDelay	jitter_max_delay
	cMediaGwCcCfgVbdJitterNomDelay	jitter_nom_delay
	cMediaGwCcCfgVbdJitterMinDelay	jitter_min_delay
	cMediaGwCcCfgDefaultTonePlanId	def_tone_plan_id
	cMediaGwCcCfgDescrInfoEnabled	info_enable
	cMediaGwCcCfgDsNamePrefix	dsname_prefix
	cMediaGwCcCfgRtpNamePrefix	rtpname_prefix
	cMediaGwCcCfgAal1SvcNamePrefix	aal1_svc1_prefix
	cMediaGwCcCfgAal2SvcNamePrefix	aal2_svc1_prefix
	cMediaGwCcCfgClusterEnabled	cluster_enabled
CISCO-ANNOUNCEMENT-MIB.my		
cannoControlTable	cannoControlEntry	vxsm_card table

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
cmgwIndex		slot
	cannoAudioFileServerName	dn_ann_srv
	cannoDnResolution	dn_resolution
	cannoIpAddressType	ipaddr_type
	cannoIpAddress	ip_addr
	cannoAgeTime	age_time
	cannoSubDirPath	prefix_path
	cannoReqTimeout	reg_timeout
	cannoMaxPermanent	max_perm_ann
cannoAudioFileTable	cannoAudioFileEntry	
cmgwIndex		vism_announce table
cannoAudioFileNumber		slot
	cannoAudioFileName	ann_num
	cannoAudioFileStatus	file_name
	cannoAudioFilePlayNoc	file_status
	cannoAudioFileDuration	play_noc
	cannoAudioFileType	file_duration
	cannoAudioFileAge	file_type
CISCO-VOICE-AALX-PROFILE-MIB.my		
cvapCodecConfigTable	cvapCodecConfigEntry	vism_codec table
cmgwIndex		slot
cvapCodecConfigAdaptType		adapt_type
cvapCodecConfigType		index
	cvapCodecConfigPreference	preference
	cvapCodecConfigVoicePacketPeriod	pkt_period
	cvapCodecConfigVbdPacketPeriod	vdb_pkt_period
	cvapCodecConfigJitterDelayMode	jitter_delay_mode
	cvapCodecConfigJitterMaxDelay	jitter_max_delay
	cvapCodecConfigJitterNomDelay	jitter_nom_delay
	cvapCodecConfigJitterMinDelay	jitter_min_delay
	cvapCodecConfigDtmfRelay	dtmf_relay
	cvapCodecConfigPayloadType	payload_type

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
CISCO-DATA-AALX-PROFILE-MIB.my		
cdapNx64ProfileTable	cdapNx64ProfileEntry	aal2_5_data_profile
cmgwIndex		
cdapNx64ProfileIndex		profile_idx
	cdapNx64TransMode	transport_mode
	cdapNx64FrameFillPattern	fill_pattern
	cdapNx64InterFrameFlagCnt	frame_gap
	cdapNx64BitInversion	bit_inverse
	cdapNx64ProfileInUse	
CISCO-MGC-MIB.my		
cMgcGrpParamTable	cMgcGrpParamEntry	mgcg_param table
cmgwIndex		slot
cMgcGrpIndex		mgcg_num
	cMgcGrpNumMgc	total_mgc
	cMgcGrpAssociationInfo	assoc_info
	cMgcGrpNumProtocol	protocol
	cMgcGrpStateChangeNtfy	assoc_state_ctrl
CISCO-MGC-MIB.my		
cMgcConfigTable	cMgcConfigEntry	vism_mgc table
cmgwIndex		slot
cMgcIndex		controller
	cMgcDomainName	name
	cMgcNumMgcGroups	total_mgcg
	cMgcNumIP	total_ip
	cMgcResolution	resolution
CISCO-MGC-MIB.my		
cMgcIpConfigTable	cMgcIpConfigEntry	mgc_ip table
cmgwIndex		slot
cMgcIndex		mgc_num
cMgcIpIndex		mgc_ip_idx
	cMgcIpAddressType	ip_addr_type
	cMgcIpAddress	ip_addr

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
	cMgcIpPreference	ip_pref
CISCO-MGC-MIB.my		
cMgcGrpTable	cMgcGrpEntry	mgc_grp table
cmgwIndex		slot
cMgcGrpIndex		mgcg_num
cMgcIndex		mgc_num
	cMgcGrpMgcPreference	mgcg_pref
	cMgcGrpMgcUdpPort	udp_port
CISCO-MGC-MIB.my		
cMgcGrpProtocolTable	cMgcGrpProtocolEntry	mgcg_protocol table
cmgwIndex		slot
cMgcGrpIndex		mgcg_num
cmgwSignalProtocolIndex		prtcl_num
	cMgcGrpProtocolPreference	preference
CISCO-IETF-MEGACO-MIB.my		
cmedGatewayConfigTable	cmedGatewayConfigEntry	megaco_config table
cmedGatewayId		slot
cmedGatewayLinkId		link_id
	cmedGatewayIPAddress	ip_addr
	cmedGatewayPort	gw_port
	cmedGatewayEncodingScheme	encode_schema
	cmedGatewayProtocol	gw_prtcl
	cmedGatewaySigTptProtocol	sig_tran_prtcl
	cmedGatewayAdminStatus	admin_status
	cmedGatewayOperStatus	oper_status
CISCO-MEGACO-EXT-MIB.my		
cmedxGatewayConfigTable	cmedxGatewayConfigEntry	megaco_config table
cmedGatewayId		slot
cmedGatewayLinkId		link_id
	cmedxGatewayMgcGroupIndex	mgcg_num
	cmedxGatewayIpAddressIndex	ipaddr_idx
	cmedxGatewayAssociationId	assoc_id

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
	cmedxGatewayMaxContexts	max_context
	cmedxGatewayMaxTermsInContext	max_t_context
	cmedxGatewayMgExecTime	mg_time
	cmedxGatewayMgcExecTime	mgc_time
	cmedxGatewayProvisionRespTime	prov_r_time
	cmedxGatewayNumConnRetries	num_conn_retry
	cmedxGatewayMaxWaitingDelay	max_wait_delay
	cmedxGatewayRestartDelay	restart_delay
	cmedxGatewayRespRetentionTime	resp_ret_time
	cmedxGatewayInitialRtt	initial_rtt
	cmedxGatewayInactivityTime	inactive_time
	cmedxGatewayHeaderAddrType	h_addr_type
	cmedxGatewayDownServiceDelay	dservice_delay
	cmedxGatewayActiveMgcAddress	act_mgc_addr
	cmedxGatewayActiveMgcDomain	act_mgc_domain
	cmedxGatewayActiveMgcPortNum	act_mgc_port
	cmedxGatewayStateChangeReason	st_chg_reason
	cmedxGatewayStateChangeMethod	st_chg_method
	cmedxGatewayAdminAction	admin_status
	cmedxGatewayServiceState	oper_status
	cmedxGatewayDynamicTpktVersion	
	cmedxGatewayMaxCommandMsgSize	
	cmedxGatewayMaxReplyMsgSize	
CISCO-MEGACO-EXT-MIB.my		
cmedxTerminationTypeTable	cmedxTerminationTypeEntry	megaco_term table
cmedGatewayId		slot
cmedGatewayLinkId		link_id
cmedxTermTypeId		term_type_id
	cmedxTermType	term_type
	cmedxTermTypeProfileId	profile_id
	cmedxTermTypePkgIds	pkg_id
CISCO-MEGACO-EXT-MIB.my		
cmedxProfileTable	cmedxProfileEntry	megaco_profile table

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
cmedGatewayId		slot
cmedxProfileIndex		profile_idx
	cmedxProfilePlayCpToneInterDur	cp_inter_dur
	cmedxProfileDtmfDigitOnDur	dig_on_dur
	cmedxProfileDtmfPauseDur	pause_dur
	cmedxProfileCot1Frequency	cot1_freq
	cmedxProfileCot2Frequency	cot2_freq
	cmedxProfileInitiateCotDur	init_cot_dur
	cmedxProfileRespCotMethod	resp_cot_met
	cmedxProfileDetectLongCpToneDur	dl_cp_dur
	cmedxProfileDetectLongDigitDur	dl_dig_dur
	cmedxProfileEchoCancelEnabled	ec_enable
	cmedxProfileEchoCancelTail	ec_trail
	cmedxProfileInGainControl	gain_ctrl
	cmedxProfileOutAttnControl	outattn_ctrl
	cmedxProfileVoIpVadEnabled	voip_vad
	cmedxProfileVoIpVadTimer	voip_vad_t
	cmedxProfileVoAal2VadTimer	voaal2_vad_t
	cmedxProfileAtmBearerType	atm_bearer_type
	cmedxProfileAtmAalPartialFill	atm_aal_part_fil
	cmedxProfileAtmAalType	atm_aal_type
	cmedxProfileSuppressBearerDigit	supr_bearer_dig
	cmedxProfileOriginatingCotTx	orig_cot_tx
	cmedxProfileOriginatingCotRx	orig_cot_rx
	cmedxProfileTerminatingCotTx	term_cot_tx
	cmedxProfileTerminatingCotRx	term_cot_rx
CISCO-MEGACO-EXT-MIB.my		
cmedxCallReduceControlTable	cmedxCallReduceControlEntry	vxsm_card table
cmedGatewayId		slot
	cmedxCallCongEnabled	cc_enable
	cmedxCallRenotifInterval	renotify_intvl
	cmedxCurrentCRR	current_crr
CISCO-VOICE-TONE-CADENCE-MIB.my		

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
cvtcTonePlanTable	cvtcTonePlanEntry	tone_plan table
cmgwIndex		slot
cvtcTonePlanId		index
	cvtcTonePlanVifCount	vif_count
	cvtcTonePlanCountry	region_name
	cvtcTonePlanVersion	version_num
	cvtcTonePlanFileName	filename
	cvtcTonePlanStorageType	provision_flag
cvtcToneIdTable	cvtcToneIdEntry	tone_id table
cmgwIndex		slot
cvtcToneId		tone_id
	cvtcToneName	name
CISCO-VOICE-TONE-CADENCE-MIB.my		
cvtcProgrammableToneTable	CvtcProgrammableToneEntry	program_tone table
cmgwIndex		slot
cvtcTonePlanId		plan_id
cvtcToneId		tone_id
	cvtcProgrammableToneFrequency	tone_freq
	cvtcProgrammableToneAmplitude	tone_amp
	cvtcProgrammableToneCadence	tone_cad
CISCO-CAC-SYSTEM-MIB.my		
ccacSysConfigTable	ccacSysConfigEntry	vxsm_card table
cmgwIndex		slot
	ccacSysCacEnable	cac_enable
CISCO-CAC-SYSTEM-MIB.my		
ccacSysResPolicyTable	ccacSysResPolicyEntry	rsc_policy table
cmgwIndex		slot
ccacSysRpIndex		rp_index
	ccacSysRpResType	rsc_type
	ccacSysRpUserTunable	tunable
	ccacSysRpAvgUtilization	avg_util

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
	ccacSysRpPercentOrAbsNum	p_abs_num
	ccacSysRpHighThreshold	hi_threshold
	ccacSysRpMedThreshold	med_threshold
	ccacSysRpLowThreshold	low_threshold
	ccacSysRpInterval	interval
	ccacSysRpAction	action
	ccacSysRpCurReading	cur_read
	ccacSysRpAvailable	available
CISCO-WAN-ATM-CONN-EXT-MIB.my		
cwacDualPvcTable	cwacDualPvcEntry	vxsm_card table
cmgwIndex		slot
	cwacDualPvcOamCellGap	pred_oam_cgap
	cwacDualPvcRetryThreshold	pred_retry_thrhd
	cwacDualPvcRecoverThreshold	pred_recov_thrhd
CISCO-DSP-MGMT-MIB.my		
cdspCardStatusTable	cdspCardStatusEntry	vxsm_card table
entPhysicalIndex		ent_phy_idx
	cdspTotalDsp	total_dsp
	cdspFailedDsp	num_dsp_fail
	cdspDspSwitchOverThreshold	dsp_swov_thrld
	cdspCongestedDsp	congest_dsp
	cdspNormalDsp	normal_dsp
	cdspNx64Dsp	nx64_dsp
CISCO-DSP-MGMT-MIB.my		
cdspStatusTable	cdspStatusEntry	dsp_status table
entPhysicalIndex		ent_phy_idx
	cdspOperState	oper_status
	cdspTotalChannels	total_chan
	cdspSigBearerChannelSplit	bear_split
	cdspNumCongestionOccurrence	cong_occur
(CD5)	cdspDspNum	dsp_id

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
CISCO-DSP-MGMT-MIB.my		
cdspVoiceParamTable	cdspVoiceParamEntry	vxsm_card table
entPhysicalIndex		slot
	cdspRtpSidPayloadType	rtp_sid_pl_type
	cdspRtcpControl	rtcp_control
	cdspRtcpTransInterval	rtcp_trans_intrv
	cdspRtcpRecvMultiplier	rcv_multi
	cdspVadAdaptive	vad_adaptive
	cdspDtmfPowerLevel	power_level
	cdspDtmfPowerTwist	power_twist
ENTITY-MIB.my		
entPhysicalTable	entPhysicalEntry	sensor table
entPhysicalIndex		ent_phy_idx
	entPhysicalDescr	description
(CD5)	entPhysicalParentRelPos	sensor_num
CISCO-ENTITY-SENSOR-MIB.my		
entSensorValueTable	entSensorValueEntry	sensor table
entPhysicalIndex		ent_phy_idx
	entSensorType	type
	entSensorScale	scale
	entSensorValue	value
	entSensorStatus	status
CISCO-ENTITY-SENSOR-MIB.my		
entSensorThresholdTable	entSensorThresholdEntry	sensor_thrhd table
entPhysicalIndex		ent_phy_idx
entSensorThresholdIndex		thrhd_idx
	entSensorThresholdSeverity	thrhd_severity
	entSensorThresholdRelation	thrhd_rel
	entSensorThresholdValue	thrhd_val
	entSensorThresholdEvaluation	thrhd_eval
	entSensorThresholdNotificationEnable	thrhd_notif

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
CISCO-ISDN-USER-ADAPT-MIB.my		
ciuaAsConfigTable	ciuaAsConfigEntry	vxsm_as
ciuaAspIndex		as_id
	ciuaAsName	as_name
	ciuaNumAsp	asp_no
	ciuaAsPrimaryIPType	as_pri_addr_type
	ciuaAsPrimaryIPAddress	as_pri_add
	ciuaAsSecondaryIPType	as_sec_addr_type
	ciuaAsSecondaryIPAddress	as_sec_addr
	ciuaAsSctpPort	as_sctp_port
	ciuaAsSctpStream	as_sctp_stream
	ciuaAsFailoverTimer	as_failover_timer
	ciuaAsSctpInitRto	as_sctp_init_rto
	ciuaAsMaxInitRetrans	as_max_init_rt
	ciuaAsRestartTimer	as_restart_timer
	ciuaAsState	as_state
*ciuaAspConfigTabl*e	CiuaAspConfigEntry	vxsm_asp table
ciuaAspIndex		asp_id
	ciuaAspName	asp_name
	ciuaAspAsIndex	asp_as_id
	ciuaAspAsName	asp_as_name
	ciuaAspAssocIndex	asp_assoc_id
	ciuaAspPrimaryIPType	asp_pri_addr_type
	ciuaAspPrimaryIPAddress	asp_pri_addr
	ciuaAspSecondaryIPType	asp_sec_addr_type
	ciuaAspSecondaryIPAddress	asp_sec_addr
	ciuaAspSctpPort	asp_sctp_port
	ciuaAspSctpMaxAssocRetrans	asp_sctp_max_rt
	ciuaAspSctpMaxRto	asp_sctp_max_rto
	ciuaAspState	asp_state
ciuaAspIPConfigTable	ciuaAspIPConfigEntry	vxsm_asp_ip
ciuaAspIndex		asp_id

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
ciuaAspIpType		asp_addr_type
ciuaAspIpAddress		asp_addr
	ciuaAspIPAspName	asp_name
	ciuaAspSctpIPPrecedence	sctp_precedence
	ciuaAspSctpIPKeepalive	sctp_keep_alive
	ciuaAspSctpIPPathRetrans	sctp_path_rt
	ciuaAspSctpIPHBFlag	sctp_hb
CISCO-IETF-SCTP-MIB.my		
cSctpAssocTable	cSctpAssocEntry	sctp_assoc table
cSctpAssocId		sctp_id
	cSctpAssocLocalSCTPPort	sctp_loc_port
	cSctpAssocRemSCTPPort	sctp_rem_port
	cSctpAssocRemPrimaryAddressType	sctp_rem_addr_type
	cSctpAssocRemPrimaryAddress	sctp_rem_addr
	cSctpAssocHeartBeatTimer	sctp_hb_timer
	cSctpAssocState	sctp_state
	cSctpAssocInStreams	sctp_in_stream
	cSctpAssocOutStreams	sctp_out_stream
	cSctpAssocMaxRetr	sctp_max_retry
cSctpAssocLocalAddressTable	cSctpAssocLocalAddressEntry	sctp_addr table
cSctpAssocId		sctp_id
cSctpAssocLocalAddressIPType		sctp_addr_type
cSctpAssocLocalAddressIP		sctp_addr
	cSctpAssocLocalAddressStartTime	start_time
cSctpAssocRemAddressTable	cSctpAssocRemAddressEntry	sctp_addr table
cSctpAssocId		sctp_id
cSctpAssocRemAddressIPType		sctp_addr_type
cSctpAssocRemAddressIP		sctp_addr
	cSctpAssocRemAddressStatus	rem_addr_status
	cSctpAssocRemAddressHBFlag	rem_addr_hb
	cSctpAssocRemAddressRTO	rem_addr_rto
	cSctpAssocRemAddressMaxPathRtx	rem_addr_max_path
	cSctpAssocRemAddressStartTime	start_time

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
CISCO-IETF-SCTP-EXT-MIB.my		
cSctpAssocExtTable	CSctpAssocExtEntry	sctp_assoc table
cSctpAssocId		sctp_rto_min
	cSctpAssocExtRtoMin	sctp_rto_max
	cSctpAssocExtRtoMax	sctp_rto_initial
	cSctpAssocExtRtoInitial	sctp_val_ck_life
	cSctpAssocExtValCookieLife	sctp_max_init_rty
	cSctpAssocExtMaxInitRetr	sctp_mtu
	cSctpAssocExtMTU	sctp_l_rec_wnd
	cSctpAssocExtLocRecWnd	sctp_l_rec_wnd_low
	cSctpAssocExtLocRecWndLowMark	sctp_r_rec_wnd
	cSctpAssocExtRemRecWnd	sctp_r_rec_wnd_low
	cSctpAssocExtRemRecWndLowMark	sctp_ulp_q_hw
	cSctpAssocExtUlpQueuedHW	sctp_ulp_q_rt
	cSctpAssocExtUlpQueuedRT	sctp_eff_addr_type
	cSctpAssocExtEffectiveAddrType	sctp_eff_addr
	cSctpAssocExtEffectiveAddress	sctp_bndl_flag
	cSctpAssocExtBundleFlag	sctp_assoc table
	cSctpAssocExtBundleTimeout	sctp_bndl_timeout
cSctpAssocRemAddressExtTable	cSctpAssocRemAddressExtEntry	sctp_addr table
cSctpAssocId		sctp_id
cSctpAssocRemAddressIPType		sctp_addr_type
cSctpAssocRemAddressIP		sctp_addr
	cSctpAssocRemAddressSRTT	addr_srtt
IF-MIB.my		
ifXTable	ifXEntry	line, virtual_port table
ifIndex		line: if_index virtual_port: if_index vism_lapd: if_index

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
	ifName	line: l_slot, bay, line, channel_bitmap, subtype virtual_port: slot vism_lapd: slot,bay, line, lapd_num
	ifHighSpeed	
IF-MIB.my		
ifTable	ifEntry	line, virtual_port
ifIndex		line: if_index virtual_port: if_index
	ifDescr	
	ifType	virtual_port : if_type
	ifSpeed	
	ifAdminStatus	line: enable
	ifOperStatus	line: alarm_state
SONET-MIB.my		
sonetMediumTable	sonetMediumEntry	line table
ifIndex		if_index
	sonetMediumType	line_type
CISCO-SONET-MIB.my		
csConfigTable	csConfigEntry	line table
ifIndex		if_index
	csConfigLoopbackType	loopback
	csConfigXmtClockSource	clock_src
	csConfigFrameScramble	frame_scramble
	csConfigType	subtype
	csConfigRDIVType	sonet_rdiv_type
	csConfigRDIPType	sonet_rdip_type
SONET-MIB.my		

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
sonetSectionCurrentTable	sonetSectionCurrentEntry	line table
ifIndex		if_index
	sonetSectionCurrentStatus	section_state
SONET-MIB.my		
sonetLineCurrentTable	sonetLineCurrentEntry	line table
ifIndex		if_index
	sonetLineCurrentStatus	line_state
SONET-MIB.my		
sonetPathCurrentTable	sonetPathCurrentEntry	line table
ifIndex		if_index
	sonetPathCurrentWidth	subtype
	sonetPathCurrentStatus	path_state
CISCO-SONET-MIB.my		
cspConfigTable	cspConfigEntry	line table
ifIndex		if_index
	cspSonetPathPayload	tx_payload_type
	cspTributaryMappingType	sonet_trib_map
	cspSignallingTransportMode	sig_tx_mode
	cspTributaryGroupingType	sonet_trib_grp
csAu4Tug3ConfigTable	csAu4Tug3ConfigEntry	au4tug3
ifIndex		if_index
csAu4Tug3		tug3
	csAu4Tug3Payload	payload
CISCO-WAN-SONET-MIB.my		
cwsSectionAlarmTable	cwsSectionAlarmEntry	line table
ifIndex		if_index
	cwsSectionStatisticalAlarmSeverity	section_stat_sev
	cwsSectionStatAlarmStatus	section_stat_state
CISCO-WAN-SONET-MIB.my		
cwsLineAlarmTable	cwsLineAlarmEntry	line table

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
ifIndex		if_index
	cwsLineStatisticalAlarmSeverity	line_stat_sev
	cwsLineStatAlarmStatus	line_stat_state
CISCO-WAN-SONET-MIB.my		
cwsPathAlarmTable	cwsPathAlarmEntry	line table
ifIndex		if_index
	cwsPathStatisticalAlarmSeverity	path_stat_sev
	cwsPathStatAlarmStatus	path_stat_state
CISCO-SONET-MIB.my		
csApsConfigTable	csApsConfigEntry	aps table
csApsWorkingIndex		work_index
	csApsProtectionIndex	prot_index
	csApsEnable	enable
	csApsArchMode	arch_mode
	csApsActiveLine	active_line
	csApsSigFaultBER	sig_fault_ber
	csApsSigDegradeBER	sig_degrade_ber
	csApsWaitToRestore	wait_to_restore
	csApsDirection	direction
	csApsRevertive	revertive
	csApsDirectionOperational	oper_direction
	csApsArchModeOperational	oper_arch_mode
	csApsChannelProtocol	protocol
	csApsFailureStatus	failure_status
	csApsSwitchReason	switch_reason
	csApsPrimarySection	primary_section
DS3-MIB.my		
dsx3ConfigTable	dsx3ConfigEntry	line table
dsx3LineIndex		if_index
	dsx3LineType	subtype
	dsx3SendCode	sendcode
	dsx3LoopbackConfig	loopback
	dsx3LineStatus	alarm_state

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
	dsx3TransmitClockSource	clock_src
	dsx3LoopbackStatus	lpbk_status
	dsx3Channelization	channelize
CISCO-DS3-MIB.my		
cds3AlarmConfigTable	cds3AlarmConfigEntry	line table
ifIndex		if_index
	cds3StatisticalAlarmSeverity	stat_severity
	cds3LineStatisticalAlarmState	stat_alarm_state
DS1-MIB.my		
dsx1ConfigTable	dsx1ConfigEntry	line table
dsx1LineIndex		if_index
	dsx1LineType	subtype
	dsx1SendCode	sendcode
	dsx1LoopbackConfig	loopback
	dsx1LineStatus	alarm_state
	dsx1SignalMode	signal_mode
	dsx1TransmitClockSource	clock_src
	dsx1Fdl	line_bitmap
	dsx1LoopbackStatus	lpbk_status
	dsx1Channelization	channelize
CISCO-DS1-EXT-MIB.my		
cds1ConfigTable	cds1ConfigEntry	line table
dsx1LineIndex		if_index
	cds1LoopbackCodeDetection	lpbk_code
CISCO-DS1-EXT-MIB.my		
cds1CallConfigTable	cds1CallConfigEntry	
dsx1LineIndex		
	cds1CallTrunkConditionEnable	
CISCO-DS1-EXT-MIB.my		
cds1AlarmConfigTable	cds1AlarmConfigEntry	line table
dsx1LineIndex		if_index

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
	cds1StatisticalAlarmSeverity	stat_severity
	cds1StatisticalAlarmState	stat_alarm_state
CISCO-IF-CALL-SERVICE-MIB.my		
ciServiceTable	cicServiceEntry	if_shutdown
ifIndex		if_index
	cicServiceOperState	oper_state
	cicServiceAdminState	admin_state
CISCO-CAS-IF-MIB.my		
ccasGrpCfgTable	ccasGrpCfgEntry	vxsm_vif table
ifIndex		if_index
ccasGrpCfgIndex		vif_num
	ccasGrpCfgDs0Channels	ds0_chan
	ccasGrpCfgServiceType	service_type
CISCO-CAS-IF-MIB.my		
ccasVoiceCfgTable	ccasVoiceCfgEntry	vxsm_vif table
ifIndex		if_index
ccasGrpCfgIndex		vif_num
	ccasVoiceCfgNoiseRegEnable	noise_reg_en
	ccasVoiceCfgNonLinearProcEnable	nln_proc_en
	ccasVoiceCfgMusicOnHoldThreshold	mus_hold_thrhd
	ccasVoiceCfgInGain	in_gain
	ccasVoiceCfgOutAttn	out_attn
	ccasVoiceCfgEchoCancelEnable	ecan_enable
	ccasVoiceCfgEchoCancelCoverage	ecan_cover
CISCO-CAS-IF-EXT-MIB.my		
ccasIfExtVoiceCfgTable	CvIfExtCfgEntry	vxsm_vif table
ifIndex		if_index
ccasGrpCfgIndex		vif_num
	ccasIfExtVoiceCfgLifNumber	lif_num
	ccasIfExtVoiceCfgCcntrlProfile	cc_profile
	ccasIfExtVoiceCfgVadEnabled	vad_enable

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
	ccasIfExtVoiceCfgContinuityTone1	cont_tone1
	ccasIfExtVoiceCfgContinuityTone2	cont_tone2
	ccasIfExtVoiceCfgModemPassThru	modem_pass_thr
	ccasIfExtVoiceCfgUpspeedCodec	upspeed_codec
	ccasIfExtVoiceCfgVadTimer	vad_timer
	ccasIfExtVoiceCfgICSEnable	ics_enable
	ccasIfExtVoiceCfgICSIntTimer	ics_int_timer
	ccasIfExtVoiceCfgTonePlan	tone_plan
	ccasIfExtVoiceCfgGwyLinkId	gwy_lnk_id
	ccasIfExtVoiceCfgMegacoPkgIds	megaco_pkg_id
	ccasIfExtVoiceCfgEventMappingIdx	event_map_index
ISDN-MIB.my		
isdnLapdTable	isdnLapdEntry	vism_lapd table
ifIndex		if_index
	isdnLapdOperStatus	oper_status
CISCO-ISDN-MIB.my		
cIsdnLapdtTable	cIsdnLapdEntry	vism_lapd table
ifIndex		if_index
	cIsdnLapdWinSize	win_size
	cIsdnLapdN200	n200_retrans
	cIsdnLapdT200	t200_timeout
	cIsdnLapdT203	t203_timeout
	cIsdnLapdIfType	lapd_type
	cIsdnLapdSide	lapd_side
	cIsdnLapdDs0Format	ds0_format
	cIsdnLapdHdlcProfile	hdlc_profile
	cIsdnLapdAsName	as_name
CISCO-DS0-CROSS-CONNECT -MIB.my		
cds0CrossConnectConfigTable	cds0CrossConnectConfigEntry	ds0_connect table
cds0Endpt1Ds1		endp1_ds1
cds0Endpt1Ds0Group		endp1_ds0_grp
	cds0Endpt2Ds1	endp2_ds1

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
	cds0Endpt2Ds0Group	endp1_ds0_grp
CISCO-PROP-ATM-IF-MIB.my		
cpAtmIfConfigTable	cpAtmIfConfigEntry	virtual_port table
ifIndex		if_index
	cpAtmIfMaxBandwidth	max_bandwidth
CISCO-WAN-RSRC-PART-MIB.my		
cwRsrcPartConfTable	cwRsrcPartConfEntry	rsc_part table
ifIndex		if_index
cwRsrcPartID		part_id
	cwRsrcPartController	ctrlr_id
	cwRsrcPartEgrGuarPctBwConf	egr_guar_bw
	cwRsrcPartEgrMaxPctBwConf	egr_max_bw
	cwRsrcPartIngGuarPctBwConf	ing_guar_bw
	cwRsrcPartIngMaxPctBwConf	ing_max_bw
	cwRsrcPartVpiLo	vpi_low
	cwRsrcPartVpiHigh	vpi_high
	cwRsrcPartVciLo	vci_low
	cwRsrcPartVciHigh	vci_high
	cwRsrcPartGuarCon	part_guar_con
	cwRsrcPartMaxCon	part_max_con
CISCO-WAN-RSRC-PART-MIB.my		
cwRsrcSvcAggregateTable	cwRsrcSvcAggregateEntry	rsc_part table
ifIndex		if_index
cwRsrcPartID		part_id
	cwRsrcSvcAggrVpiLow	sa_vpi_lo
	cwRsrcSvcAggrVpiHigh	sa_vpi_hi
	cwRsrcSvcAggrEgrPctBw	sa_egr_pctbw
	cwRsrcSvcAggrIngPctBw	sa_ing_pctbw
	cwRsrcSvcAggrChanVADTolerance	sac_vad_tol
	cwRsrcSvcAggrChanVADDutyCycle	sac_vad_dc

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
CISCO-VOICE-BAND-DATA-PROFILE-MIB.my		
cvbdpEventMappingTable		vxsm_event_map
cmgwIndex	cvbdpEventMappingEntry	
cvbdpEventMappingIndex		map_index
cvbdpEventIndex		event_index
	cvbdpEventHandleType	handle_type
	cvbdpEventHandleProfileIndex	profile_index
	cvbdpEventHandleMode	handle_mode
cvbdpFaxRelayProfileTable	cvbdpFaxRelayProfileEntry	vxsm_fax_relay
cmgwIndex		
cvbdpFaxProfIndex		profile_index
	cvbdpFaxProfMode	mode
	cvbdpFaxProfT38Variant	t38_variant
	cvbdpFaxProfBearerTxProtocol	bearer_tx_protocol
	cvbdpFaxProfTcfMethod	tcf_method
	cvbdpFaxProfMaxTxRate	max_tx_rate
	cvbdpFaxProfHsPacketRate	hs_packet_rate
	cvbdpFaxProfLsDataRedundancy	ls_data_red
	cvbdpFaxProfHsDataRedundancy	hs_data_red
	cvbdpFaxProfNsfOverrideEnable	nsf_override_enable
	cvbdpFaxProfNsfCountryCode	nsf_country_code
	cvbdpFaxProfNsfVendorCode	nsf_vendor_code
	cvbdpFaxProfNseAckTimeout	nse_ack_timeout
	cvbdpFaxProfInactivityTimeout	inactivity_timeout
	cvbdpFaxProfNominalDelay	nominal_delay
	cvbdpFaxProfT30EcmEnable	t30_ecm_enable
cvbdpVbdProfileTable	cvbdpVbdProfileEntry	vxsm_vbd_profile
cmgwIndex		
cvbdpVbdProfIndex		profile_index
	cvbdpVbdProfUpspeedCodec	upspeed_codec
	cvbdpVbdProfJitterDelayMode	jitter_delay_mode

Table D-18 SM_CARD_<SHELF#>_<logical slot #>.CF for VXSM Card (continued)

MIB Group	MIB varBind in File	DB Schema mapping
	cvbdpVbdProfJitterMaxDelay	jitter_max_delay
	cvbdpVbdProfJitterNomDelay	jitter_nom_delay
	cvbdpVbdProfJitterMinDelay	jitter_min_delay
	cvbdpVbdProfInactivityTimeout	inactivity_timeout
checksum signature	NA	
checksum	NA	

SM_CON_<Shelf#>_<Logical_Slot#>.CF for VXSM Card Connections

This file contains VXSM card connection information.

Table D-19 M_CON_<Shelf#>_<Logical_Slot#>.CF for VXSM Card Connections

MIB	MIB varBind in File	DB Schema mapping
checksum signature	N/A	
Root Oid	Iso.org.dod.internet	
CISCO-WAN-ATM-CONN-MIB.my		
cwAtmChanCnfgTable	cwAtmChanCnfgEntry	voice_conn table
ifIndex		if_index
cwaChanVpi		l_vpi
cwaChanVci		l_vci
	cwaChanServiceCategory	sub_type
	cwaChanIdentifier	lcn
	cwaChanUploadCounter	upd_counter
	cwaChanStatsEnable	stats
	cwaChanCCEnable	cc
	cwaChanLocalNSAPAddr	l_nsap_addr
	cwaChanRemoteVpi	r_vpi
	cwaChanRemoteVci	r_vci
	cwaChanRemoteNSAPAddr	r_nsap_addr
	cwaChanControllerId	ctrlr_id
	cwaChanRoutingMastership	master_flag
	cwaChanMaxCost	max_cost

Table D-19 M_CON_<Shelf#>_<Logical_Slot#>.CF for VXSM Card Connections (continued)

MIB	MIB varBind in File	DB Schema mapping
	cwaChanFrameDiscard	frame_dis
	cwaChanOperStatus	status
	cwaChanPCR	l_pcr
	cwaChanSCR	ingScr
	cwaChanCDV	cdv
	cwaChanCTD	ctd
	cwaChanMBS	ingrMbs
	cwaChanCDVT	cdvt
	cwaChanPercentUtil	lper_util
	cwaChanRemotePCR	r_pcr
	cwaChanRemoteSCR	egrScr
	cwaChanRemoteCDV	r_cdv
	cwaChanRemoteCTD	r_ctd
	cwaChanRemoteMBS	egrMbs
	cwaChanRemotePercentUtil	rper_util
	cwaChanAbrVSVDEnable	abr_vsvd_en
	cwaChanCLR	ingrClr
	cwaChanRemoteCLR	egrClr
	cwaChanOamSegEpEnable	oam_seg_en
	cwaChanSlaveType	slave_type
	cwaChanRoutingPriority	rout_pri
	cwaChanPrefRouteId	pref_route
	cwaChanDirectRoute	direct_route
CISCO-WAN-ATM-CONN-EXT-MIB.my		
cwAtmChanExtConfigTable	cwAtmChanExtConfigEntry	voice_conn table
ifIndex		if_index
cwaChanVpi		l_vpi
cwaChanVci		l_vci
	cwacChanPvcType	pvcType
	cwacChanProtection	protect
	cwacChanPreference	prefer
	cwacChanActivityState	actState
	cwacChanApplication	application
	cwacChanFallbackPort	fallbk_port

Table D-19 M_CON_<Shelf#>_<Logical_Slot#>.CF for VXSM Card Connections (continued)

MIB	MIB varBind in File	DB Schema mapping
	cwacChanFallbackVpi	fallbk_vpi
	cwacChanFallbackVci	fallbk_vci
	cwacChanLifNum	lif_num
	cwacChanCuTimer	cu_timer
	cwacChanCacMaster	cacMaster
	cwacChanVADTolerance	vad_tolerance
	cwacChanVADDutyCycle	vad_duty_cycle
	cwacChanAal2CidFillTimer	aal2cid_ftimer
CISCO-WAN-ATM-CONN-MIB.my		
cwAtmChanStateTable	cwAtmChanStateEntry	voice_conn table
ifIndex		if_index
cwaChanVpi		l_vpi
cwaChanVci		l_vci
	cwaChanAlarmState	alarm_status
CISCO-MEDIA-GATEWAY-MIB.my		
cMediaGwIpConfigTable	cMediaGwIpConfigEntry	vxsm_pvc_ip table
cmgwIndex		slot
cmgwIpConfigIndex		index
	cmgwIpConfigIfIndex	if_index
	cmgwIpConfigVpi	vpi
	cmgwIpConfigVci	vci
	cmgwIpConfigAddrType	ipaddr_type
	cmgwIpConfigAddress	ip_addr
	cmgwIpConfigSubnetMask	subnet_mask
	cmgwIpConfigDefaultGwIp	
catmtCidTable	CatmtCidEntry	aal2_cross_conn
ifIndex		if_index
cwaChanVpi		vpi
cwaChanVci		vci
cvAtmTrunkCid		cid
	catmtCidDs1	ds1_ifindex
	catmtCidDs0GroupIndex	ds0_grp_idx

Table D-19 M_CON_<Shelf#>_<Logical_Slot#>.CF for VXSM Card Connections (continued)

MIB	MIB varBind in File	DB Schema mapping
	catmtCidProfileType	profile_type
	catmtCidProfileNumber	profile_num
	catmtCidVoiceCodec	codec_type
	catmtCidVBDCodec	vbd_codec
	catmtCidNx64Enable	nx64_en
	catmtCidNx64Profile	nx64_profile
	catmtCidStateBitMap	state_bitmap
checksum signature	NA	
checksum	NA	

SM_CARD_<Logical_Slot#>_<current TransactionID>_<timeStamp>.CF for MPSM Cards

This file contains the card generic file object database schema mapping information.

Table D-20 SM_CARD_<Logical_Slot#>_<current TransactionID>_<timeStamp>.CF for MPSM Cards

MIB	MIB varBind in File	DB Schema mapping
ROOT OID		
cwmConfigTable cwmIndex (ciscoWanModuleMIB)	cwmConfigEntry	card table
	cwmIngressSCTFileId	sct_id
cwGlobalChanDataTable cwSlotIndex (ciscoWanAtmConnMIB)	CwGlobalChanDataEntry	card table
	cwChanGlobalTransactionId	transaction_id
ifXTable ifIndex (ifMIB - Rfc 2863)	ifXEntry	frp, mpbundle, ppp_link table

Table D-20 SM_CARD_<Logical_Slot#>_<current TransactionID>_<timeStamp>.CF for MPSM Cards

MIB	MIB varBind in File	DB Schema mapping
	ifName	frp table: l_slot, bay, line, l_port, port_type mpbundle table: slot, bay, line, index ppp_link table: slot, bay, line, index
	ifHighSpeed	frp table: port_speed mpbundle, ppp_link: n/a
	ifAlias	
ifTable (ifMIB - Rfc 1213)	ifEntry	frp, mpbundle, ppp_link table
ifIndex		ifindex - frp if_index - mpbundle if_index - ppp_link
	ifDescr	commentc - frp
	ifType	port_type - frp
	ifSpeed	port_speed - frp
	ifAdminStatus	admin_status - mpbundle admin_status - ppp_link status - frp
	ifOperStatus	oper_status - mpbundle oper_status - ppp_link active - frp
dsx1ConfigTable (DS1-MIB) (rfc2495)	dsx1ConfigEntry	line table
dsx1LineIndex		if_index
	dsx1IfIndex	
	dsx1LineType	subtype
	dsx1LineCoding	coding
	dsx1LoopbackConfig	loopback
	dsx1LineStatus	alarm_state
	dsx1SingalMode	signal_mode
	dsx1TransmitClockSource	clock_src

Table D-20 SM_CARD_<Logical_Slot#>_<current TransactionID>_<timeStamp>.CF for MPSM Cards

MIB	MIB varBind in File	DB Schema mapping
	dsx1LineLength	length
	dsx1LoopbackStatus	loopback_status
	dsx1Ds1ChannelNumber	
	dsx1Channelization	channelize
cbConfTable ifIndex (ciscoBertMIB)	cbConfEntry	removed from generic file of 215935, switch need to check
	cbTestPattern	
	cbBertTxPatternInv	
	cbBertRxPatternInv	
	cbErrorInsertionRate	
frPortCnfPortGrpTable (ciscoWanFrPortMIB)	frPortCnfPortGrpEntry	frp table
portNum		ifIndex
	portLineNum (ifIndex)	line
	portDs0ConfigBitMap	l_port, timeslot_num
	portDs0Speed	timeslot_speed
	portFlagsBetweenFrames	port_flag
	portEqueueServiceRatio	port_equ
	portSpeed	port_speed
	portAdmin	status
	portType	port_type
	portM32EgrQueueThresh	port_eqth
	portHeaderLen	header_len
	portFrameChkSumType	frame_chksum_type
	portFileId	sct_id
	portOverSubEnable	over_sub_enable
	cwfPortFragmentation	fragmentation
	cwfPortFragmentationSize	fragment_size
	cwfPortHdlcFrameInversion	frame_inversion
frPortStateGrpTable (ciscoWanFrPortMIB)	FrPortStateGrpEntry	frp table
statePortNum		ifIndex
	portState	oper_status
	portSignallingState	signal_state

Table D-20 SM_CARD_<Logical_Slot#>_<current TransactionID>_<timeStamp>.CF for MPSM Cards

MIB	MIB varBind in File	DB Schema mapping
	portOversubscribed	oversubscribed
	portIngrPercentUtil	ingr_per_util
	portEgrPercentUtil	egr_per_util
frPortCnfResPartGrpTable (ciscoWanFrRsrcPartMIB)	frPortCnfResPartGrpEntry	rsc_part table
frResPartPortNum		port
frResPartCtrlrNum		part_id
	frResPartNumOfLcnAvail	max_chans
	frResPartDlciLow	vpi_low
	frResPartDlciHigh	vpi_high
	frResPartIngrPctBW	egr_guar_bw
	frResPartEgrPctBW	ing_guar_bw
	frResPartCtrlrID	ctrlr_id
cMpBundleTable	cMpBundleEntry	mpbundle table
cMpBundleIndex		index
	cMpBundleIfIndex	if_index
	cMpBundleMRRU	mrru
	cMpBundleSeqNumFormat	seq_format
	cMpBundleFragmentation	fragmentation
	cMpBundleEndpointDiscClass	endpt_d_cl
	cMpBundleEndpointDisc	endpt_d
	cMpBundleLinksConfigured	links_conf
	cMpBundleLinksActive	links_active
	cMpBundleRemoteMRRU	r_mrru
	cMpBundleAvailBandwidth	avail_bw
	cMpBundleStatus	status
cPPPMuxTable	cPPPMuxEntry	ppp_mux table
ifIndex		if_index
	cPPPMuxEnabled	enable
	cPPPMuxPid	pid
	cPPPMuxMaxSubFrCount	max_subfr_num
	cPPPMuxMaxSubFrLen	max_subfr_len
	cPPPMuxMaxFrLen	max_fr_len
	cPPPMuxTimer	timer

Table D-20 SM_CARD_<Logical_Slot#>_<current TransactionID>_<timeStamp>.CF for MPSM Cards

MIB	MIB varBind in File	DB Schema mapping
cPPPLinkTable	cPPPLinkEntry	ppp_link table
cPPPLinkIndex		index
	cPPPLinkIfIndex	link_if_idx
	cPPPLinkPhyIfIndex	intf_if_idx
	cPPPLinkBundleIfIndex	bundle_if_idx
	cPPPLinkDescriptor	descriptor
	cPPPLinkRestartTimer	restart_t
	cPPPLinkMaxConfRetries	max_conf_retry
	cPPPLinkMaxTermRetries	max_term_retry
	cPPPLinkMaxFailures	max_fail
	cPPPLinkLcpTimeout	lcp_timeout
	cPPPLinkLcpMRU	lcp_mru
	cPPPLinkLcpPFCXmit	lcp_pfc_tran
	cPPPLinkLcpPFCRec	lcp_pfc_recv
	cPPPLinkLcpACFCXmit	lcp_acfc_tran
	cPPPLinkLcpACFCRec	lcp_acfc_recv
	cPPPLinkLcpLoopCheck	lcp_loop_chk
	cPPPLinkLcpEchoMaxRetries	lcp_echo_m_retry
	cPPPLinkStatus	link_status
	cPPPLinkRemoteMRU	r_mru
	cPPPLinkLcpPFCXmitMode	lcp_pfc_tmode
	cPPPLinkLcpACFCXmitMode	lcp_acfc_tmode
cPPPDS1LinkTable (augmented of cPPPLinkTable)	cPPPDS1LinkEntry	
	cPPPDS1LinkChannelize	ds1_lnk_chan
	cPPPDS1LinkStartDS0	ds1_lnk_ds0
	cPPPDS1LinkNumOfDS0	ds1_lnk_
	cPPPDS1Link56KbpsMode	ds1_lnk_56kmode
checksum signature	NA	
checksum (integer based)	NA	

SM_CARD_<Logical_Slot#>_<current TransactionID>_<timeStamp>.CF for MPSM Alarms

This file contains the database schema mapping of the card generic alarm satus file for the RedStone MPSM 16-T1E1.

Table D-21 SM_CARD_<Logical_Slot#>_<current TransactionID>_<timeStamp>.CF for MPSM Alarms

MIB	MIB varBind in File	DB Schema mapping
File signature	NA	
ROOT OID		
cwmConfigTable	cwmConfigEntry	
cwmIndex		
	cwmUploadCounter	
ifTable	ifEntry	
ifIndex	ifOperStatus	oper_status - mpbundle oper_status - ppp_link active - frp
dsx3ConfigTable	Dsx3ConfigEntry	
dsx3LineIndex	dsx3LineStatus	
cds3AlarmConfigTable	Cds3AlarmConfigEntry	
ifIndex	cds3LineStatisticalAlarmState	
cds3AlarmPlcpTable	cds3AlarmPlcpEntry	
ifIndex	cds3PlcpLineAlarmState	
	cds3PlcpLineStatisticalAlarmState	
sonetLineCurrentTable	sonetLineCurrentEntry	
ifIndex	sonetLineCurrentStatus	
sonetSectionCurrentTable	sonetSectionCurrentEntry	
ifIndex	sonetSectionCurrentStatus	
sonetPathCurrentTable	SonetPathCurrentEntry	
ifIndex	sonetPathCurrentStatus	
cwsLineAlarmTable	CwsLineAlarmEntry	
ifIndex	cwsLineStatAlarmStatus	
cwsSectionAlarmTable	CwsSectionAlarmEntry	
ifIndex	cwsSectionStatAlarmStatus	
cwsPathAlarmTable	CwsPathAlarmEntry	
ifIndex	cwsPathStatAlarmStatus	
csApsConfigTable	CsApsConfigEntry	
csApsWorkingIndex	csApsFailureStatus	
dsx1ConfigTable	dsx1ConfigEntry	line table
dsx1LineIndex	dsx1LineStatus	alarm_state
	dsx1LoopbackStatus	loopback_status

Table D-21 SM_CARD_<Logical_Slot#>_<current TransactionID>_<timeStamp>.CF for MPSM Alarms

MIB	MIB varBind in File	DB Schema mapping
frPortStateGrpTable	FrPortStateGrpEntry	frp table
statePortNum (ifIndex)	portState	oper_status
	portSignallingState	signal_state
cMpBundleTable	cMpBundleEntry	mpbundle table
	cMpBundleStatus	status
cPPPLinkTable	cPPPLinkEntry	ppp_link table
	cPPPLinkStatus	link_status
checksum signature	NA	
checksum (Integer based)	NA	

SM_CARD_<Logical_Slot#>_<current TransactionID>_<timeStamp>.CF for MPSM Connections

This file contains the database schema mapping of the static connection file format of RedStone MPSM 16-T1E1 card information.

Table D-22 SM_CARD_<Logical_Slot#>_<current TransactionID>_<timeStamp>.CF for MPSM Connections

MIB	MIB varBind in File	DB Schema mapping
File signature (4 bytes)	NA	
TYPE (1 Byte (enum))	NA	
Length of valid data (4 bytes)	NA	
Length of padded data (1 Byte)	NA	
ROOT OID		
cwGlobalChanDataTable cwSlotIndex (ciscoWanAtmConnMIB)	CwGlobalChanDataEntry	card table
	cwaChanGlobalTransactionId	transaction_id
TYPE	NA	
Length of valid data	NA	
Length of padded data	NA	
ROOT OID		
TYPE (1 Byte (enum))	NA	
Length of valid data (4 bytes)	NA	
Length of padded data (1 Byte)	NA	
ROOT OID		

Table D-22 SM_CARD_<Logical_Slot#>_<current TransactionID>_<timeStamp>.CF for MPSM Connections

MIB	MIB varBind in File	DB Schema mapping
frChanCnfGrpTable chanNum (ciscoWanFrConnMIB)	frChanCnfGrpEntry	connection table
	chanPortNum (ifIndex)	logical_port
	dLCI	l_dlci
	egressQSelect	eg_q_select
	deTaggingEnable	de_tag_ena
	cir	cir
	bc	bc
	be	be
	chanType	channel_type
	chanFECNconfig	fecn
	chanDEtoCLPmap	de_to_clp_map
	chanCLPtoDEmap	clp_to_de_map
	chanIngrPercentUtil	lper_util
	chanEgrPercentUtil	rper_util
	chanEgrSrvRate	egr_srv_rate
	frLocalVpi	l_vpi
	frLocalVci	l_vci
	frLocalNSAP	r_slot, r_channel, (only for slave end)
	frRemoteVpi	r_vpi
	frRemoteVci	r_vci
	frRemoteNSAP	r_slot, r_channel (only for master end)
	frMastership	master_flag
	frVpcFlag	vpc_flag
	frConnServiceType	par_subtype
	frRoutingPriority	par_rout_pri
	frMaxCost	par_max_cost
	frConnPCR	par_chan_pcr
	frConnRemotePCR	par_chan_rpcr
	frConnMCR	par_chan_mcr
	frConnRemoteMCR	par_chan_rmcr
	chanServType	qbin_num
	zeroCirConEir	eir

Table D-22 SM_CARD_<Logical_Slot#>_<current TransactionID>_<timeStamp>.CF for MPSM Connections

MIB	MIB varBind in File	DB Schema mapping
	chanReroute	
	frConnSCR	l_scr
	frConnRemoteSCR	r_scr
	frConnAdminStatus	status
	frChanCnfChangeCount	upload_counter
	frChanCnfIgnoreIncomingDE	ignore_incoming_de
	frChanOamCCEnable	oam_cc_flag
	frChanStatsEnable	stats_enable
	frChanLocalLpbkEnable	local_lpbk_enable
	frChanUpcEnable	upc_enable
	frChanSlaveType	master_type
	frConnRemoteMBS	r_mbs
	frChanPrefRouteId	pref_route_id
	frChanDirectRoute	direct_route_flag
frChanStateGrpTable stateChanNum (ciscoWanFrConnMIB)	FrChanStateGrpEntry	connection table
	chanState *	status
	xmtAbitState	
	rcvAbitState	
	chanStatusBitMap	alarm_status
checksum signature	NA	
checksum (byte based)	NA	

Card Types

This appendix lists the front and back cards that are supported in CWM 15.0 and later.
See these sections:

Note that the entries in the Value columns of the tables are provided in this appendix simply as a listing aid to identifying the card types.

Cisco IPX, IGX, and BPX Front Cards

Table E-1 lists the Cisco IPX, IGX, and BPX front cards supported in CWM 15.0 and later.

Table E-1 Cisco IPX, IGX, and BPX Front Cards

Front Card	Value (fc_type)
NULL_CD	0
IPX_PCC_CD	1
VDP_CD	2
TXR_CD	3
PIC_CD	4
VCD_CD	5
VDP_VCD_CD	6
PSM_CD	7
PS_CD	8
SDP_CD	9
BSLOT_CD	10
MBACK_CD	11
SDP_BACK_CD	12

Table E-1 Cisco IPX, IGX, and BPX Front Cards (continued)

Front Card	Value (fc_type)
TXR2_CD	13
XDP_CD	14
LDP_CD	15
XDP_BACK_CD	16
LDP_BACK_CD	17
SBACK_CD	18
LBACK_CD	19
FDP_CD	20
CIP_CD	21
NTC_CD	22
UBACK_CD	23
UNI_CD	24
FRP_CD	25
FBACK_CD	26
FRP_BACK_CD	27
MT3_CD	28
CDP_CD	29
E1T1_PORT_CD	30
ATM_CD	31
NPC_CD	32
ARC_CD	33
AIT_CD/BTM_CD	34
FTC_CD	35
FTCBACK_CD	36
UFM1_CD	37
UFM1_U_CD	38
BTM_HP_CD	39
UVM_CD	40
UXM_CD	41
UXME	45
BCC_CD	101
ASM_CD	102
BNI_T3_CD	103
BNI_E3_CD	104
MFRP_CD	105

Table E-1 Cisco IPX, IGX, and BPX Front Cards (continued)

Front Card	Value (fc_type)
ASI_T3_2_CD	106
ASI_E3_2_CD	107
ASI0_T3_CD	108
ASI0_E3_CD	109
BNI_OC3_CD	110
ASI_OC3_CD	111
BPX_BSLOT_CD	112
BCC3_CD and BCC4_CD	113
Not used	114
Reserved for GIM cards	115
Reserved for GIM cards	116
MNCH_CD (BXM BPX only)	117
UNKWN_CD	118
BXM_T3_8_SMF	180
BXM_T3_8_MMF	181
BXM_T3_8_SMFLR	182
BXM_T3_8_SNM	183
BXM_T3_12_SMF	184
BXM_T3_12_MMF	185
BXM_T3_12_SMFLR	186
BXM_T3_12_SNM	187
BXM_E3_8_SMF	188
BXM_E3_8_MMF	189
BXM_E3_8_SMFLR	190
BXM_E3_8_SNM	191
BXM_E3_12_SMF	192
BXM_E3_12_MMF	193
BXM_E3_12_SMFLR	194
BXM_E3_12_SNM	195
BXM_OC3_4_SMF	196
BXM_OC3_4_MMF	197
BXM_OC3_4_SMFLR	198
BXM_OC3_4_SNM	199
BXM_OC3_8_SMF	200
BXM_OC3_8_MMF	201

Table E-1 Cisco IPX, IGX, and BPX Front Cards (continued)

Front Card	Value (fc_type)
BXM_OC3_8_SMFLR	202
BXM_OC3_8_SNM	203
BXM_OC12_1_SMF	204
BXM_OC12_1_MMF	205
BXM_OC12_1_SMFLR	206
BXM_OC12_1_SNM	207
BXM_OC12_2_SMF	208
BXM_OC12_2_MMF	209
BXM_OC12_2_SMFLR	210
BXM_OC12_2_SNM	211
BME_OC12_1_SMF	212
BME_OC12_1_MMF	213
BME_OC12_1_SMFLR	214
BME_OC12_1_SNM	215
BME_OC12_2_SMF	216
BME_OC12_2_MMF	217
BME_OC12_2_SMFLR	218
BME_OC12_2_SNM	219
BXM_OC3_4_STM1E	220
BXM_OC3_8_STM1E	221
BXM_OC3_4_XLR	222
BXM_OC3_8_XLR	223
BXM_OC12_1_XLR	224
BXM_OC12_2_XLR	225
BXM_T3_12_ENH	226
BXM_E3_12_ENH	227
BXM_OC3_4_SMF_ENH	228
BXM_OC3_4_MMF_ENH	229
BXM_OC3_4_SMFLR_ENH	230
BXM_OC3_4_STM1E_ENH	231
BXM_OC3_4_XLR_ENH	232
BXM_OC3_8_SMF_ENH	233
BXM_OC3_8_MMF_ENH	234
BXM_OC3_8_SMFLR_ENH	235
BXM_OC3_8_STM1E_ENH	236

Table E-1 Cisco IPX, IGX, and BPX Front Cards (continued)

Front Card	Value (fc_type)
BXM_OC3_8_XLR_ENH	237
BXM_OC12_1_SMF_ENH	238
BXM_OC12_1_MMF_ENH	239
BXM_OC12_1_SMFLR_ENH	240
BXM_OC12_1_XLR_ENH	241
BXM_OC12_2_SMF_ENH	242
BXM_OC12_2_MMF_ENH	243
BXM_OC12_2_SMFLR_ENH	244
BXM_OC12_2_XLR_ENH	245
BME_OC12_1_SMF_ENH	246
BME_OC12_2_SMF_ENH	247
BME_OC12_2_SMFLR_ENH	248
BME_OC12_2_SNM_ENH	249
BXM_T3_8E	250
BXM_E3_8E	251
BXM_E3_12E	253
BXM_T3_12E	254

Cisco IPX, IGX, and BPX Back Cards

Table E-2 lists the Cisco IPX, IGX, and BPX back cards supported in CWM 15.0 and later.

Table E-2 Cisco IPX, IGX, BPX Back Cards

Back Card	Value (bc_type)
NULL_BCD	0
RS232_BCD	1
RS449_BCD	2
V35_BCD	3
RS232D_BCD	4
RS232_8_BCD	5
RS232_4_BCD	6
FRIV35_4_BCD	7
E1_BCD	8
T1_BCD	9
PCCB_BCD	10

Table E-2 Cisco IPX, IGX, BPX Back Cards (continued)

Back Card	Value (bc_type)
DDS_4_BCD	11
DDS_8_BCD	12
SR_BCD	13
MT3_BCD	14
FRI_E1_BCD	15
FRI_T1_BCD	16
J1_BCD	17
Y1_BCD	18
IPX_T3_BCD	19
IPX_E3_BCD	20
FRI_X21_BCD	21
ARI_BCD	22
AIT_T3_BCD/BTM_T3_BCD	23
AIT_E3_BCD/BTM_E3_BCD	24
FTIV35_4_BCD	25
FTI_X21_BCD	26
FTI_E1_BCD	27
FTI_T1_BCD	28
AIT_E2_BCD	29
AIT_HSSI_BCD	30
UFI_T1D_BCD	31
UFI_E1D_BCD	32
UFI_E1B_BCD	33
UFI_HSSI_BCD	34
UFI_V35_BCD	35
UFI_X21_BCD	36
BTM_HP_T3_BCD	37
BTM_HP_E3_BCD	38
T1-2	39
E1-2	40
BCC_BCD	101
LM_ASM_BCD	102
T3_BCD	103
E3_BCD	104
T3_2_BCD	105

Table E-2 Cisco IPX, IGX, BPX Back Cards (continued)

Back Card	Value (bc_type)
E3_2_BCD	106
SMF_BCD	107
MMF_BCD	108
BCCLM2_BCD	109
STM1_BCD	110
UTP_BCD	111
STP_BCD	112
MNCH_BCD	113
SMFLR_BCD	114
UNKWN_BCD	115
INIT_BCD	116
UAI_4OC3_MMF	150
UAI_4OC3_SMF	151
UAI_2OC3_SMF	152
UAI_6T3	153
UAI_3T3	154
UAI_6E3	155
UAI_3E3	156
UAI_8T1_IMA_DB15	157
UAI_8E1_IMA_DB15	158
UAI_8E1_IMA_BNC	159
UAI_4T1_IMA_DB15	160
UXM_4E1_IMA_DB15	161
UXM_4E1_IMA_BNC	162
OC3	163

MGX Front Cards

Table E-3 lists the Cisco MGX 8220, 8230, 8250, 8830, 8850 PXM1-based, 8850 PXM1E-based, and 8850 PXM45-based front cards supported in CWM 15.0.

Table E-3 MGX Front Cards

Front Card	Value (fc_type)	Symbols in the MIB
Other	1	—
ASC	2	—
BNM-T3	10	—
BNM-E3	11	—
BNM-155	12	—
SRM-4T1E1	20	—
SRM-3T3	21	cevMGXSrm3t3
SRME-1OC3	22	srme-1OC3/cevMGXSrmE1Oc3
SRME-1STS3	23	srme-1STS3/cevMgxSrme1Sts3
SRME-NOBC	24	srme-NOBC/cevMgxSrmeNoBc
SRME-3T3-NOBC	25	srm-3T3-NOBC/cevMgxSrm3t3NoBc
SRMB_1OC3	26	srmeB-1OC3/cevMGXSrmeB1Oc3
SRMEB_1STS3	27	srmeB-1STS3/cevMgxSrmeB1Sts3
SRMEB_3T3	28	srmeB-3T3/cevMgxSrmeB3T3
SRMEB_NOBC	29	srmeB-NOBC/cevMgxSrmeBNoBc
FRSM-4T1	30	—
FRSM-4E1	31	—
FRSM-4T1-C	32	—
FRSM-4E1-C	33	—
FRSM-HS1	34	cevFrsm4x21
FRSM_8E1	36	cevFrsm8e1
FRSM-HS1/B	37	—
FRSM-8T1C	38	cevFrsmC8t1
FRSM-8E1C	39	cevFrsmC8e1
AUSM-4T1	40	—
AUSM-4E1	41	—
AUSM-8T1	50	cevAusm8t1
AUSM-8E1	51	cevAusm8e1
AUSM_8T1/B	52	cevAusmB8t1
AUSM_8E/B	53	cevAusmB8e1
AUSM-C-8T1	54	—

Table E-3 MGX Front Cards (continued)

Front Card	Value (fc_type)	Symbols in the MIB
AUSM-C-8E1	55	—
AXSM-1-2488	3000	cevAxsm1Oc48
AXSM-4-622	3001	cevAxsm4Oc12
AXSM-8-155	3002	cevAxsm8Oc3
AXSM-16-155	3003	cevAxsm16Oc3
AXSM-16-T3E3	3004	cevAxsm16T3E3
AXSM-2-622-E	3005	cevAxsm2oc12
AXSM-E-1-622	3100	cevEnhAxsm1oc12
AXSM-22-OC12-E	3101	cevEnhAxsm2oc12
AXSM4-OC3-E	3102	cevEnhAxsm4oc3
AXSM-E-8-155	3103	cevEnhAxsm8oc3
AXSM4-STM1-E	3104	cevEnhAxsm4stm1
AXSM8-STM1-E	3105	cevEnhAxsm8stm1
AXSM8-T3E3-E	3106	cevEnhAxsm8t3e3
AXSM16-T3E3-E	3107	cevEnhAxsm16t3e3
AXSM8-T1-E	3108	cevEnhAxsm8t1
AXSM16-T1-E	3109	cevEnhAxsm16t1
AXSM8-E1-E	3110	cevEnhAxsm8e1
AXSM16-e1-E	3111	cevEnhAxsm16e1
AXSM-32-T1E1-E	3113	cevAxsmEn32t1e1
AXSM-1-2488-b	3300	cevAxsm1Oc48B
AXSM-4-622-b	3301	cevAxsm4Oc12B
AXSM-16-155-b	3302	cevAxsm16Oc3B
AXSM16-T3E3-b	3303	cevAxsm16T3E3B
AXSM-1-9953-XG	3400	cevAxsmOc192
AXSM-4-2488-XG	3401	cevAxsm4ChOc48
AXSM16-oc3-xg	3405	cevAxsmxg16Oc3
CESM-4T1	60	—
CESM-4E1	61	—
CESM_8T1	90	cevCesm8t1
CESM-8E1	91	cevCesm8e1
CESM-T3	140	cevCesm1t3
CESM-E3	141	cevCesm1e3
CESM-B-8T1	787	cevCesmB8t1
FRSM-8T1	80	—

Table E-3 MGX Front Cards (continued)

Front Card	Value (fc_type)	Symbols in the MIB
FRSMVHS_2CT3	130	—
FRSMVHS_2T3	131	—
FRSM-2E3	132	—
FRSM-2HS2	133	cevFrsm2hssi
FRSM-HS2B-HSSI	136	cevFrsmB2hssi
FRSMVHS_HS2b_12IN1	137	cevFrsmB212in1
FRSM-12-T3E3	160	cevFrsm12t3e3
IMATM-T3T1	70	—
IMATM-E3E1	71	—
IMATM-8T1-B	72	—
IMATM-8E1-B	73	—
FRASM_8T1	35	cevFrsm8t1
MPSM-8T1E1	200	—
MPSM-8T1-FRM	201	—
MPSM-8T1-CES	202	—
MPSM-8T1-ATM	203	—
MPSM-8E1-FRM	204	—
MPSM-8E1-CES	205	—
MPSM-8E1-ATM	206	—
MPSM-155T3E3	3900	cevMpsm155t3e3
MPSM-16T1E1	3905	cevMpsm16t1e1
MPSM-16T1E1-PPP	3920	cevMpsm16t1e1Ppp
MPSM-T3E3	3921	—
PXM-1	1000	cevCpuPSM1Gbps
PXM-T3E3	1001	cevCpuPsm12t3e3
PXM-OC3	1002	cevCpuPsm14oc3
PXM-OC12	1003	cevCpuPsm11oc12
PXM45	1100	cevCpuPSM45Gbps
PXM45B	1101	cevCpuPXMB45Gbps
PXM45C	1102	cevCpuPXMC45Gbps
PXM1-E	1200	cevCpuPXM1E1Gbps
PXM1-E-8T3E3	1201	cevCpuPXM1E8t3e3
PXM1-E-8-155	1202	cevCpuPXM1E8oc3
PXM1-E-2-622	1203	cevCpuPXM1E2oc12
PXM1-E-COMBO-T3E3-155	1204	cevCpuPXM1ECombot3e3oc3

Table E-3 MGX Front Cards (continued)

Front Card	Value (fc_type)	Symbols in the MIB
PXM1-E-4-155	1205	cevCpuPXM1E4oc3
PXM1-E-16T1E1	1209	cevCpuPXM1E16T1E1
RPM	2000	cevMGXRpm
RPM-PR	2001	cevMGXRpm400
RPM_XF	2002	cevMGXRpmXf
VISM-8T1	150	—
VISM-8E1	151	—
VISM_PR_8T1	563	vism-pr-8T1/cevVismPr8t1
VISM_PR_8E1	564	vism-pr-8E1/cevVismPr8e1
VXSM_4OC3	601	cevVxsm4oc3
VXSM-48T1E1	602	cevVxsm48t1e1
VXSM-6T3	604	cevVxsm6t3
XM_60	3200	cevContainerMGXXm60Slot

MGX Back Cards

Table E-4 lists the Cisco MGX 8220, 8230, 8250, 8830, 8850 PXM1-based, 8850 PXM1E-based, and 8850 PXM45-based back cards supported in CWM 15.0 and later.

Table E-4 MGX Back Cards

Back Card	Value (bc_type)	Symbols in the MIB
OTHER	1	Back card is missing.
LM-ASC	2	—
LM-DB15-4T1	16	—
LM-DB15-4E1	17	—
LM-BNC-4E1	18	—
LM-DB15-4T1-R	19	—
LM-DB15-4E1-R	20	—
LM-BNC-4E1-R	21	—
LM-RJ48-8T1	22	cevLmRj488t1
LM-RJ48-8E1	23	cevLmRj488e1
LM-SMB-8E1	24	cevLmSmb8e1
LM-RJ48-T3T1	25	—
LM-RJ48-E3E1	26	—
LM-RJ48-T3E1	27	—

Table E-4 MGX Back Cards (continued)

Back Card	Value (bc_type)	Symbols in the MIB
LM-SMB-E3E1	28	—
LM-RJ48-E3T1	29	—
LM-SMB-T3E1	30	—
LM-T3-E3-D	32	—
LM-T3-E3-B	33	—
LM-155-SMF	34	—
LM-155-UTP	35	—
LM-RJ48-8T1-R	48	cevLmRj488t1R
LM-RJ48-8E1-R	49	cevLmRj488e1R
LM-SMB-8E1-R	50	cevLmSmb8e1R
LM-SRM-3T3	51	—
LM-HS1-4X21	60	—
LM-HS1-2HSSI	61	—
LM-HS1-4V35	62	—
LM-12IN1-8S	63	cevLm12In18s
LM-BNC-2T3	80	cevLmBnc2t3
LM-BNC-2E3	81	cevLmBnc2e3
LM-PXM-UI	500	cevLmPsmUI
LM-SMFIR-1-622	501	cevLmSmfIr1oc12
LM-SMFLR-1-622	502	cevLmSmfLr1oc12
LM-SMFIR15-1-622	503	—
LM-SMFLR15-1-622	504	—
LM-MMF-4-155	505	cevLmMmf4oc3
LM-SMFIR-4-155	506	cevLmSmfIr4oc3
LM-SMFLR-4-155	507	cevLmSmfLr4oc3
LM-BNC-3T3	510	—
LM-RJ45-FE	511	—
LM-MMF-FE	512	—
LM-MMF-FDDI	513	—
LM-SMF-FDDI	514	—
LM-RJ45-4E	515	—
LM-DB15-4x21	601	cevLmDb154x21
LM-SCSI2-2HSSI	602	cevLmScsi22hssi
LM-S3-UI	603	cevLmS3Ui
LM-MMF8-OC3	604	cevLmMmf8oc3

Table E-4 MGX Back Cards (continued)

Back Card	Value (bc_type)	Symbols in the MIB
LM-SMFIR8-OC3	605	cevLmSmfIr8oc3
LM-SMFLR8-OC3	606	cevLmSmfLr8oc3
LM-SMFIR-1OC48	607	cevLmSmfIr1oc48
LM-SMFLR-1OC48	608	cevLmSmfLr1oc48
LM-PSM-HD	609	cevLmPsmHD
LM-SMB-8T3	610	cevLmSmb8t3
LM-SMB-8E3	611	cevLmSmb8e3
LM-SMB-4-155	612	cevLmSmb4stm1
LM-SMFIR-2-622	613	cevLmSmfIr2oc12
LM-SMFLR-2-622	614	cevLmSmfLr2oc12
LM-SMFSR-loc48	615	cevLmSmfSrloc48
LM-SMFXLR-loc48	616	cevLmSmfXlrloc48
LM_SCSI2B_2HSSI	617	cevLmScsi2B2hssi
LM-SMFLR-1OC48-B	618	cevLmSmfLr1Oc48B
LM-SMFSR-1OC48-B	619	cevLmSmfSr1Oc48B
LM-SMFXLR1-OC48B	625	cevLmSmfXlr1Oc48B
LM-RJ48-16-T1E1	626	cevLmRj4816t1e1
LM-MCC-16E1	627	cevLmMcc16e1
LM-RBBN-16-T1E1	628	cevLmRbbn16t1e1
LM-COMBO-T3E3-15	700	cevLmCombot3e3oc3
LM-MMF-8OC3-B	701	cevLmMmf8oc3B
LM-SMFIR-8OC3-B	702	cevLmSmfIr8Oc3B
LM-SMFLR-8OC3-B	703	cevLmSmfLr8oc3B
LM-MMF-8OC3-C	704	cevLmMmf8oc3C
LM-SMFIR-8OC3-C	705	cevLmSmfIr8oc3C
LM-SMFLR-8OC3-C	706	cevLmSmfLr8oc3C
LM-SMFIR-2-622-B	707	cevLmSmfIr2oc12B
LM-SMFLR-2-622-B	708	cevLmSmfLr2oc12B
LM-SMFIR-2-622-C	709	cevLmSmfIr2oc12C
LM-SMFLR-2-622-C	710	cevLmSmfLr2oc12C
LM-SMB-8-STM1	712	cevLmSmb8stm1
LM-SMF-8-OC3-SFP	713	cevLmSmf8Oc3Sfp
LM-SMF-4-OC12	714	cevLmSmf4Oc12
LM-SMB-6T3	750	cevLmSmb6t3
LM-SMB-6E3	751	cevLmSmb6e3

Table E-4 MGX Back Cards (continued)

Back Card	Value (bc_type)	Symbols in the MIB
LM-SMFXLR-1-OC192	760	cevLmSmfXlr1Oc192
LM-SMFLR-1-OC192	761	cevLmSmfLr1Oc192
LM-SMFIR-1-OC192	762	cevLmSmfIr1Oc192
LM-SMFSR-1-OC192	763	cevLmSmfSr1Oc192
LMSMF_4_OC48	764	cevLmSmf4oc48
LM_RPM_XF_UI	800	cevLmRpmXfUI
LM_POS_1OC12	801	cevLmPos1oc12
LM_RPM_XF_1GE	802	cevLmRpmXf1ge
LM_RPM_XF_2GE	803	cevLmRpmXf2ge
LM_POS_2OC12	804	cevLmPos2oc12
LM_VXSM_MMF_4OC3	901	cevLmVxsmMmf4oc3
LM_VXSM_SMFIR_4OC3	902	cevLmVxsmSmfIr4oc3
LM_VXSM_SMFLR_4OC3	903	cevLmVxsmSmfLr4oc3
LM_VXSM_4OC3_R	904 redundant back card	cevLmVxsm4Oc3R
LM-CHAMP-24_T1E1	905	cevLmChamp24t1e1
LM-SFP-2OC3	907	cevLmSfp2Oc3
LM-SFP-2OC3-EL	908	cevLmSfp2Oc3EL
LM-BNC-3T3E3	909	cevLmBnc3t3e3
LM-RED-2Oc3	910	cevLmRed2Oc3
LM-RED-3T3E3	911	cevLmRed3t3e3
LM-rbbn-16-T1E1-1N	912	cevLmRbb16e11N
LM-mcc-16-e1-1N	913	cevMcc16e11N
LM-RED-16-T1E1	914	cevLmRed16t1e1
LM-S3B-UI	1007	cevLmS3BUi
LM_SRME_1OC3_SMLR	1050	lm-srme-1OC3-smlr
LM_SRME_1OC3_SMFIR	1051	lm-srme-1OC3-smfir
LM_SRME_1OC3_SMB	1052	lm-srme-1OC3-smb
VXSM-BC-SMB-3T3E3	1906	cevLmSmb3t3e3
5 Port E/FE/GE auto-sensing back card	517	cevLm5efegeTx

APPENDIX F

Bulk Statistics File Format

This appendix describes the formats of the statistics files collected from the nodes. These formats are necessary for users who parse the statistics files using an Operational Support System (OSS). The following topics are included:

Mapping Statistics to the Data Tables

You can parse the statistics using the statsdb or stratacom database. Table F-1 lists the tables in these databases for each statistic object and subobject type.

Table F-1 Mapping Statistics to the Database Tables

Statistics Type	Object or Subobject ID	stratacom	statsdb
Voice Connection	0, 0	connection_data	voice_conn_data
Data Connection	0, 1	connection_data	data_conn_data
Frame Relay Connection	0, 2	connection_data	fr_conn_data
FastPAD Voice Connection	0, 3	fpd_conn_data	fpv_conn_data
FastPAD Switched Voice Connection	0, 4	fpd_conn_data	fpsv_conn_data
FastPAD Data Connection	0, 5	fpd_conn_data	fpd_conn_data
FastPad Frame Relay Connection	0, 6	fpd_conn_data	fpfr_conn_data
ASI Connection	0, 7	connection_data	atm_conn_data
MGX ATM Connection	0, 8	connection_data	axisfr_conn_data
MGX ATM Connection	0, 9	connection_data	axisatm_conn_data

Table F-1 Mapping Statistics to the Database Tables (continued)

Statistics Type	Object or Subobject ID	stratacom	statsdb
CE Connection	0, 10	connection_data	axisce_conn_data
Broadband Connection	0, 11	connection_data	bb_conn_data
AXSM ATM Connection	0, 12	axsm_conn_data	axsm_conn_data
AXSME ATM Connection	0, 13	axsme_conn_data	axsme_conn_data
PXM1E Connection	0,14	pxm1e_conn_data	pxm1e_conn_data
FRSM12 Connection	0,15	frsm12_conn_data	frsm12_conn_data
AXSM-XG Connection	0,16	axsmxg_conn_data	xg_conn_data
VXSM Connection	0,17	vxsm_atm_conn_data	xg_conn_data
MPSM155 ATM Connection	0,18	mpsm155_atm_conn_data	xg_conn_data
MPSM155 Frame Relay Connection	0,19	mpsm155_fr_conn_data	chanfr_conn_data
T1 Service Line	1, 0	circuit_ln_data	t1_line_data
E1/J1 Service Line	1, 1	circuit_ln_data	e1j1_line_data
ASI Line	1, 2	asi_ln_data	asi_line_data
MGX T1/E1 Service Line	1, 3	circuit_ln_data	axist1_line_data
MGX ATM Service Line	1, 4	circuit_ln_data	axisatm_line_data
MGX T3/E3 Service Line	1, 6	circuit_ln_data	axist3_line_data
SONET Service Line	1, 10	circuit_ln_data	sonet_line_data
AXSM Service Line	1, 11	mgx3_ln_data	axsm_line_data
AXSM-E Service Line	1, 12	mgx3_ln_data	axsme_line_data
PXM1E Service Line	1, 13	mgx3_ln_data	pxm1e_line_data
AXSM-XG Service Line	1, 15	axsmxg_ln_data	xg_line_data
AXSM-XG DS3 Service Line	1, 16	axsmxg_ds3_ln_data	xg_line_ds3_data
MPSM DS3 Service Line	1, 20	mpsm155_ds3_ln_data	xg_line_ds3_data
MPSM STS1 Service Line	1, 21	mpsm155_ds3_ln_data	sts1_pif_data
MPSM STM1 Service Line	1, 22	mpsm155_ds3_ln_data	stm1_pif_data
MPSM DS3 STS1 Service Line	1, 23	mpsm155_ds3_ln_data	ds3_sts1_pif_data
MPSM E3 STS1 Service Line	1, 24	mpsm155_ds3_ln_data	e3_sts1_pif_data
MPSM DS3 AU4 Service Line	1, 25	mpsm155_ds3_ln_data	ds3_au4_pif_data
MPSM DS3 AU3 Service Line	1, 26	mpsm155_ds3_ln_data	ds3_au3_pif_data
MPSM E3 AU4 Service Line	1, 27	mpsm155_ds3_ln_data	e3_au4_pif_data
MPSM E3 AU3 Service Line	1, 28	mpsm155_ds3_ln_data	e3_au3_pif_data
MPSM DS1 VT STS1 Service Line	1, 29	mpsm155_ds1_ln_data	ds1_vt_sts1_pif_dat a
MPSM E1 VT STS1 Service Line	1, 30	mpsm155_e1_ln_data	e1_vt_sts1_pif_data

Table F-1 Mapping Statistics to the Database Tables (continued)

Statistics Type	Object or Subobject ID	stratacom	statsdb
MPSM DS1 DS3 STS1Service Line	1, 31	mpsm155_ds1_ln_data	ds1_ds3_sts1_pif_ data
MPSM DS1 DS3 Line Service Line	1, 32	mpsm155_e1_ln_data	ds1_ds3_line_data
MPSM DS1 TU11 AU4 Service Line	1, 33	mpsm155_ds1_ln_data	ds1_tu11_au4_pif_ data
MPSM DS1 TU11 AU3 Service Line	1, 34	mpsm155_ds1_ln_data	ds1_tu11_au3_pif_d ata
MPSM E1 TU11 AU4 Service Line	1, 35	mpsm155_e1_ln_data	e1_tu11_au4_pif_ data
MPSM E1 TU11 AU3 Service Line	1, 36	mpsm155_e1_ln_data	e1_tu11_au3_pif_ data
MPSM IMA Group Service Line	1, 37	ima_group_data	ima_group_data
AXSM-XG STM16 Path	1, 38	axsmxg_path_data	stm16_path_data
AXSM-XG STM64 Path	1, 39	axsmxg_path_data	stm64_path_data
AXSM-XG DS3 Path in STM16 Path	1, 40	axsmxg_path_data	stm16_path_data
MPSM DS1 DS3 AU3 Physical Interface	1, 41	mpsm155_e1_ln_data	ds1_ds3_au3_pif_ data
AXSM-XG STM1 Path	1, 42	axsmxg_path_data	stm1_path_data
AXSM-XG STM4 Path	1, 43	axsmxg_path_data	stm4_path_data
AXSM-XG DS3 Path in STM4 Path	1, 44	axsmxg_path_data	stm4_path_data
Narrowband Trunk	2, 0	packet_ln_data	narrow_trk_data
IPX ATM	2, 1	packet_ln_data	ipxatm_trk_data
BPX ATM	2, 2	packet_ln_data	bpxatm_trk_data
MGX Narrowband Trunk	2, 3	packet_ln_data	axisnb_trk_data
MGX ATM	2, 4	packet_ln_data	axisatm_trk_data
SONET Trunk	2, 5	packet_ln_data	sonet_trk_data
FTC Trunk	2, 6	packet_ln_data	ftc_trk_data
IGX ATM	2, 7	packet_ln_data	igxatm_trk_data
Frame Relay Port	3, 0	frp_data	fr_port_data
ASI Port	3, 1	asi_port_data	asi_port_data
FastPAD Port	3, 2	ftc_port_data	ftc_port_data
MGX Frame Relay Port	3, 3	frp_data	axisfr_port_data
MGX ATM Port	3, 4	ausm_port_data	atm_port_data
Voice Port	3, 5	frp_data	voice_port_data
Broadband Interface	3, 8	ausm_port_data	bb_port_data
AXSM Port	3, 9	mgx3_port_data	axsm_port_data

Table F-1 Mapping Statistics to the Database Tables (continued)

Statistics Type	Object or Subobject ID	stratacom	statsdb
ASI Virtual Port	3, 10	asi_port_data	asi_vport_data
AXSM-E Port	3, 11	mgx3_port_data	axsme_port_data
PXM1E Port	3, 12	mgx3_port_data	pxm1e_port_data
FRSM12 Port	3, 13	mgx3_port_data	frsm12_port_data
AXSM-XG ATM Port	3, 14	axsmxg_port_data	xg_port_data
VXSM Port	3, 15	vxsm_port_data	xg_port_data
MPSM ATM Port	3, 16	mpsm155_atm_port_data	xg_port_data
MPSM Frame Relay Port	3, 17	mpsm155_fr_port_data	xg_port_data
AXSM Card	4, 0	mgx3_cd_data	axsm_card_data
AXSM-E IMA Group	5, 0	ima_group_data	ima_group_data
AXSM-E IMA Link	5, 1	ima_link_data	ima_link_data
PXM1E IMA Group	5, 2	ima_group_data	ima_group_data
PXM1E IMA Link	5, 3	ima_link_data	ima_link_data
MPSM IMA Group	5, 4	ima_group_data	ima_group_data
MPSM DS1 VT STS1 IMA Link	5, 5	ima_link_data	ima_link_data
MPSM E1 VT STS1 IMA Link	5, 6	ima_link_data	ima_link_data
MPSM DS1 DS3 VT STS1 IMA Link	5, 7	ima_link_data	ima_link_data
MPSM DS1 DS3 Line IMA Link	5, 8	ima_link_data	ima_link_data
MPSM DS1 TU11 AU4 IMA Link	5, 9	ima_link_data	ima_link_data
MPSM DS1 TU11 AU3 IMA Link	5, 10	ima_link_data	ima_link_data
MPSM E1 TU11 AU4 IMA Link	5, 11	ima_link_data	ima_link_data
MPSM E1 TU11 AU3 IMA Link	5, 12	ima_link_data	ima_link_data
MPSM DS1 DS3 AU3 IMA Link	5, 13	ima_link_data	ima_link_data
AXSM-XG STS Path	6, 0	axsmxg_path_data	xg_path_data
AXSM-XG DS3 Path	6, 1	axsmxg_path_data	xg_ds3path_data
VXSM STS Path	6, 2	vxsm_path_data	xg_path_data
VXSM DS3 Path	6, 3	vxsm_path_data	xg_ds3path_data
VXSM DS1 N DS3 Path	6, 4	vxsm_path_data	sts_ds3_ds1_path_data table
VXSM DS1 VT Path	6, 5	vxsm_path_data	sts_vtgroup_ds1_path_data table
MPSM STS1 Path	6, 6	mpsm155_path_data	sts1_path_data
MPSM STM1 Path	6, 7	mpsm155_path_data	stm1_path_data
MPSM STS1 DS3 Path	6, 8	mpsm155_path_data	ds3_sts1_path_data
MPSM STS1 E3 Path	6, 9	mpsm155_path_data	e3_sts1_path_data

Table F-1 Mapping Statistics to the Database Tables (continued)

Statistics Type	Object or Subobject ID	stratacom	statsdb
MPSM DS3 AU4 Path	6, 10	mpsm155_path_data	ds3_au4_path_data
MPSM DS3 AU3 Path	6, 11	mpsm155_path_data	ds3_au3_path_data
MPSM E3 AU4 Path	6, 12	mpsm155_path_data	e3_au4_path_data
MPSM E3 AU3 Path	6, 13	mpsm155_path_data	e3_au3_path_data
MPSM STS1 DS1 VT Path	6, 14	mpsm155_path_data	ds1_vt_sts1_path_data
MPSM STS1 E1 VT Path	6, 15	mpsm155_path_data	e1_vt_sts1_path_data
MPSM STS1 DS1 DS3 Path	6, 16	mpsm155_path_data	ds1_ds3_sts1_path_data
MPSM STS1 DS1 DS3 Line Path	6, 17	mpsm155_path_data	ds1_ds3line_path_data
MPSM DS1 TU11 AU4 Path	6, 18	mpsm155_path_data	ds1_tu11_au4_path_data
MPSM DS1 TU11 AU3 Path	6, 19	mpsm155_path_data	ds1_tu11_au3_path_data
MPSM E1 TU11 AU4 Path	6, 20	mpsm155_path_data	e1_tu12_au4_path_data
MPSM E1 TU11 AU3 Path	6, 21	mpsm155_path_data	e1_tu12_au3_path_data
MPSM VT STS1 Path	6, 22	mpsm155_path_data	sts_vtgroup_ds1_path_data
MPSM TU11 AU4 Path	6, 23	mpsm155_path_data	tu11_au4_path_data
MPSM TU11 AU3 Path	6, 24	mpsm155_path_data	tu11_au3_path_data
MPSM TU3 AU4 Path	6, 25	mpsm155_path_data	tu3_au4_path_data
MPSM DS1 DS3 AU3 Path	6, 26	mpsm155_path_data	ds1_ds3_au3_path_data
AXSM-XG STM16 Path	6, 28	axsmxg_path_data	stm16_path_data
AXSM-XG STM64 Path	6, 29	axsmxg_path_data	stm64_path_data
AXSM-XG DS3 in STM16 Path	6, 30	axsmxg_path_data	stm16_path_data
AXSM-XG STM1 Path	6, 31	axsmxg_path_data	stm1_path_data
AXSM-XG STM4 Path	6, 32	axsmxg_path_data	stm4_path_data
AXSM-XG DS3 in STM4 Path	6, 33	axsmxg_path_data	stm4_path_data
PNNI Nodal Level	7, 0	pnni_nodal_data	pnni_nodal_data
PNNI Port Level	7, 1	pnni_pn_port_data	pnni_port_data
VXSM Megaco Statistics	8, 0	vxsm_proto_megaco_gateway	megaco_data

Table F-1 Mapping Statistics to the Database Tables (continued)

Statistics Type	Object or Subobject ID	stratacom	statsdb
VXSM Megaco Physical Termination Statistics	8, 1	vxsm_proto_megaco_phy_term	megaco_phy_term_data
VXSM Megaco Ephemeral Termination Statistics	8, 2	vxsm_proto_megaco_eph_term	megaco_eph_term_data
VXSM SCTP Gateway Protocol Statistics	8, 3	vxsm_proto_sctp_gw	sctp_gateway_data
VXSM SCTP Association Protocol Statistics	8, 4	vxsm_proto_sctp_assoc	sctp_association_data
VXSM LAPD Protocol Statistics	8, 5	vxsm_proto_lapd	lapd_data
Physical Line T1	11, 0	phy_ln_data	phyt1_line_data
Physical Line E1	11, 1	phy_ln_data	phye1_line_data
Physical Line T3/E3/OC3	11, 2	phy_ln_data	phyt3_line_data
AXSM-E Physical Line T1/E1	11, 3	mgx3_pl_data	axsmet1e1_pl_data
AXSM-E Physical Line T3/E3	11, 4	mgx3_pl_data	axsmet3e3_pl_data
AXSM-E Physical Line SONET	11, 5	mgx3_pl_data	axsmesonet_pl_data
FRSM12 Physical Line T3	11, 6	mgx3_pl_data	frsm12t3_pl_data
FRSM12 Physical Line E3	11, 7	mgx3_pl_data	frsm12e3_pl_data
PXM1E Physical Line T3	11, 8	mgx3_pl_data	pxm1et3_pl_data
PXM1E Physical Line E3	11, 9	mgx3_pl_data	pxm1ee3_pl_data
PXM1E Physical Line SONET	11, 10	mgx3_pl_data	pxm1esonet_pl_data
PXM1E Physical Line T1/E1	11, 11	mgx3_pl_data	pxm1et1e1_pl_data
AXSM-XG Physical Line SONET	11, 12	axsmxg_pl_data	xg_pl_data
VXSM Physical Line SONET	11, 13	vxsm_pl_data	xg_pl_data
VXSM Physical Line T1/E1	11, 14	vxsm_pl_data	xg_pl_data
MPSM Physical Line T3	11, 15	mpsm_pl_data	xg_pl_data
MPSM Physical Line E3	11, 16	mpsm_pl_data	xg_pl_data
MPSM Physical Line SONET	11, 17	mpsm_pl_data	xg_pl_data

Statistics Collection

The CWM uses TFTP to collect the statistics files from the Cisco IGX and BPX and Cisco MGX 8220, 8230, 8250, and 8850 (PXM1-based switches) nodes.

The collection server uses FTP to obtain the statistics files for the Cisco MGX 8830, 8850 (PXM1E and PXM45-based switches), 8880, and 8950 nodes.

The CWM issues a get request, and the node responds by transmitting the statistics via FTP or TFTP, in bulk, to a statistics collection file into the /usr/users/svplus/spool directory.

After the transfer is complete, the file is moved to the /svplus/incoming/<coll svr> directory. From the incoming /<coll svr> directory, the file is read by a parser. After being parsed to the database, the file is transferred to the purge directory. This directory is selected through the Stats DB Host Configuration Dialog in SCM GUI.

In the /svplus/spool and /svplus/incoming/<coll svr> directories, the file has a transient existence from 1 to 5 minutes. The file is stored in the /svplus/purge directory (or any other directory selected for the purged files) for a period of time that the user selects from the Stats DB Configuration Dialog in the SCM GUI (typically 3 days). (For more information about the SCM GUI, refer to the CWM user guide.)

Format for the IGX, BPX, 8220, 8230, 8250, and 8850 PXM1-Based Files

This section provides the file naming convention and structure for the statistics files collected from the Cisco IGX, BPX, MGX 8220, MGX 8230, MGX 8250, and MGX 8850 PXM1-based nodes.

File Name

Each statistics collection file received from a node is uniquely identified in the CWM using this file name format:

<*node*>.<*timestamp in GMT*[*mmddyyyyHHMM*]>-<*parsermethod*[0]>

Syntax	Description
node	Name of the node from which the statistics are collected.
mmddyyyyHHMM	Date and time in GMT that the statistics are collected.
parsermethod[0]	Parsing method. For the nodes in this group, this value is 0.

The file formats in the CWM differ from those on the nodes. The CWM appends the *node* and *parsermethod* to each file received from the nodes.

File Format

Table F-2 shows the format of the statistics collection file. This file consists of a fixed-length header and a sequential string of statistics identified by their object type, subtype, and statistic type.

Table F-2 IGX, BPX, 8220, 8230, 8250, and 8850 PXM1-Based File Formats

Field Description	Field Size
Fixed Header Section	
Domain number of node	1 byte
Node number	1 byte
Release number (for example, 725a for Release 7.2.5.a)	4 bytes
Node Type	1 byte

Table F-2 IGX, BPX, 8220, 8230, 8250, and 8850 PXM1-Based File Formats (continued)

Field Description	Field Size
Status byte (for example, used for switch over)	2 bytes
Peak flag (1 = enabled, 0 = disabled)	1 byte
Bucket interval	1 byte
Number of object types	1 byte
Data Dependent Section	
Object type identifier	1 byte
Number of object subtypes	1 byte
Object subtype identifier	1 byte
Number of instances of Key	2 bytes
Key instance	variable length[1]
Stat type count	1 byte
Stat type	1 byte
Number of buckets	1 byte
Stat value (reverse chronological order)	4 bytes
Peak value (1st bucket = file time stamp)	4 bytes
Repeat Stat type, Stat value, and Peak value for number of buckets	*n* bytes
Repeat Stat type count	*n* bytes
Repeat number of instances of Key	*n* bytes
Repeat Object Sub-type identifier section	*n* bytes
Repeat Object type section	*n* bytes

1. Key instance field size is based on the object subtype. For the keying information, see Table F-16.

The keying information for the statistics in this section is listed in Table F-16 on page F-23. The following example shows a read-binary statistics file from a BPX (parsing method 0).

Example F-1 BPX Statistics File

```
Reading Binary Statistics File: tballbpx.042520020900-0
Domain Number: 1
Node Number: 2
Release Number: 934N
Node Type: 1
Status Byte: 4
Peak Flag: 0
Bucket Interval: 15
Number of Objects: 3
--------------------------------------------------
--------------------------------------------------
ObjectID: 0
Number of SubObjects: 1
        --------------------------------------------------
SubObjectID: 7  NumKeys: 15
Key 1 = 1     Key 2 = 2     Key 3 = 15     Key 4 = 1117
StatCount: 6
    StatType: 29
```

```
    NumBuckets: 1
        StatValue: 0.000000    StatType: 30
    NumBuckets: 1
        StatValue: 0.000000    StatType: 31
    NumBuckets: 1
        StatValue: 0.000000    StatType: 32
    NumBuckets: 1
        StatValue: 0.000000     StatType: 38
    NumBuckets: 1
        StatValue: 0.000000    StatType: 41
    NumBuckets: 1
        StatValue: 0.000000    Key 1 = 1    Key 2 = 2    Key 3 = 15    Key 4 = 384
StatCount: 6
         StatType: 29
    NumBuckets: 1
        StatValue: 0.000000    StatType: 30
    NumBuckets: 1
        StatValue: 0.000000    StatType: 31
    NumBuckets: 1
        StatValue: 0.000000    StatType: 32
    NumBuckets: 1
        StatValue: 0.000000    StatType: 38
    NumBuckets: 1
        StatValue: 0.000000    StatType: 41
    NumBuckets: 1
        StatValue: 0.000000    Key 1 = 1    Key 2 = 6    Key 3 = 51    Key 4 = 342
StatCount: 6
StatType: 29
    NumBuckets: 1
        StatValue: 0.000000    StatType: 30
    NumBuckets: 1
        StatValue: 0.000000    StatType: 31
    NumBuckets: 1
        StatValue: 0.000000    StatType: 32
    NumBuckets: 1
        StatValue: 0.000000    StatType: 38
    NumBuckets: 1
        StatValue: 0.000000    StatType: 41
    NumBuckets: 1
        StatValue: 0.000000    Key 1 = 1    Key 2 = 2    Key 3 = 15    Key 4 = 399
```

AXSM, AXSM-E, AXSM-XG, FRSM12, PXM1E, and SRM-E Files

This section contains the file formats for the following service modules:

- AXSM, AXSM-E, AXSM-XG
- FRSM12
- PXM1E
- SRM-E

File Types

The following types of statistics files apply to the service modules in this section:

- General Statistics (GEN)—This file contains line, trunk, port, card, IMA group, and IMA link statistics.
- Connection Statistics (CON)—This file contains statistics for SPVC and PVC connections.
- PNNI Statistics (PNS)—This file contains PNNI network statistics.

For PXM1E cards, if connection, line, and PNNI connection statistics are selected, all three files are collected. Different collection periods can occur for PNS files and old PXM1E statistics files.

Also, the PXM1E uses two statistics parsers. One parser is used for collecting statistics that are specific to the PXM1E card. The other parser is used to collect statistics that are specific to the node.

For PXM45 cards collecting PNNI statistics, only the PNNI file is collected.

File Names

Each statistic file type uses the following file naming conventions:

- General statistics: <ShelfNum>-<SlotNum>-<GEN>-<DayMonthYearHrMin>
- Connection statistics: <ShelfNum>-<SlotNum>-<CON>-<DayMonthYearHrMin>
- PNNI network statistics: <ShelfNum>-<SlotNum>-<PNS>-<DayMonthYearHrMin>

Table F-3 describes each field in the file names. The field length is the number of characters allowable in the field.

Table F-3 File Name Fields

Field Name	Field Length	Description
ShelfNum	1	Shelf number in the network.
SlotNum	2	Slot number within a shelf.
File Type	3	File type: • GEN = general statistics • CON = connection statistics • PNS = PNNI networking statistics
Day	2	Day of the month.
Month	2	Month of the year.
Year	4	Year.
Hr	2	Hour of the day in GMT. Valid range is 1–24.
Min	2	Minute of the day in GMT.

File Formats

This section contains the file formats for each of the service modules.

AXSM, AXSM-E, FRSM-12, PXM1E, and SRM-E Formats

The file name format for the statistics files of the AXSM, AXSM-E, FRSM12, and PXM1E cards is

<*node*>-<*shelf*>-<*slot*>-Gen/Con-<*timestamp in GMT*>-<*parsermethod*>

Syntax	Description
node	Name of the node from which the statistics are collected.
shelf	Shelf number of the card.
slot	Slot number of the card.
timestamp in GMT	Date and time in GMT that the statistics are collected.
parsermethod	Parsing method, either 2 or 4, depending on the card. • 2 = AXSM, AXSM-E, and FRSM12 files • 4 = PXM1E files

The statistics file format for the SRM-E card is as follows:

<*node*>-<*shelf*>-<*PXM slot(1/7)*>-S07/S15/S31-<*timestamp in GMT*>-<*parsermethod*[5]>

Syntax	Description
node	Name of the node from which the statistics are collected.
shelf	Shelf number of the card.
PXM slot (1/7)	Slot number of the PXM card. • 1 = MGX 8830 • 7 = MGX 8850 (PXM1E)
S07/S15/S31	SRM-E slot number. • S07 = MGX 8830 • S15, S31 = MGX 8850 (PXM1E)
timestamp in GMT	Date and time in GMT that the statistics are collected.
parsermethod[5]	Parsing method. The parsing method is 5 for SRM-E cards.

Table F-4 provides the format of the AXSM, AXSM-E, FRSM-12, PXM1E, and SRM-E statistics files.

Table F-4 AXSM, AXSM-E, FRSM12, PXM1E, and SRM-E Statistics File Format

Field Description	Field Size
Fixed Header Section	
File version	1 byte
Bucket interval	1 byte
Peak interval	1 byte
Spare	3 bytes
Data Dependent Section	
Stat type count	2 bytes
Object type	1 byte Record header
Subobject type	1 byte
Key	8 bytes
Stat type	2 bytes
Stat value	5 bytes Stat data
Peak value	5 bytes
Repeat Stat data for Stat type count	*n* times
Repeat Record header	*n* times

The keying information for these statistics in this sections is listed in Table F-16 on page F-23.

The following example shows an AXSM general statistics read-binary file (parsing method 2).

Example F-2 AXSM General Statistics File

```
Reading Binary Statistics File: mgx885012-1-05-Gen-042620022215
Parsing begins here .........
FileVersion : 1
BucketInterval : 15
PeakInterval : 1

****************************************************
Stats Data Record Header 1
Object : 3 , SubObject : 0
StatCount : 22
Key List Values :
Shelf = 1  Slot = 5  Iftype = 1  Bay = 1  Line = 1
***************************************************

Stat Type : 0  Stat Value = 0  Peak Value = 0

Stat Type : 1  Stat Value = 0  Peak Value = 0

Stat Type : 2  Stat Value = 0  Peak Value = 0

Stat Type : 3  Stat Value = 0  Peak Value = 0

Stat Type : 4  Stat Value = 0  Peak Value = 0

Stat Type : 6  Stat Value = 0  Peak Value = 0

Stat Type : 7  Stat Value = 0  Peak Value = 0

Stat Type : 8  Stat Value = 0  Peak Value = 0

Stat Type : 9  Stat Value = 0  Peak Value = 0

Stat Type : 10  Stat Value = 0  Peak Value = 0

Stat Type : 11  Stat Value = 0  Peak Value = 0

Stat Type : 12  Stat Value = 0  Peak Value = 0

Stat Type : 13  Stat Value = 0  Peak Value = 0

Stat Type : 14  Stat Value = 0  Peak Value = 0

Stat Type : 15  Stat Value = 1100  Peak Value = 75

****************************************************
Stats Data Record Header 2
Object : 3 , SubObject : 0
StatCount : 22
Key List Values :
Shelf = 1  Slot = 5  Iftype = 1  Bay = 1  Line = 2
***************************************************

Stat Type : 0  Stat Value = 0  Peak Value = 0

Stat Type : 1  Stat Value = 0  Peak Value = 0

Stat Type : 2  Stat Value = 0  Peak Value = 0
```

```
Stat Type : 3  Stat Value = 0  Peak Value = 0

Stat Type : 4  Stat Value = 0  Peak Value = 0
```

AXSM-XG and PNNI

The file name format for the AXSM-XG files is as follows:

<*node*>-<*shelf*>-<*slot*>-Gen/Atm-<*timestamp in GMT*>-<*parsermethod* [6]>

The file name format for the PNNI statistics files is as follows:

<*node*>-<*shelf*>-<*slot*>-PNS-<*timestamp in GMT*>-<*parsermethod* [6]>

Syntax	Description
node	Name of the node from which the statistics are collected.
shelf	Shelf number of the card.
slot	Slot number of the card.
Gen/Atm PNS	Type of statistics files.
timestamp in GMT	Date and time in GMT that the statistics are collected.
parsermethod[6]	Parsing method is 6 for AXSM-XG and PNNI files.

Table F-5 describes the fields.

Table F-5 Fields Contained in the AXSM-XG and PNNI Files

Field	Field Length (bytes)	
File Version	1	Parser version.Value is 2.
File Length	4	Total file size in uncompressed form including the checksum value. Unit is in bytes.
Card Stats Data Length	4	Total data size for a single card. A single card data contains all object and its sub-object data belong to this card only.
Number of Objects	1	Number of objects for stats collection on a single card. Each object represents an entity. For examples, connection, line, port, and IMA are different entities on a card.
Object Id	1	Identifier for this object.
Number of Sub-objects	1	Each entity has many types. Each subobject represents a type. For example, ATM connection type is one of the sub-objects for CONNECTION_OBJECT.
Sub-object Id	1	Identifier for this subobject.
Sub-object StatsData Length	4	Total data size for this subobject.
Number of Buckets	1	Number of bucket intervals.

Table F-5 Fields Contained in the AXSM-XG and PNNI Files (continued)

Field	Field Length (bytes)	
Bucket Interval	1	Length of time in minutes for collecting a statistic value.
Peak Enable	1	Field to indicate if peak value is included in the file: • 0 = disabled • 1 = enabled
Peak Interval	1	Length of time in minutes for collecting a peak value. This value must be a factor of the corresponding bucket interval.
Stat Counter Size	1	Size of the counter. The size varies based on the subobject type.
Number of Stats	1	Number of counters for this subobject. Two statistic values might be collected for each counter. The first value represents the total data value for the entire interval. The second value represents the peak data value of a subinterval within this entire interval.
Stat Id List	1 * Number of Stat IDs	Sequence of statistics counter ID list that maps to the order of statistic/peak values listed for a key instance.
Number of Key Types	1	Each key Instance ID consists of several key types to describe an instant of a subobject. This field lists the number of key types used to describe a key instance ID.
List of Key Types	1 * Number of key types	List of key types for a key instance ID.
List of Key Size for each Key Type	1 *number of key types	List of key size for each key type.
Number of Key Instances	4	Number of instances for a subobject.
Key Instance Id	Total size of all key types for this Key Instance Id.	Identifier for an instant of a subobject.
Stat Value	stat counter size	Total data size for an entire interval.
Peak Value	stat counter size	Highest data size for a subinterval of the entire interval.
Status of Previous Card	1	Field to indicate if the file contains valid data for a card: • 0 = OK • 1 = Error
Checksum	4	Checksum value for the entire file, not including the checksum value itself. The algorithm used to compute the checksum is 1-byte wide addition with wrap-around ignored. This field should be used by the SCM to validate the integrity of the uploaded file.

AXSM, AXSM-E, and FRSM-12 Key Formats

This section contains the Key formats for AXSM, AXSM-E, and FRSM-12 cards.

The Key field is 8 bytes with two bit arrays of 32 bits each. This format is used for each instance of a subobject.

Key field 0 contains an unsigned 32 bit integer interface index. Table F-6 describes the bits associated with Key field 0 on the AXSM, AXSM-E, and FRSM-12 cards.

Table F-6 Key Field 0 for the AXSM, AXSM-E, and FRSM-12 Cards

Bit Position	Description
Bit 31–24	Shelf number. This value is always 1.
Bit 23–16	Slot number.
Bit 15–11	Interface types: • 0 = STATS_LINE_OBJ • 1 = STATS_IMA_OBJ • 2 = STATS_PIF_OBJ • 3 = STATS_LIF_OBJ • 4 = APS_ADJACENT_CARD_LINE **Note** For the STATS_CARD_OBJ interface type, bits 15–0 are all zeros.
Bit 10–0	STATS_LINE_OBJ (line interface statistics): • Bit 10–9 = Bay • Bit 8–0 = Line number STATS_IMA_OBJ (line interface statistics): • Bit 10–9 = Bay • Bit 8–0 = IMA group number STATS_PIF_OBJ (line interface statistics): • Bit 10–9 = Bay • Bit 8–0 = ATM physical interface number STATS_LIF_OBJ (port statistics): • Bit 10–9 = Reserved • Bit 8–0 = Logical interface number STAT_CONNECTION_OBJ (connection statistics): • Bit 10–0 = Logical interface number (port) STATS_CARD_OBJ (card statistics): • Bit 15–0 = All zeros

Key field 1 contains an unsigned 32 bit integer VPI/VCI.

Table F-7 describes the bits associated with Key field 1 on the AXSM, AXSM-E and FRSM-12 cards.

Table F-7 AXSM, AXSM-E, and FRSM-12 Key Field 1

Bit Position	Description
Bit 31–16	VPI number
Bit 15–0	VCI number

Key field 1 values depend on the following type of statistics listed in Table F-8.

Table F-8 Key 1 Values

Statistics Type	Key 1 Values
STATS_LINE_OBJ	All zeros
STATS_CONNECTION (connection statistics)	AXSM and AXSM-E cards: • Bit 31–16 = VPI • Bit 15–0 = VCI FRSM-12 cards: • Bit 31–0 = DLCI
STATS_IMA_OBJ	All zeros
STATS_PIF_OBJ (interface statistics)	All zeros
STATS_CARD_OBJ	All zeros
STATS_LIF_OBJ (port statistics)	All zeros

PXM1E Key Formats

This section contains the Key formats that apply to the PXM1E card on the Cisco MGX 8830 and 8850 nodes.

Key field 0 contains an unsigned 32 bit integer interface index. Table F-9 describes the bits associated with Key field 0 for PXM1E cards.

Table F-9 PXM1E Key Field 0

Bit Position	Description
Bit 31–24	Shelf number. This value is always 1.
Bit 23–16	Logical slot (PXM1E) number.
Bit 15–11	PXM1E uplink slot.
Bit 10–8	Interface types: • 0 = STATS_LINE_OBJ • 1 = STATS_IMA_OBJ • 2 = STATS_PIF_OBJ • 3 = STATS_LIF_OBJ
Bit 7–0	STATS_LINE_OBJ (line interface statistics): • Bit 7–6 = Bay • Bit 5–0 = Line number STATS_IMA_OBJ (line interface statistics): • Bit 7–6 = Bay • Bit 5–0 = IMA group number STATS_PIF_OBJ (line interface statistics): • Bit 7–6 = Bay • Bit 5–0 = ATM Physical number STATS_LIF_OBJ (port statistics): • Bit 7–0 = Logical interface number

Key field 1 contains an unsigned 32 bit integer VPI/VCI. Table F-10 describes the bits associated with Key field 1 for PXM1E cards.

Table F-10 PXM1E Key Field 1

Bit Position	Description
Bit 31–16	VPI number
Bit 15–0	VCI number

SRM-E Key Formats

This section describes the Key formats that apply to the SRM-E card on the Cisco MGX 8830 and 8850 (PXM1E).

Key field 0 contains an unsigned 32 bit integer interface index. Table F-11 describes the bits associated with Key field 0 on the SRM-E card.

The SRM-E card does not use the Key field 1.

Table F-11 SRM-E Key Field 0

Bit Position	Description
Bit 31–24	Shelf number. This value is always 1.
Bit 23–16	Logical slot (SRM-E) number.
Bit 15–11	SRM-E uplink slot.
Bit 10–8	Physical interface types: • 1, 2, 3 = T3 • 1 = OC-3
Bit 7	Line type: • 0 = Working line • 1 = Adjacent APS line
Bit 6–0	Distribution link number. If the SRM-E IF index is a physical interface, this value is zero.

Note For SRM-E cards, the bay number is 1.

AUSM, CESM, FRSM Statistics Formats

The Cisco MGX 8830, Cisco MGX 8850 PXM1E and PXM45-based platforms contain the following service modules:

- AUSM
- CESM
- FRSM

Note Although the AUSM, CESM, and FRSM cards are also supported on PXM1-based nodes, the formats are different.

The following format applies to statistics files from the AUSM, CESM, and FRSM service modules.

<*node*>.<*timestamp in GMT*[*mmddyyyyHHMM*]>-<*parsermethod*[3]>

Syntax	Description
node	Name of the node from which the statistics are collected.
mmddyyHHMM	Date and time in GMT that the statistics are collected.
parsermethod[3]	Parsing method. For the AUSM, FRSM, and CESM service modules, this value is 3.

Table F-12 provides the format of the AUSM, CESM, and FRSM service module statistics files.

Table F-12 AUSM, CESM, and FRSM Statistics File Format

Field Description	Field Size
Fixed Header Section	
Domain number of node	1 byte
Node number	1 byte
Release number (for example, 725a for Release 7.2.5.a)	4 bytes
Node type (for example, 23 is the node type for Cisco MGX 8830)	1 byte
Status byte (for example, used for switch over)	2 bytes
Peak flag (1 = enabled, 0 = disabled)	1 byte
Bucket interval	1 byte
Data Dependent Section	
Length of data block	4 bytes
Number of object types	1 byte
Object type identifier	1 byte
Number of subobject types	1 byte
Object subtype identifier	1 byte
Number of instances of key	2 bytes
Key instance	variable length[1]
Stat type count	1 byte
Stat type	1 byte
Number of buckets	1 byte
Stat value (reverse chronological order)	4 bytes
Peak value (1st bucket = file time stamp)	4 bytes
Repeat Stat value and Peak value for number of buckets	*n* bytes
Repeat Object subtype identifier section	*n* bytes
Repeat Object type section	*n* bytes
Status of previous slot (0 = OK, 1 = Error)[2]	1 byte
Checksum	4 bytes

1. Key instance file size is based on the object subtype. For the keying information, see Table F-16.
2. The Status of previous slot field validates the structure of the data block. For example, a missing field indicates an error. This field does not validate the data.

The keying information for the statistics in this sections is listed in Table F-16 on page F-23.

Example F-3 shows read-binary statistics file from a PXM1E with an AUSM, FRSM, or CESM card (parsing method 3).

Example F-3 AUSM, CESM, FRSM Statistics

```
NbsmReadbinary Reading Binary Statistics File: tball-pxm1e-3.042520021545-3
Domain Number: 1
Node Number: 1
Release Number: 0000
Node Type: 23
Status Byte: 0
Peak Flag: 0
Bucket Interval: 15
--------------------------------------------------
--------------------------------------------------
Length of Data Block: 22
Number of Objects: 1
        *************************

ObjectID: 0
Number of SubObjects: 1

        --------------------------------------------------
SubObjectID: 10 NumKeys: 1
Key 1 = 1       Key 2 = 35
StatCount: 2
       StatType: 71
        NumBuckets: 1
                StatValue: 0.000000             StatType: 72
        NumBuckets: 1
                StatValue: 614404.000000
Status of previous slot data = 0 (GOOD)
--------------------------------------------------
--------------------------------------------------
Length of Data Block: 320
Number of Objects: 3
        *************************
```

BPX-SES Statistics File Formats

The file name format for the BPX-SES statistics files is

<*node*>-<*shelf*>-<*slot*>-SP<*resourcepartition#*>-<*timestamp in GMT*>-<*parsermethod*[1]>

Syntax	Description
node	Name of the node from which the statistics are collected.
shelf	Shelf number.
slot	Slot number.
resourcepartition#	Resource partition number.
timestamp in GMT	Date and time in GMT that the statistics are collected.
parsemethod[1]	Parsing method value is equal to 1 for the BPX-SES.

Table F-13 provides the format of the BPX-SES statistics files.

Table F-13 BPX-SES Statistics File Format

Field Description	Field Size
Header	
File version	1 byte
Bucket interval	1 byte
Peak interval	1 byte
Spare	3 bytes
Object	1 byte
Subobject	1 byte
Number of statistics counters	2 bytes
Statistic ID—File size is 2*n* where *n* = Number of statistics counters.	2 bytes
Record Header	
Key	8 bytes
Statistic value	4 bytes
Statistic peak value	4 bytes

Example F-4 shows a BPX-SES read-binary statistics file (parsing method 1).

Example F-4 BPX-SES Statistics File

```
BxmSpvcReadbinary is Reading Binary Statistics File: BPX-C3-0-02-SP1-04242002234
5-1
 Parsing begins here .........
 FileVersion    : 2
 BucketInterval : 15
 PeakInterval   : 5
 Object         : 0
 SubObject      : 7
 StatCount      : 4
StatId : 29
StatId : 30
StatId : 31
StatId : 32

 ****************************************************
 Stats Data Record Header 1
 Key List Values :
 Shelf = 0  Slot = 2  Logical Interface = 3  Vpi = 0  Vci = 6747
 ***************************************************

 Stat Type : 29  Stat Value = 0  Peak Value = 0

 Stat Type : 30  Stat Value = 0  Peak Value = 0

Stat Type : 31  Stat Value = 0  Peak Value = 0

Stat Type : 32  Stat Value = 0  Peak Value = 0
****************************************************
 Stats Data Record Header 2
 Key List Values :
 Shelf = 0  Slot = 2  Logical Interface = 3  Vpi = 0  Vci = 6745
```

```
***************************************************
Stat Type : 29  Stat Value = 0  Peak Value = 0
Stat Type : 30  Stat Value = 0  Peak Value = 0
Stat Type : 31  Stat Value = 0  Peak Value = 0
Stat Type : 32  Stat Value = 0  Peak Value = 0
****************************************************
```

Key 0 is the interface index of the BXM. Table F-14 describes the bits associated with Key field 0 on the BXM card.

Table F-14 BXM Key Field 0

Bit Position	Description
Bit 31–24	Shelf number. This value is equal to 1.
Bit 23–16	Slot number.
Bit 15–9	Reserved.
Bit 8–0	Logical interface number.

Key field 1 is the connection ID. Table F-15 describes the bits associated with Key field 1 on the BXM card.

Table F-15 Key Field 1

Bit Position	Description
Bit 31–16	VPI number
Bit 15–0	VCI number

Object Subtype to Key List

Table F-16 shows the keying information based on object subtype. Unless otherwise noted, the key field size in the table is 1 byte.

Table F-16 Key Field Data based on Object Subtypes

	Key Field					
Object Subtype	**1**	**2**	**3**	**4**	**5**	**6**
Voice Connection (0, 0)	Slot	Line	Channel	NA	NA	NA
Data Connection (0, 1)	Slot	Line	Channel	NA	NA	NA
Frame Relay Connection (0, 2)	Slot	Channel	DCLI, 2 bytes	NA	NA	NA
FastPAD Connection includes Voice (0, 3), Switched Voice (0, 4), and Data (0, 5)	Slot	Port	FP slot	FP Port	NA	NA

Table F-16 Key Field Data based on Object Subtypes (continued)

Object Subtype	Key Field					
	1	2	3	4	5	6
FastPAD Frame Relay (0, 6)	Slot	Port	FP slot	FP port	FP DLCI, 2 bytes	NA
ASI Connection (0, 7)	Slot	Port	VPI, 2 bytes	VCI, 3 bytes	NA	NA
MGX Frame Relay (0, 8)	Slot	LCN, 2 bytes	NA	NA	NA	NA
MGX ATM Connection (0, 9)	Slot	LCN, 2 bytes	NA	NA	NA	NA
CE Connection (0, 10)	Slot	LCN, 2 bytes	NA	NA	NA	NA
Broadband Connection (0, 11)	Slot	LCN, 2 bytes	NA	NA	NA	NA
T1 (1, 0), E1/J1 (1, 1)	Line	—	NA	NA	NA	NA
ASI Line–Service Interface (1, 2)	Slot	Port	NA	NA	NA	NA
MGX T1/E1 (1, 3), T3/E3 (1, 6)— Service Interface	Slot	Line	NA	NA	NA	NA
MGX ATM—Service Interface (1, 4)	Slot	Line	NA	NA	NA	NA
SONET (1, 10)	Slot	Line	NA	NA	NA	NA
Narrowband Trunk (2, 0)	Line	N/A	NA	NA	NA	NA
IPX ATM Trunk (2, 1)	Line	N/A	NA	NA	NA	NA
BPX, IGX ATM Trunk (2, 2), (2, 7)	Line	N/A	NA	NA	NA	NA
MGX Narrowband Trunk (2, 3)	Slot	Line	NA	NA	NA	NA
MGX ATM Trunk (2, 4)	Slot	Line	NA	NA	NA	NA
SONET (MGX 8220) (2, 5)	Slot	Line	NA	NA	NA	NA
FTC Trunk (FastPAD) (2, 6)	Slot	Line	NA	NA	NA	NA
Frame Relay Port (3, 0)	Slot	Logical Port	NA	NA	NA	NA
ASI Port (3, 1)	Slot	Port	NA	NA	NA	NA
MGX Frame Relay Port (3, 3)	Slot	Logical Port	NA	NA	NA	NA
MGX ATM Port (3, 4)	Slot	Port	NA	NA	NA	NA
Voice Port (3, 5)	Slot	Port	NA	NA	NA	NA
Broadband Interface (3, 8)	Slot	Port	NA	NA	NA	NA
Physical Line T1, E1, T3/E3/OC3 (11, 0), (11, 1), (11, 2)	Slot	Port	NA	NA	NA	NA

Previous user_connection Table Mapping

Some users are accustomed to using the user_connection table to manage connections with CWM releases prior to Release 10.

In CWM Release 9.2 many of the fields in the user_connection table were removed since they already exist in other tables. Removing the redundant fields increased overall performance of the database, especially during database synchronization and warm starts of a CWM workstation.

This appendix provides a list of the fields that were removed from the user_connection table and the tables where they are currently stored.

Mapping to the connection Table

Table G-1 lists fields removed from the user_connection table and provides information about where the fields can be found in the connection table based on the type of connection.

Table G-1 Mapping to the connection Table

Field Name	FR-FR	FR-ATM	ATM-FR	Voice-Voice	Data-Data	CESM-CESM, ATM-ATM
l_rate_info	connection rate_info	connection rate_info	Not applicable	connection rate_info	connection rate_info	Not applicable
l_vc_q_ thresh	connection vc_q_thresh	connection vc_q_thresh	Not applicable	connection vc_q_thresh	connection vc_q_thresh	Not applicable
l_vc_de_ thresh	connection vc_q_de_thresh	connection vc_q_de_thresh	Not applicable	connection vc_q_de_thresh	connection vc_q_de_thresh	Not applicable
l_eg_q_ depth	connection eg_q_depth	connection eg_q_depth	Not applicable	connection g_q_depth	connection eg_q_depth	Not applicable
l_eg_q_de_ thresh	connection eg_q_de_thresh	connection eg_q_de_thresh	Not applicable	connection eg_q_de_thresh	connection eg_q_de_thresh	Not applicable
l_eg_q_ecn_ thresh	connection eg_q_ecn_thresh	connection eg_q_ecn_thresh	Not applicable	connection eg_q_ecn_thresh	connection eg_q_ecn_thresh	Not applicable

Table G-1 Mapping to the connection Table (continued)

Field Name	FR-FR	FR-ATM	ATM-FR	Voice-Voice	Data-Data	CESM-CESM, ATM-ATM
l_de_tag_ena	connection de_tag_ena	connection de_tag_ena	Not applicable	connection de_tag_ena	connection de_tag_ena	Not applicable
l_cmax	connection cmax	connection cmax	Not applicable	connection cmax	connection cmax	Not applicable
l_bc	connection bc	connection bc	Not applicable	connection bc	connection bc	Not applicable
l_be	connection be	connection be	Not applicable	connection be	connection be	Not applicable
l_eg_q_select	connection eg_q_select	connection eg_q_select	Not applicable	connection eg_q_select	connection eg_q_select	Not applicable
l_channel_type	connection channel_type	connection channel_type	Not applicable	connection channel_type	connection channel_type	Not applicable
l_fecn	connection fecn	connection fecn	Not applicable	connection fecn	connection fecn	Not applicable
l_de_to_clp_map	connection de_to_clp_map	connection de_to_clp_map	Not applicable	connection de_to_clp_map	connection de_to_clp_map	Not applicable
l_clp_to_de_map	connection clp_to_de_map	connection clp_to_de_map	Not applicable	connection clp_to_de_map	connection clp_to_de_map	Not applicable
l_rate_type	connection rate_type	connection rate_type	Not applicable	connection rate_type	connection rate_type	Not applicable
l_rate_fctr	connection rate_fctr	connection rate_fctr	Not applicable	connection rate_fctr	connection rate_fctr	Not applicable
l_smpl_per_pckt	connection smpl_per_pckt	connection smpl_per_pckt	Not applicable	connection smpl_per_pckt	connection smpl_per_pckt	Not applicable
r_rate_info	connection rate_info	Not applicable	connection rate_info	connection rate_info	connection rate_info	Not applicable
r_vc_q_thresh	connection vc_q_thresh	Not applicable	connection vc_q_thresh	connection vc_q_thresh	connection vc_q_thresh	Not applicable
r_vc_de_thresh	connection vc_de_thresh	Not applicable	connection vc_de_thresh	connection vc_de_thresh	connection vc_de_thresh	Not applicable
r_eg_q_depth	connection eg_q_depth	Not applicable	connection eg_q_depth	connection eg_q_depth	connection eg_q_depth	Not applicable
r_eg_q_de_thresh	connection eg_q_de_thresh	Not applicable	connection eg_q_de_thresh	connection eg_q_de_thresh	connection eg_q_de_thresh	Not applicable

Table G-1 Mapping to the connection Table (continued)

Field Name	FR-FR	FR-ATM	ATM-FR	Voice-Voice	Data-Data	CESM-CESM, ATM-ATM
r_eg_q_ecn_thresh	connection eg_q_ecn_thresh	Not applicable	connection eg_q_ecn_thresh	connection eg_q_ecn_thresh	connection eg_q_ecn_thresh	Not applicable
r_de_tag_ena	connection de_tag_ena	Not applicable	connection de_tag_ena	connection de_tag_ena	connection de_tag_ena	Not applicable
r_cmax	connection cmax	Not applicable	connection cmax	connection cmax	connection cmax	Not applicable
r_bc	connection bc	Not applicable	connection bc	connection bc	connection bc	Not applicable
r_be	connection be	Not applicable	connection be	connection be	connection be	Not applicable
r_eg_q_select	connection eg_q_select	Not applicable	connection eg_q_select	connection eg_q_select	connection eg_q_select	Not applicable
r_channel_type	connection channel_type	Not applicable	connection channel_type	connection channel_type	connection channel_type	Not applicable
r_fecn	connection fecn	Not applicable	connection fecn	connection fecn	connection fecn	Not applicable
r_de_to_clp_map	connection de_to_clp_map	Not applicable	connection de_to_clp_map	connection de_to_clp_map	connection de_to_clp_map	Not applicable
r_clp_to_de_map	connection clp_to_de_map	Not applicable	connection clp_to_de_map	connection clp_to_de_map	connection clp_to_de_map	Not applicable
r_rate_type	connection rate_type	Not applicable	connection rate_type	connection rate_type	connection rate_type	Not applicable
r_rate_fctr	connection rate_fctr	Not applicable	connection rate_fctr	connection rate_fctr	connection rate_fctr	Not applicable
r_smpl_per_pckt	connection smpl_per_pckt	Not applicable	connection smpl_per_pckt	connection smpl_per_pckt	connection smpl_per_pckt	Not applicable

Mapping to the atm_connection Table

Table G-2 lists the fields removed from the user_connection table and where the field can be found in the atm_connection table based on connection type.

Table G-2 Mapping to the atm_connection Table

Field Name	ATM-FR	ATM-ATM	FR-ATM	FR-FR, Voice-Voice, Data-Data, CESM-CESM
l_efci_q_thresh	atm_connection efci_q_thresh	atm_connection efci_q_thresh	Not applicable	Not applicable
l_cbs	atm_connection cbs	atm_connection cbs	Not applicable	Not applicable
l_mfs	atm_connection mfs	atm_connection mfs	Not applicable	Not applicable
l_ccdv	atm_connection ccdv	atm_connection ccdv	Not applicable	Not applicable
l_clp_hi	atm_connection clp_hi	atm_connection clp_hi	Not applicable	Not applicable
l_clp_lo	atm_connection clp_lo	atm_connection clp_lo	Not applicable	Not applicable
l_fst_rate_up	atm_connection fst_rate_up	atm_connection fst_rate_up	Not applicable	Not applicable
l_fst_rate_dn	atm_connection fst_rate_dn	atm_connection fst_rate_dn	Not applicable	Not applicable
l_fst_fast_dn	atm_connection fst_fast_dn	atm_connection fst_fast_dn	Not applicable	Not applicable
l_fst_qir_to	atm_connection fst_qir_to	atm_connection fst_qir_to	Not applicable	Not applicable
l_fst_max_adj	atm_connection fst_max_adj	atm_connection fst_max_adj	Not applicable	Not applicable
l_clp_tagging	atm_connection clp_tagging	atm_connection clp_tagging	Not applicable	Not applicable
l_upc_enable	atm_connection upc_enable	atm_connection upc_enable	Not applicable	Not applicable
l_rm_enable	atm_connection rm_enable	atm_connection rm_enable	Not applicable	Not applicable
l_u_fgcra	atm_connection u_fgcra	atm_connection u_fgcra	Not applicable	Not applicable
l_u_scr_policing	atm_connection u_scr_policing	atm_connection u_scr_policing	Not applicable	Not applicable
l_u_pcr01	atm_connection u_pcr01	atm_connection u_por01	Not applicable	Not applicable

Table G-2 Mapping to the atm_connection Table (continued)

Field Name	ATM-FR	ATM-ATM	FR-ATM	FR-FR, Voice-Voice, Data-Data, CESM-CESM
l_ccdv01	atm_connection ccdv01	atm_connection ccdv01	Not applicable	Not applicable
l_ccdv0	atm_connection ccdv0	atm_connection ccdv0	Not applicable	Not applicable
l_nrm	atm_connection nrm	atm_connection nrm	Not applicable	Not applicable
l_tbe	atm_connection tbe	atm_connection tbe	Not applicable	Not applicable
l_frtt	atm_connection frtt	atm_connection frtt	Not applicable	Not applicable
l_vsvd	atm_connection vsvd	atm_connection vsvd	Not applicable	Not applicable
l_mc_type	atm_connection mc_type	atm_connection mc_type	Not applicable	Not applicable
r_efci_q_thresh	Not applicable	atm_connection efci_q_thresh	atm_connection efci_q_thresh	Not applicable
r_cbs	Not applicable	atm_connection cbs	atm_connection cbs	Not applicable
r_mfs	Not applicable	atm_connection mfs	atm_connection mfs	Not applicable
r_ccdv	Not applicable	atm_connection ccdv	atm_connection ccdv	Not applicable
r_clp_hi	Not applicable	atm_connection clp_hi	atm_connection clp_hi	Not applicable
r_clp_lo	Not applicable	atm_connection clp_lo	atm_connection clp_lo	Not applicable
r_fst_rate_up	Not applicable	atm_connection fst_rate_up	atm_connection fst_rate_up	Not applicable
r_fst_rate_dn	Not applicable	atm_connection fst_rate_dn	atm_connection fst_rate_dn	Not applicable
r_fst_fast_dn	Not applicable	atm_connection fst_fast_dn	atm_connection fst_fast_dn	Not applicable
r_fst_qir_to	Not applicable	atm_connection fst_qir_to	atm_connection fst_qir_to	Not applicable

Table G-2 Mapping to the atm_connection Table (continued)

Field Name	ATM-FR	ATM-ATM	FR-ATM	FR-FR, Voice-Voice, Data-Data, CESM-CESM
r_fst_max_adj	Not applicable	atm_connection fst_max_adj	atm_connection fst_max_adj	Not applicable
r_clp_tagging	Not applicable	atm_connection clp_tagging	atm_connection clp_tagging	Not applicable
r_upc_enable	Not applicable	atm_connection upc_enable	atm_connection upc_enable	Not applicable
r_rm_enable	Not applicable	atm_connection rm_enable	atm_connection rm_enable	Not applicable
r_u_fgcra	Not applicable	atm_connection u_fgcra	atm_connection u_fgcra	Not applicable
r_u_scr_policing	Not applicable	atm_connection u_scr_policing	atm_connection u_scr_policing	Not applicable
r_u_pcr01	Not applicable	atm_connection u_pcr01	atm_connection u_pcr01	Not applicable
r_ccdv01	Not applicable	atm_connection ccdv01	atm_connection ccdv01	Not applicable
r_ccdv0	Not applicable	atm_connection ccdv0	atm_connection ccdv0	Not applicable
r_nrm	Not applicable	atm_connection nrm	atm_connection nrm	Not applicable
r_tbe	Not applicable	atm_connection tbe	atm_connection tbe	Not applicable
r_frtt	Not applicable	atm_connection frtt	atm_connection frtt	Not applicable
r_vsvd	Not applicable	atm_connection vsvd	atm_connection vsvd	Not applicable
r_mc_type	Not applicable	atm_connection mc_type	atm_connection mc_type	Not applicable

Mapping the Information Rate Fields

Table G-3 lists the information rate fields removed from the user_connection table and where the fields can be found in the connection table and the atm_connection tables based on connection type and endpoint type.

Table G-3 Mapping the Information Rate Fields

Field Name	ATM-FR	ATM-ATM	FR-ATM	FR-FR, Voice-Voice, Data-Data	CESM-CESM
l_cir	atm_connection cir	atm_connection cir	connection cir	connection cir	Not applicable
l_ibs	atm_connection ibs	atm_connection ibs	connection ibs	connection ibs	Not applicable
l_pir	atm_connection pir	atm_connection pir	connection pir	connection pir	Not applicable
l_qir	atm_connection qir	atm_connection qir	connection qir	connection qir	Not applicable
l_mir	atm_connection mir	atm_connection mir	connection min_bw	connection min_bw	Not applicable
l_con_info_flag	atm_connection con_info_flag	atm_connection con_info_flag	connection con_info_flag	connection con_info_flag	Not applicable
l_vc_q_depth	atm_connection vc_q_depth	atm_connection vc_q_depth	connection vc_q_depth	connection vc_q_depth	Not applicable
r_cir	connection cir	atm_connection cir	atm_connecti on cir	connection cir	Not applicable
r_ibs	connection ibs	atm_connection ibs	atm_connecti on ibs	connection ibs	Not applicable
r_pir	connection pir	atm_connection pir	atm_connecti on pir	connection pir	Not applicable

Mapping to the cesm_connection Table

Table G-4 lists the fields removed from the user_connection table and where the fields can be found in the cesm_connection table based on connection type.

Table G-4 Mapping to the cesm_connection Table

Field Name	CESM-CESM	FR-FR, FR-ATM, ATM-FR, ATM-ATM, Voice-Voice, Data-Data
l_max_buf_size	cesm_connection max_buf_size	Not applicable
l_cell_loss_period	cesm_connection cell_loss_period	Not applicable
l_cdv_rx_t	cesm_connection cdv_rx_t	Not applicable
l_cbr_clock_mode	cesm_connection cbr_clock_mode	Not applicable
l_cas	cesm_connection cas	Not applicable
l_partial_fill	cesm_connection partial_fill	Not applicable
l_idle_detection	cesm_connection idle_detection	Not applicable
l_onhook_code	cesm_connection onhook_code	Not applicable
l_idle_suppression	cesm_connection idle_suppression	Not applicable
r_max_buf_size	cesm_connection max_buf_size	Not applicable
r_cell_loss_period	cesm_connection cell_loss_period	Not applicable
r_cdv_rx_t	cesm_connection cdv_rx_t	Not applicable
r_cbr_clock_mode	cesm_connection cbr_clock_mode	Not applicable
r_cas	cesm_connection cas	Not applicable
r_partial_fill	cesm_connection partial_fill	Not applicable
r_idle_detection	cesm_connection idle_detection	Not applicable

Table G-4 Mapping to the cesm_connection Table (continued)

Field Name	CESM-CESM	FR-FR, FR-ATM, ATM-FR, ATM-ATM, Voice-Voice, Data-Data
r_onhook_code	cesm_connection onhook_code	Not applicable
r_idle_suppression	cesm_connection idle_suppression	Not applicable

Mapping to the logical_conn, data_channel, and voice_channel Tables

Table G-5 lists the fields removed from the user_connection table and where the fields can be found in the logical_conn, data_channel, and voice_channel tables based on connection type.

Table G-5 Mapping to the logical_conn, data_channel, and voice_channel Tables

Field Name	FR-FR	FR-ATM	ATM-FR	VOICE-VOICE	DATA-DATA
cos	logical_conn	logical_conn	logical_conn	voice_channel	data_channel
avoid_trk_type	logical_conn	logical_conn	logical_conn	logical_conn	logical_conn
avoid_zcs	logical_conn	logical_conn	logical_conn	logical_conn	logical_conn

A

AAL5	ATM adaptation layer 5. One of four AALs recommended by the ITU-T.
ABR	available bit rate. A class of service defined for ATM connections by the ATM Forum. Devices using ABR are guaranteed no more than a certain rate of throughput. This rate dynamically changes and the current value is relayed to the sending device by resource management (RM) cells.
ACR	allowed cell rate. In ABR connections, the current rate in cells per second at which a source is allowed to send.
AIS	alarm indication signal. An AIS is an all-ones signal is transmitted in lieu of the normal signal. This signal maintains transmission continuity, and indicates to the receiving terminal that a transmission fault is located either at, or upstream from, the transmitting terminal.
alarm indication signal	*See* AIS.
allowed cell rate	*See* ACR.
APS	automatic protection system. An APS is a SONET switching mechanism that routes traffic from working lines to protect them in case of a line card failure or fiber cut.
ASN1	abstract syntax notation one. ASN1 is the OSI language for describing data types independent of particular computer structures and representation techniques. Described by ISO International Standard 8824.
AutoRoute	Feature that automatically routes connections once the endpoints are specified. AutoRoute is standard with the Cisco BPX and Cisco IGX switches.
available bit rate	*See* ABR.

B

B3ZS	bipolar with three zero suppression. B3ZS violations occur when more than three zeroes in a row are transmitted.
backward explicit congestion notification	*See* BECN.

Bc committed burst.

Maximum amount of data (in bits) that a Frame Relay internetwork is committed to accept and transmit at the committed information rate (CIR).

Be excess burst.

Number of bits that a Frame Relay internetwork attempts to transmit after Bc is accommodated. Be data is delivered with a lower probability than Bc data because Be data can be marked as DE by the network.

BECN backward explicit congestion notification. The BECN is the bit set by a Frame Relay network in frames traveling in the opposite direction of frames encountering a congested path. DTE receiving frames with the BECN bit set can request that higher-level protocols take flow control action as appropriate.

BIP bit interleaved parity.

In ATM, a method used to monitor errors on a link. A check bit or word is sent in the link overhead for the previous block or frame. Bit errors in the payload can then be detected and reported as maintenance information.

C

C-bit parity code violation *See* CCV.

CAC connection admission control.

Set of actions taken by each ATM switch during connection setup to determine whether the requested QoS of the connection violates the QoS guarantees for established connections. CAC is also used when routing a connection request through an ATM network.

CBR constant bit rate. A CBR is an ATM connection type for constant bit rate traffic such as voice or synchronized data requiring a low variation in delay. *See also* VBR and ABR.

CBS committed burst size.

The maximum amount of data (in bits) that a Frame Relay internetwork is committed to accept and transmit at the committed information rate (CIR). *See also* (CIR).

CCV C-bit parity code violation.

Error checking process for DS3 lines. The C-bits in the M-subframes carry parity bit error notification.

CDV cell delay variation.

Component of cell transfer delay that is induced by buffering and cell scheduling. CDV is a QoS delay parameter associated with CBR and VBR service. *See also* CBR and VBR.

cell delay variation *See* CDV.

cell loss priority *See* CLP.

CIR committed information rate. The CIR is the guaranteed traffic rate. This rate is guaranteed as long as the rate of input is less that the CIR.

CLP cell loss priority. CLP is the bit in the ATM cell header that determines the probability of a cell being dropped if the network becomes congested. Cells with CLP equal to 0 are insured traffic that is unlikely to be dropped. Cells with CLP equal to 1 are best-effort traffic that may be dropped in congested conditions to free up resources to handle insured traffic.

committed burst size *See* CBS.

committed information rate *See* CIR.

connection admission control *See* CAC.

constant bit rate *See* CBR.

controlled slip second *See* CSS.

CPE customer premises equipment.

Terminating equipment that is connected to the telephone company network and includes terminals, telephones, and modems.

CPI Common part indicator.

CRC cyclic redundancy check. The CRC is a method of error checking that detects errors in a block of data. Unlike parity checks, the CRC can detect multiple data errors within the block, and thus derive an error rate.

CSS controlled slip second. An CSS is a replication or deletion of the payload bits of a DS1 frame. It may be performed when a difference exists between the timing of a synchronous receiving terminal and the received signal. It does not cause an out-of-frame defect.

CV code violation.

cyclic redundancy check *See* CRC.

D

DE discard eligible. DE cells are ATM cells that have their CLP bit set to 1. If the network is congested, tagged traffic can be dropped to ensure delivery of higher-priority traffic.

discard eligible — *See* DE.

DLCI — data-link connection identifier.

Field in a Frame Relay data packet that identifies the destination for the data.

E

EA — extended address.

Each octet in the Frame Relay frame header ends with an EA bit. The EA bit is 1 in the last octet of the header and 0 in all other octets.

EFCI — explicit forward congestion indication. In ATM, the EFCI mode is one of the congestion feedback modes allowed by ABR service. A network element in an impending congestion state or in a congested state sets the EFCI. The destination end-system implements a protocol that lowers the cell rate of the connection based on the value of the EFCI.

EFCN — *See* EFCI.

egress — Traffic that travels away from the bus to the CPE.

end of frame — *See* EOF.

EOF — end of frame. The EOF is the last cell that encapsulates the frame. Some data transport space is wasted in the last cell.

errored second — *See* ES.

ES — errored second. An ES is a 1second interval during which one or more errors are detected. Errored seconds are performance meter parameters that are measured on a per-channel basis.

extended address — *See* EA.

explicit forward congestion indicator — *See* EFCI.

explicit forward congestion notification — *See* EFCI.

extended Local Management Interface — *See* XLMI.

extended permanent virtual circuit — *See* XPVC.

F

far end bit error — *See* FEBE.

far end receive failure — *See* FERF.

FastPacket — *See* FP.

FCS — frame check sequence.

Extra characters added to a frame for error control purposes. Used in Frame Relay and other data link layer protocols.

FEBE — far end bit error. A FEBE is an error condition on a DS3 line resulting from parity-bit errors received by the network equipment. The FEBE alarm notification is sent by a device that is receiving parity bits in error.

FECN — forward explicit congestion notification. The FECN is the bit set by a Frame Relay network to inform the DTE receiving the frame that the path experiences congestion from the source to destination. DTE receiving frames with the FECN bit set can request that higher-level protocols take flow-control action as appropriate.

FERF — far end receive failure. A FERF is an OAM message sent by an ATM network device in response to an AIS message. Similar to a yellow alarm, but at the cell level, rather than the physical level. *See also* AIS.

fixed round trip time — *See* FRTT.

forward explicit congestion notification — *See* FECN.

FP — FastPacket.

Cisco WAN cell relay technology that uses fixed-size 24-byte length cells to carry narrowband traffic on the Cisco IGX switch platforms.

frame check sequence — *See* FCS.

FRTT — fixed round trip time.

Estimate of the amount of time for a resource management (RM) cell to be transmitted from the source, to the destination, and back.

G

generic flow control *See* GFC.

GFC generic flow control.

A four bit field in the ATM UNI cell header that provides local standardized flow control. In most cases flow control is not implemented, and the GFC is all 0 bits.

H

header error control *See* HEC.

HEC header error control.

Algorithm for checking and correcting an error in an ATM cell. Using the fifth octet in the ATM cell header, ATM equipment checks for an error and corrects the contents of the header. The check character is calculated using a CRC algorithm allowing a single bit error in the header to be corrected or multiple errors to be detected.

I

ICP IMA Control Protocol.

Cells that determine the differential delay between the links in the IMA group. ICP cells are sent on each link once per IMA frame.

ILMI Integrated Local Management Interface.

Specification developed by the ATM Forum for incorporating network management capabilities into the ATM UNI.

IMA inverse multiplexing over ATM.

MGX card module that supports T3 or E3 inverse multiplexing on up to 8 T1 or E1 lines.

IMA control protocol *See* ICP.

ingress Traffic that travels toward the bus from the CPE.

L

LCN logical channel number.

A 12-bit field in an X.25 PLP header that identifies an X.25 virtual circuit. Allows DCE to determine how to route a packet through the X.25 network.

LCV line code violation.

Occurrence of a bipolar violation event.

line code violation *See* LCV.

LMI Local Management Interface.

Protocol and procedures for control of IPX Frame Relay connections. Used for configuration, flow control, and maintenance of these connections.

LOC loss of cell delineation.

In ATM, the terminating equipment receives seven consecutive header error control headers.

Local Management Interface *See* LMI.

LOF loss of frame.

SONET port status indicator that activates when an LOF defect occurs and does not clear for an interval of time equal to the alarm integration period, typically 2.5 seconds.

logical channel number *See* LCN.

LOP loss of pointer.

Failure state in the SONET signal where a receiving network cannot identify or lock on the pointer value of the header one and two bytes to show the location of synchronous payload envelope (SPE).

LOS loss of signal. A LOS alarm occurs when consecutive zeros are detected on an incoming signal.

loss of cell delineation *See* LOC.

loss of frame *See* LOF.

loss of pointer *See* LOP.

loss of signal *See* LOS.

N

network interworking *See* NIW.

NIW network interworking.

Connects two Frame Relay devices over an ATM network. This method uses a tunneling protocol to cut through the ATM network. The header, payload, and trailer of the frame remain together when passing through the network.

NNI Network-to-Network Interface.

Protocol on a Frame Relay port that serves as a bidirectional interface between a local Cisco WAN switching network and a separate network.

O

OAM cell operation, administration, and maintenance. An OAM cell is a cell used to monitor virtual circuits. OAM cells provide a virtual circuit-level loopback in which a router responds to the cells, demonstrating that the circuit is up, and the router is operational.

OOF out of frame. OOF bits are framing bits that cannot be identified.

out of frame *See* OOF.

P

parity code violation *See* PCV.

PCR peak cell rate.

Maximum cell rate at which the source can transmit.

PCV parity code violation. A PCV is a general term used for an illegal parity bit. The parity bits validate the data and detect transmission problems in the cell.

PDU protocol data unit.

Unit containing both data and control information that is passed through the layers of the OSI model.

peak cell rate *See* PCR.

permanent virtual circuit *See* PVC.

PLCP Physical Layer Convergence Protocol. The PLCP is the protocol used with Switched Megabit Data Service on DS3 ATM trunks.

PLCP path code violations occur when more than three zeroes in a row are transmitted.

PNNI Private Network-to-Network Interface.

A routing protocol used between ATM switches in an ATM network. This protocol allows switches to exchange information about network topology.

protocol data unit *See* PDU.

PVC permanent virtual circuit.

Virtual circuit that is permanently established. PVCs save bandwidth associated with circuit establishment and tear down in situations where certain virtual circuits must exist all the time. In ATM terminology, called a permanent virtual connection.

Q

Qbin 0 Qbin 0 is assigned to CBR traffic.

Qbin 1 Qbin 1 is assigned to UBR/ABR traffic.

Qbin 2 Qbin 2 is assigned to VBR-nrt traffic.

Qbin 3 Qbin 3 is assigned to ATM traffic.

Qbin 7 Qbin 7 is assigned to SVC traffic.

Qbin 9 Qbin 9 is assigned to rt-VBR traffic.

Qbin 10 Qbin 10 is assigned to multiprotocol label switching (MPLS) traffic.

Qbin 11 If Qbin 11 is not assigned a traffic service, the count returns a value of 0.

Qbin 12 If Qbin 12 is not assigned a traffic service, the count returns a value of 0.

Qbin 13 If Qbin 13 is not assigned a traffic service, the count returns a value of 0.

Qbin 14 If Qbin 14 is not assigned a traffic service, the count returns a value of 0.

Qbin 15 If Qbin 15 is not assigned a traffic service, the count returns a value of 0.

queue Ordered list of elements waiting to be processed.

R

RAI remote alarm indicator. RAI alarms are those indicating that the remote end of the facility is not receiving a signal. In order for a device to declare a remote alarm, it must be receiving the alarm signal from the remote equipment.

RDI remote defect identification.

In ATM, loss of signal or cell synchronization is detected at the physical layer. RDI cells are used to report a VPC/VCC failure. RDI cells are sent upstream by a VPC/VCC endpoint to notify the source VPC/VCC endpoint of the downstream failure.

remote alarm indicator *See* RAI.

remote defect identification *See* RDI.

remote failure indication *See* RFI.

resource management cell *See* RM.

RFI remote failure indication.

A SONET port status indicator that activates when a line remote failure indication (LRFI) defect occurs and does not clear throughout the alarm integration period, which is typically 2.5 seconds. LRFI defect occurs when bits 6, 7, and 8 of the byte are 110 for three consecutive frames. This occurrence begins the alarm integration period. If this period elapses without the detection of three consecutive frames in which bits 6, 7, and 8 show any pattern other than 110, the LRFI indicator activates. The LRFI indicator clears when a line alarm indication signal defect does not occur for a time interval equal to the alarm deactivation period (typically10 seconds).

RM resource management cell. In ATM, an RM travels to the destination and back to test for congestion.

S

SAR segmentation and reassembly.

Sublayer in ATM that segments the streams into cells, and passes them to the ATM layer. Conversely, this sublayer reassembles the cells from the ATM layer back into streams.

SCR sustainable cell rate.

Rate above which incoming cells are either tagged or discarded.

SEFS severely errored framing seconds.

Performance meter parameter that counts out-of-frame seconds.

segmentation and reassembly *See* SAR.

service interworking *See* SIW.

SES severely errored seconds. SESs are errored seconds during which the bit error ratio is greater than a specified limit and transmission performance is significantly degraded. A performance monitoring parameter is measured on a per-channel basis.

For example, SESs can be classified as errored seconds that are greater than the total line bits per second multiplied by 10^{-6}. Or, SESs can be classified as at least 2500 instances (for OC3 lines) of section BIP-8 errored seconds.

severely errored framing seconds *See* SEFS.

severely errored seconds *See* SES.

simple resource coordination protocol *See* SRCP.

SIW service interworking. SIW connects frame-relay networks over an ATM backbone.

SRCP Simple Resource Coordination Protocol.

Mechanism for communicating between a VISM card and the call agent.

sustainable cell rate *See* SCR.

SVC switched virtual circuit.

Virtual circuit that is dynamically established on demand and is torn down when transmission is complete. SVCs are used when data transmission is sporadic. SVC is called a switched virtual connection in ATM terminology.

switched virtual circuit *See* SVC.

T

TBE transient buffer exposure.

Number of cells that a source can transmit before receiving feedback from the network via a returned RM cell.

timestamp Field in certain Fast Packet formats that indicates the amount of time the packet has spent waiting in queues during the transmission between its source and destination nodes. Used to control the delay experienced by the packet.

transient buffer exposure *See* TBE.

trap Message that indicates a significant event has occurred, for example a power supply has failed, a major alarm has occurred, and so forth.

U

UAS unavailable seconds. UASs are defined as at least 10 contiguous severely errored seconds.

unavailable seconds *See* UAS.

UNI user-to-network interface.

Used for ATM connection to CPE. *See also* NNI.

UPC usage parameter control. A UPC is a procedure for controlling the rate of user data applied to an ATM network.

usage parameter control *See* UPC.

V

variable bit rate *See* VBR.

VBR variable bit rate.

Connection type for variable bit rate traffic, for example bursty data. *See also* CBR and ABR.

VC virtual circuit. A VC is a circuit that acts as an individual transmission path, but is shared with other circuits over a single transmission path. *See also* PVC.

VCI virtual channel identifier. The VCI is the 16-bit field in the header of an ATM cell. The VCI and VPI identify the next destination of a cell as it passes through a series of ATM switches. The function of the VCI is similar to that of the DLCI in Frame Relay. *See also* VPI.

VD virtual destination.

See VSVD.

virtual channel identifier *See* VCI.

virtual path *See* VP.

virtual path identifier *See* VPI.

virtual switch interface *See* VSI.

VP virtual path.

Logical grouping of virtual circuits that connect two sites.

VPI virtual path identifier. The VPI is the 8-bit field in the header of an ATM cell. The VPI and VCI identify the next destination of a cell as it passes through a series of ATM switches. The function of the VPI is similar to that of the DLCI in frame relay. *See also* VCI.

VS virtual source.

See VSVD.

VSI virtual switch interface.

Interface allows controllers to set-up and tear down virtual circuit converters through the BPX independent of the control protocol (PNNI, MPLS, SS7) and location of the controller. The VSI allows multiple controllers to control the BPX, and the controllers are optimized for the service to be delivered. The VSI manages the resource allocation so the controllers are independent and each service receives the QoS required.

VSVD virtual source/virtual destination.

ATM Forum standard-based closed-loop congestion prevention for ABR traffic.

X

XLMI extended Local Management Interface.

Interface that allows AutoRoute (AR) networks and Private Network-to-Network Interface (PNNI) networks to communicate.

XPVC extended permanent virtual circuit.

An end-to-end connection that spans across multiple networks supporting AR and PNNI protocols.

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