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Refurbished CISCO C888EA-K9 Datasheet

CISCO > ROUTERS

Cisco 800 Series Routers

Cisco 880 Series Data Models	
Models	
WAN Interface	G.SHDSL(EFM/ATM) (No ATM IMA support)
LAN Interfaces	4-port 10-/100-Mbps managed switch
802.11g/n Option	No
Embedded 3G	No
Integrated ISDN Dial Backup	Yes

Features and Benefits of Cisco 880 Series Routers	
Feature	
Feature	Benefit
Increased performance to run concurrent services	Cisco 880 Series Router performance allows customers to take advantage of broadband network speeds while running secure, concurrent data, voice, video, and wireless services.
Enhanced security	An integrated stateful and application inspection firewall provides network perimeter security. High-speed IPsec3DES and AES encryption offers data privacy over the Internet. Intrusion prevention enforces security policy in a larger enterprise or service provider network. Content filtering offers category-based URL classification and blocking, thus providing increased productivity and better use of company resources.
WAN diversity	Multiple WAN links include Fast Ethernet, multimode VDSL2/ADSL2/2+, multimode G.SHDSL, 3G, and ISDN.
Redundant WAN links	Redundant WAN links provide business continuity and WAN diversity.
Four-port 10-/100-Mbps managed switch	The Cisco 880 Series allows for connection of multiple devices in a small office, with the ability to designate a port as the network edge. An optional external PoE adapter powers IP phones and external access points to avoid individual power supplies or power injectors. VLANs allow for secure segmentation of network resources.
CON/AUX port	A single dual-purpose port provides direct connection to a console or external modem for management or backup access points.
Optional 802.11g/n access point	This broadband router offers a secure integrated access point in a single device. This integrated Wi-Fi access point offers IEEE 802.11n 2.0 standard support for mobile access to high-bandwidth data, voice, and video applications through the use of Multiple-Input, Multiple-Output (MIMO) technology that provides increased throughput, reliability, and predictability. The Cisco 880 Series supports both autonomous and unified modes.
Real-time clock	A built-in real-time clock maintains an accurate date and time for applications that require an accurate time stamp, such as logging and digital certificates.
Voice gateway (supported on 881V and 887VA-V voice models)	The Cisco 881V and 887VA-V models provide voice gateway functions with the ability to upgrade to a five-user Cisco Unified Communications Manager Express or five-user SRST).
SRST (supported on SRST voice models)	SRST provides business continuity for voice when the WAN link fails by switching calls to the PSTN.
Cisco Unified Border Element (supported on Cisco Unified Border Element voice models)	Support for SIP trunk connectivity, including demarcation and interworking, is based on a Cisco Unified Border Element feature license. Transcoding of media isnot supported on the Cisco 880 Series Cisco Unified Border Element feature set.

Cisco Configuration Professional	Cisco Configuration Professional uses smart wizards and task-based tutorials, which resellers and customers can use to quickly and easily deploy, configure, and monitor a Cisco access router without requiring knowledge of the Cisco IOS Software Command-Line Interface (CLI).
Unified wireless management	Configuration and management of access points is automated and simplified without manual intervention. A unified Hybrid Remote-Edge Access Point (HREAP) provides the following: WLAN services to remote and branch offices without deploying a WLAN controller at each location Central configuration and control of unified WLAN services for remote offices through a WAN link Flexibility in setting up wireless access at remote locations by specifying how traffic is to be bridged or tunneled

Cisco IOS Software Features on Cisco 880 Series: Advanced Security Feature Set (Default)

Feature	
IP and IP services features	Routing Information Protocol Versions 1 and 2 (RIPv1 and RIPv2) Generic routing encapsulation (GRE) and Multipoint GRE (MGRE) Cisco Express Forwarding Standard 802.1d Spanning Tree Protocol Layer 2 Tunneling Protocol (L2TP) Network Address Translation (NAT) Dynamic Host Configuration Protocol (DHCP) server, relay, and client Dynamic Domain Name System (DNS) DNS Proxy DNS Spoofing Access control lists (ACLs)
ATM features (ADSL and G.SHDSL ATM models only)	ATM Variable Bit Rate real-time (VBR-rt) ATM Unspecified Bit Rate (UBR), Constant Bit Rate (CBR), and Variable Bit Rate non-realtime (VBR-nrt) ATM Operations, Administration, and Maintenance (OA&M) support for F5 Continuity Check; segment and end‐to‐end loopback; and Integrated Local Management Interface (ILMI) support TX ring adjustment Virtual-circuit (VC) bundling Per-VC queuing Per-VC traffic shaping 10 ATM virtual circuits on the 886, 887, and 888 models 4 ATM virtual circuits on the 886VA and 887VA models RFCs 1483 and 2684 Point-to-Point Protocol over ATM (PPPoA) PPP over Ethernet (PPPoE)
Switch features	Auto Media Device In/Media Device Cross-Over (Medium Dependent Interface (MDI)/MDI crossover (MDX) Eight 802.1Q VLANs MAC filtering Two-port 802.3af and Cisco compliant PoE Switched Port Analyzer (SPAN) Storm Control Smartports
Security features	Secure connectivity: SSL VPN for secure remote access Hardware-accelerated DES, 3DES, AES 128, AES 192, and AES 256 Public-key-infrastructure (PKI) support 20 IPsec tunnels Cisco Easy VPN Client and Server NAT transparency Zone-based policy firewall: Stateful inspection transparent firewall Advanced application inspection and control Secure HTTP (HTTPS), FTP, and Telnet authentication proxy Dynamic and static port security
QoS features	Low-Latency Queuing (LLQ) Weighted Fair Queuing (WFQ) Class-Based WFQ (CBWFQ) Class-Based Traffic Shaping (CBTS) (on Fast Ethernet WAN ports and DSL ports in Packet Transport Mode [PTM] only) Class-Based Traffic Policing (CBTP) Policy-Based Routing (PBR) Class-Based QoS MIB Class of service (CoS)-to-differentiated services code point (DSCP) mapping
Management features	Cisco Configuration Professional Cisco Configuration Express Cisco Configuration Engine support Cisco AutoInstall

	IP service-level agreement (SLA) Cisco IOS Embedded Event Manager (EEM) CiscoWorks Cisco Security Manager Telnet, Simple Network Management Protocol Version 3 (SNMPv3), Secure Shell (SSH) Protocol, CLI, and HTTP management RADIUS and TACACS+ Out-of-band management with ISDN S/T port or external modem through virtual auxiliary port Cisco WCS for management of unified access points in models supporting WLAN
High-availability features	Virtual Router Redundancy Protocol (VRRP) (RFC 2338) Hot Standby Router Protocol (HSRP) Multigroup HSRP (MHSRP) Dial backup with external modem through virtual auxiliary port Dial backup with ISDN S/T port (select DSL models only) 3G backup (3G models only)
Number of recommended users	20

Cisco IOS Software Features on Cisco 880 Series: WLAN Features (Available with Wireless Option)

Feature	
WLAN hardware	IEEE 802.11n draft 2.0 standards-based access point with 802.11 b/g compatibility Automatic rate selection for 802.11g/n Captive omnidirectional 2-dBi gain dipole antennas 2 x 3 MIMO radio operation Removable antennas on Cisco 881W models Wi-Fi 802.11n Draft v2.0 certified
WLAN software features	Autonomous or unified access point Cisco WCS support for monitoring of autonomous-mode access points Option to maximize throughput or maximize range Software-configurable transmit power Radio roles, including access point, root bridge, nonroot bridge, and workgroup bridge Wi-Fi Multimedia (WMM) certification Traffic specifications (TSPEC) Call Admission Control (CAC) to ensure voice quality is maintained Unscheduled Automatic Power Save Delivery (UPSD) to reduce latency
WLAN security features	Standard 802.11i WPA and AES (WPA2) EAP authentication: Cisco LEAP, PEAP, Extensible Authentication Protocol Transport Layer Security (EAP TLS), Extensible Authentication Protocol-Flexible Authentication via Secure Tunneling (EAP-FAST), Extensible Authentication Protocol-Subscriber Information Module (EAP☐ SIM), Extensible Authentication Protocol-Message Digest Algorithm 5 (EAP-MD5), and Extensible Authentication Protocol-Tunneled TLS (EAP-TTLS) Static and dynamic Wired Equivalent Privacy (WEP) Temporal Key Integrity Protocol/Simple Security Network (TKIP/SSN) encryption MAC authentication and filter User database for survivable local authentication using LEAP and EAP-FAST Configurable limit to the number of wireless clients Configurable RADIUS accounting for wireless clients Pre-shared keys (PSKs) (WPA-Small Office or Home Office [WPA-SOHO])
Service set identifiers (SSIDs)	16
Wireless VLANs	8
Encrypted wireless VLANs	8
Multiple broadcast service set identifiers (MBSSIDs)	16

Cisco IOS Software Features on Cisco 880 Series: Advanced IP Services Feature Set (Optional Software Upgrade)

Feature	
IP and IP services features	IPv4 and IPv6 Multicast Open Shortest Path First (OSPF) Border Gateway Protocol (BGP) Enhanced Interior Gateway Routing Protocol (EIGRP) Virtual Route Forwarding (VRF) Lite Next Hop Resolution Protocol (NHRP) Layer 2 Tunneling Protocol Version 3 (L2TPv3) Bidirectional Forwarding Detection (BFD)

	Web Cache Communication Protocol (WCCP)
Switch features	Internet Group Management Protocol Version 3 (IGMPv3) snooping 802.1x
Security features	Secure connectivity: DMVPN Tunnel-less Group Encrypted Transport VPN IPsec stateful failover VRF-aware IPsec IPsec over IPv6 Adaptive control technology SIP application layer gateway Cisco IOS Firewall: Firewall stateful failover VRF-aware firewall Content Filtering: Cisco Cloud Web Security connector (Subscription based) Cisco IOS Software black and white lists Integrated threat control: IPS Control Plane Policing Flexible Packet Matching Network foundation protection
QoS features	Class-Based Weighted Random Early Detection (CBWRED) Network-Based Application Recognition (NBAR) Link fragmentation and interleaving (LFI) Resource Reservation Protocol (RSVP) Real-Time Transport Protocol (RTP) header compression (cRTP) Differentiated Services (DiffServ) QoS preclassify and prefragmentation Hierarchical QoS (HQoS)
Metro Ethernet features	Ethernet Operations, Administration, and Maintenance (Ethernet OAM) Ethernet Local Management Interface (Ethernet LMI) Hierarchial QOS (HQoS)
IPv6 features	IPv6 addressing architecture IPv6 name resolution IPv6 statistics IPv6 translation: Transport packets between IPv6-only and IPv4-only endpoints (NAT-PT) Internet Control Message Protocol Version 6 (ICMPv6) IPv6 DHCP
Unified WLAN management	Unified access-point features: Supported by wireless LAN controller and Cisco WCS Configurable local or central switching for HREAP mode Radio management through Cisco WCS Transparent roaming with Mobility Groups

Cisco IOS Software Features on Cisco 880V Series: Advanced IP Services Feature Set

Feature	
Cisco Voice Gateway	4 FXS ports and 2 Basic Rate Interface (BRI) port for PBX connectivity; 1 FXO port is available on the Cisco 881V SKU
Cisco Unified Communications Manager Express (Cisco UCME)/SRST version	Ability to upgrade to 5-user license of Cisco UCME/SRST; Version 8.6 and later are supported
Call-control signaling	H.323 Versions 1, 2, 3, and 4; Media Gateway Control Protocol (MGCP) 0.1 and 1.0; Skinny Client Control Protocol (SCCP); and SIP call-control protocols are supported.
ITU standard voice codecs	G.711, G.729, G.729a/b, G.723.1, G.726, and G.728, which are standards-based compression technologies allowing transmission of voice across IP, are supported. The G.711 standard employs 64-kbps pulse code modulation (PCM) using either mu-law or a-law. Other codecs employ lower bit rates.
Cisco Unified Communications Manager support	For SRST features for IP phones, refer to the SRST data sheet at: https://www.cisco.com/en/US/products/sw/voicesw/ps2169/products_data_sheets_list.html. Cisco Unified Communications Manager support for analog and digital ports come with Releases 7.1(5), 8.5(1), and 8.6(2).
Telephony interface signaling support	Cisco 880 V supports the following signaling protocols: FXS loop-start and ground-start signaling FXO Inbound signaling (such as dual-tone multifrequency [DTMF] and multifrequency support) BRI QSIG

Voice features	Echo cancellation: This feature cancels echo on tail circuits up to 64 msec (configurable tail length). Silence suppression and Voice Activity Detection (VAD): Bandwidth is used only when someone is speaking. During silent periods of a phone call, bandwidth is available for data traffic. Comfort-noise generation: This feature reassures the phone user that the connection is being maintained, even when no voice packets are being transmitted. Caller ID support: Per-port caller ID (with per-call unblocking) is configurable over analog FXS. Dial-plan mapping: This feature simplifies configuration and management through automatic mapping of dialed phone numbers to IP addresses.
Voice port-specific features	FXS: FXS provides battery polarity reversal detection and initiation for disconnect supervision and far-end answer supervision. ISDN BRI network side and phantom power: The BRI port provides the ability to connect a private branch exchange (PBX) or private automatic branch exchange (PABX) configured as user side directly to the router. It also provides phantom power to accommodate equipment that requires it. LED indicators show voice-processing resources and port status.
Fax and modem	Fax and modem pass-through allows fax and modem traffic to pass through a voice port. Fax Relay provides a more robust protocol for fax transmission over packet networks. It also supports the T.37 and T.38 fax protocols.
High-performance flexible digital-signal-processor (DSP) architecture	Channel capacity: Cisco 880V supports up to four voice channels. Flexible DSP architecture: There is no need to specify codec complexity at configuration. An appropriate codec is dynamically selected when a call is established, while DSP resources are allocated optimally. Feature upgrades: The DSP architecture allows for addition of new features through simple code updates.

Cisco IOS Software Features on Cisco 880 SRST Series: Advanced IP Services Feature Set	
Cisco SRST version	SRST 7.0 and later are supported.
Call-control signaling	H.323 Versions 1, 2, 3, and 4, Media Gateway Control Protocol MGCP 0.1 and 1.0, Skinny Client Control Protocol (SCCP), and SIP call-control protocols are supported.
ITU standard voice codecs	G.711, G.729, G.729a/b, G.723.1, G.726, and G.728, which are standards-based compression technologies allowing transmission of voice across IP, are supported. The G.711 standard employs 64-kbps pulse code modulation (PCM) using either mu-law or a-law. Other codecs employ lower bit rates.
Cisco Unified Communications Manager support	For SRST features for IP phones, refer to the SRST data sheet at: https://www.cisco.com/en/US/products/sw/voicesw/ps2169/products_data_sheets_list.html. Cisco Unified Communications Manager support for analog and digital ports comes with Releases 6.1(3), 7.0(2), and 7.1(3).
Telephony interface signaling support	Cisco 880 SRST supports the following signaling protocols: FXS loop-start and ground-start signaling FXO Inbound signaling (such as Dual-Tone Multifrequency [DTMF] and multifrequency support) BRI QSIG
Voice features	Echo cancellation: This feature cancels echo on tail circuits up to 64 msec (configurable tail length). Silence suppression and Voice Activity Detection (VAD): Bandwidth is used only when someone is speaking. During silent periods of a phone call, bandwidth is available for data traffic. Comfort-noise generation: This feature reassures the phone user that the connection is being maintained, even when no voice packets are being transmitted. Caller ID support: Per-port caller ID (with per-call unblocking) is configurable over analog FXS. Dial-plan mapping: This feature simplifies configuration and management through automatic mapping of dialed phone numbers to IP addresses.
Voice port-specific features	FXS: FXS provides battery polarity reversal detection and initiation for disconnect supervision and far-end answer supervision. ISDN BRI network side and phantom power: The BRI port provides the ability to connect a Private Branch Exchange (PBX) or Private Automatic Branch Exchange (PABX) configured as user side directly to the router. It also provides phantom power to accommodate equipment that requires it. LED indicators show voice-processing resources and port status.
Fax and modem	Fax and modem pass-through allows fax and modem traffic to pass through a voice port. Fax Relay provides a more robust protocol for fax transmission over packet networks. It also supports the T.37 and T.38 fax protocols.
High-performance flexible digital-signal-processor (DSP) architecture	Channel capacity: Cisco 880 SRST supports up to four voice channels. Flexible DSP architecture: There is no need to specify codec complexity at configuration. An appropriate codec is dynamically selected when a call is established, while DSP resources are allocated optimally. Feature upgrades: The DSP architecture allows for addition of new features through simple code updates.

Cisco IOS Software Features on Cisco 880 Series with Cisco Unified Border Element: Advanced IP Services Feature Set

Feature

Cisco Unified Border Element version	Cisco Unified Border Element 7.0 and later are supported.
Call-control signaling	H.323 Versions 1, 2, 3, and 4; MGCP 0.1 and 1.0; SCCP; and SIP call-control protocols are supported.
ITU standard voice codecs	G.711, G.729, G.729a/b, G.723.1, G.726, and G.728, which are standards-based compression technologies that allow transmission of voice across IP, are supported. The G.711 standard employs 64-kbps Pulse Code Modulation (PCM) using either mu-law or a-law. Other codecs employ lower bit rates.
Cisco Unified Communications Manager support	For SRST features for IP phones, refer to the SRST data sheet at: https://www.cisco.com/en/US/products/sw/voicesw/ps2169/products_data_sheets_list.html. Cisco Unified Communications Manager support for analog and digital ports comes with Releases 6.1(3), 7.0(2), and 7.1(3).
Telephony interface signaling support	Cisco 880 SRST supports the following PSTN trunk signaling protocols: FXS loop-start and ground-start signaling FXO Inbound signaling (such as Dual-Tone Multifrequency [DTMF] and multifrequency support) BRI QSIG Cisco 880 Cisco Unified Border Element supports the following VoIP trunk signaling protocols: Up to 15 SIP-to-SIP sessions. (no H.323 support) Note: The Cisco 880 with Cisco Unified Border Element does not include DSP feature support such as transcoding or transrating. Note: The Cisco 880 with Cisco Unified Border Element does not support concurrent operation of SRST or Cisco Unified Communications Manager Express.
Voice features	Echo cancellation: This feature cancels echo on tail circuits up to 64 msec (configurable tail length). Silence suppression and VAD: Bandwidth is used only when someone is speaking. During silent periods of a phone call, bandwidth is available for data traffic. Comfort-noise generation: This feature reassures the phone user that the connection is being maintained, even when no voice packets are being transmitted. Caller ID support: Per-port caller ID (with per-call unblocking) is configurable over analog FXS. Dial-plan mapping: This feature simplifies configuration and management through automatic mapping of dialed phone numbers to IP addresses.
Voice port-specific features	FXS: FXS provides battery polarity reversal detection and initiation for disconnect supervision and far-end answer supervision. ISDN BRI network side and phantom power: The BRI port provides the ability to connect a PBX or PABX configured as user side directly to the router. It also provides phantom power to accommodate equipment that requires it. LED indicators show voice-processing resources and port status.

System Specifications

Feature

Default and maximum flash memory	128 MB on Cisco 880 Series data, embedded 3G Wireless WAN (WWAN), and Cisco Unified Border Element models 256 MB on Cisco 880 Series Voice and SRST models 256 MB on newer C881-K9, C886VA-K9, C886VAJ-K9, C887VA-K9, C887VAM-K9 and C888-K9 models
WAN	Fast Ethernet Multimode VDSL2 and ADSl2/2+ over ISDN with ISDN backup Multimode VDSL2 and ADSl2/2+ over basic telephone service ADSL2/2+ over ISDN with ISDN backup ADSL2/2+ over basic telephone service with ISDN backup VDSL2 over basic telephone service with ISDN backup Multimode G.SHDSL (2- and 4-wire support) with ISDN backup Fast Ethernet and 3G WAN for Code Division Multiple Access (CDMA) and High-Speed Downlink Packet Access (HSDPA)
LAN switch	Managed 4-port 10/100BASE-T with autosensing Media Device In/Media Device Cross-Over (MDI/MDX) for auto crossover
Standard 802.11g/n access point based on IEEE 802.11n draft 2.0 standard	Optional on all models
Console or auxiliary port	RJ-45
One USB 1.1 port for advanced security features such as security tokens or USB flash memory	One USB 1.1 port on Cisco 880 Series Routers USB devices supported: USB eTokens USB flash memory

	Note: The USB 1.1 port cannot be used for connecting external devices other than those specified at: https://www.cisco.com/en/US/prod/collateral/modules/ps6247/product_data_sheet0900aecd80232473.html.
ISDN BRI S/T	Available on: Cisco 886, 886VA, 887, 887V, 888, and 888EA for out-of-band management and dial backup or primary
3G express card modem	Available on: Cisco 881G, 886G, 887G, 887VG, and 888G for out-of-band management and backup or primary Cisco 888G for out-of-band management and backup or primary Note: Cisco 887VG currently ships with HSPA modem only.
External power supply	Universal 100 to 240 VAC input; 60W, 12 VDC output
Physical dimensions and weight	Product dimensions, nonwireless models (H x W x D): 1.9 x 12.8 x 9.8 in. (48 x 325 x 249 mm) (includes rubber feet) 1.75 x 12.8 x 9.8 in. (44 x 325 x 249 mm) (without rubber feet) Product dimensions, wireless models (H x W x D): 1.9 x 12.8 x 10.4 in. (48 x 325 x 264 mm) (includes rubber feet) 1.75 x 12.8 x 10.4 in. (44 x 325 x 264 mm) (without rubber feet; excludes antennas) Weight: 5.5 lb (2.5 kg) maximum
Power	Product power specifications: AC input voltage: 100 to 240 VAC Frequency: 50 to 60 Hz Maximum output power: 60W Output voltages: 12 VDC Optional internal PoE with external adapter: Maximum output power: 80W External output voltage: 48 VDC
Approvals and compliance	Emissions: 47 CFR Part 15: 2006 CISPR22: 2005 EN300386: V1.3.3: 2005 EN55022: 2006 EN61000-3-2: 2000 [Inc amd 1 and 2] EN61000-3-3: 1995 [+ amd 1: 2001] ICES-003 Issue 4: 2004 KN 22: 2005 VCCI: V-3/2006.04 Immunity: CISPR24: 1997 [+ amd 1 and 2] EN300386: V1.3.3: 2005 EN50082-1: 1992 EN50082-1: 1997 EN55024: 1998 [+ amd 1 and 2] EN61000-6-1: 2001 The following are supported on teleworker models: AS/NRZ 3548: 1992 Class B CFR 47 Part 15 Class B EN60555-2 Class B EN55022 Class B ICES-003, Issue 2, Class B, April 1997S
Environmental operating range	Nonoperating temperature: -4 to 149°F (-20 to 65°C) Nonoperating humidity: 5 to 95% relative humidity (noncondensing) Nonoperating altitude: 0 to 15,000 ft (0 to 4570m) Operating temperature At sea level: 32 to 104°F (0 to 40°C) Up 10,000 ft: 32 to 77°F (0 to 25°C) Derating 2.7°F/10,000 ft (1.5°C/1,000 ft) Operating humidity: 10 to 85% relative humidity (noncondensing) Operating altitude: 0 to 10,000 ft (0 to 3000m)

Wireless LAN and 3G Specifications

Wireless Specifications

Radio frequency band	2.4 GHz
Data rates supported	802.11b: 1, 2, 5.5, 6, 9, and 11 Mbps 802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps 802.11n: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54, and m0-m15

3G specifications

Data rates	CDMA: 850 and 1900 MHz HSDPA: 850, 900, 1900, and 2100 MHz

DSL Features Specifications

ADSL specifications (886 and 887 models)

ADSL specifications (886 and 887 models)	ST-Microelectronics 20190 Chipset ADSL over basic telephone service with Annex A and Annex B ITU G. 992.1 (ADSL), G.992.3 (ADSL2), and G.992.5 (ADSL2+) ADSL over basic telephone service with Annex M (extended upstream bandwidth) G.992.3 (ADSL2) and G.992.5 (ADSL2+) Cisco 887-M is optimized for PSD Mask EU-64 M9. Cisco 887M supports UK Annex M only with Huawei 5300 DSLAM and its EADB line card with Customer☐ Premises Equipment (CPE) firmware Version 4.0.17. G.994.1 ITU G.hs Reach-extended ADSL2 (G.922.3) Annex L for increased performance on loop lengths greater than 16,000 feet from central office T1.413 ANSI ADSL DMT issue 2 compliance DSL Forum TR-067 conformity Does not provide interoperability with carrierless amplitude modulation/phase modulation (CAP)-based ADSL lines Dying gasp IEEE 802.1q VLAN tagging with Cisco IOS Software Release 15.1(1)T or later
VDSL2 specifications (887V models)	Broadcom Chipset ITU G.993.2 (VDSL2) over basic telephone service only 997 and 998 band plans, over basic telephone service only VDSL2 profiles supported: 8a, 8b, 8c, 8d, 12a, 12b, and 17a U0 band support (25276 kHz) Ethernet PTM mode only based on IEEE 802.3ah 64/65 octet encapsulation DELT Diagnostics Mode IEEE 802.1q VLAN tagging
G.SHDSL (ATM mode) specifications (Cisco 888)	Conexant/Ikanos Chipset 2- and 4-wire modes Symmetrical WAN speeds up to 2.304 Mbps over a single copper pair and up to 4.608 Mbps over two copper pairs using ITU-T G.991.2 Annex A and Annex B Wetting current (Section A.5.3.3 of G.991.2) Dying gasp; uses power status bit (Section 7.1.2.5.3 of G.991.2) for signaling
G.SHDSL (EFM mode) specifications (Cisco 888E)	Conexant/Ikanos Chipset 2-wire mode Symmetrical WAN speeds up to 2.304 Mbps over a single copper pair using ITU-T G.991.2 Annex A and Annex B Symmetrical WAN speeds from 768 kbps to 5.696 Mbps over a single copper pair using ITU-T G.991.2 Annex F and Annex G Symmetrical WAN speeds up to 22.784 Mbps over four copper pairs using IEEE 802.3ah EFM bonding Wetting current (Section A.5.3.3 of G.991.2) Dying gasp; uses power status bit (Section 7.1.2.5.3 of G.991.2) for signaling Rate adaption
Multimode G.SHDSL (EFM/ATM) specifications (Cisco 888EA)	Lantiq Chipset 4-pair support Compliance with standard based on ITU Recommendation G.991.2 Support for G.SHDSL Annexes A (U.S. signaling) and B (European signaling) Support for Annexes F and G Symmetrical WAN speeds up to 1 x 2304 kbps over single copper pair, up to 2 x 2304 kbps over two copper pairs, up to 3 x 2304 kbps over three copper pairs, and up to 4 x 2304 kbps over four copper pairs using ITU-T G.991.2 Annexes A and B Symmetrical WAN speeds up to 1 x 5696 kbps over single copper pair, up to 2 x 5696 kbps over two copper pairs, up to 3 x 5696 kbps over three copper pairs, and up to 4 x 56964 kbps over four copper pairs using ITU-T G.991.2 Annexes F and G Support for EFM bonding; supports up to four SHDSL pairs bonding In ATM mode, support for maximum of 8 Permanent Virtual Circuits (PVCs) Support for dying gasp and wetting current Support for point-to-point configuration Support for 802.1Q, QinQ, trunk, and VLAN tagging Support for ATM CoS and IP QoS features, 802.1P, and DSCP Support for EFM (IEEE 802.3ah) OA&M Ability to configure multiple G.SHDSL EFM EHWICs per Cisco 1921, 1941, 2900, and 3900 Series Routers Compliance with single RJ-45 connector system requirements

Multimode DSL DSLAM Interoperability for Cisco 887VA

DSLAM	VDSL2 over Basic Telephone Service Line-Card Chipset
ZTE 9806	Broadcom
Huawei MA5600	Broadcom

Multimode DSL DSLAM Interoperability for Cisco 886VA

Siemens HIX 5300	Infineon
ECI 480	Infineon
Alcatel ASAM 7300	Globespan

ADSL-over-ISDN DSLAM Interoperability for Cisco 886

DSLAM	ADSL2/2+ over ISDN Line-Card Chipset
Siemens HIX 5300	Infineon
ECI 480	Infineon
Alcatel ASAM 7300	Globespan

ADSL over Basic Telephone Service DSLAM Interoperability for Cisco 887 and 887M

DSLAM	ADSL2/2+ over Basic Telephone Service Line-Card Chipset
Alcatel ASAM 7300	Broadcom (Annex A and Annex M)
ECI 480	Infineon (Annex A and Annex M)
Ericsson	Broadcom (Annex A and M)
Huawei 5600	Globespan (Annex A only)
Lucent Stinger	Globespan (Annex A and Annex M)

VDSL2 DSLAM Interoperability for Cisco 887V

DSLAM	VDSL2 over Basic Telephone Service Line-Card Chipset
ZTE 9806	Broadcom
Huawei MA5600	Broadcom

G.SHDSL DSLAM Interoperability for Cisco 888

DSLAM	G.SHDSL (2- and 4-Wire) Line-Card Chipset
ECI Hi-Focus SAM 480	Infineon
Alcatel ASAM7300	Conexant/Ikanos
Lucent Stinger	Conexant/Ikanos
Siemens Hix-5300	Infineon

G.SHDSL DSLAM Interoperability for Cisco 888E

DSLAM	G.SHDSL (2- and 4-Wire) Line-Card Chipset
Huawei 5603	Infineon
Alcatel ISAM 7302	Infineon
Hatteras HN4000e	Infineon

Multimode G.SHDSL DSLAM Interoperability for Cisco 888EA-K9

DSLAM	G.SHDSL (4-Pair) Line-Card Chipset
Huawei 5603	Infineon

Alcatel ISAM 7302	Infineon
Hatteras HN4000e	Infineon

The next steps...

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