Quantum

Web Services Interface Guide

Scalar LTFS Appliance
(Linear Tape File System)

6-67917-03 Rev A

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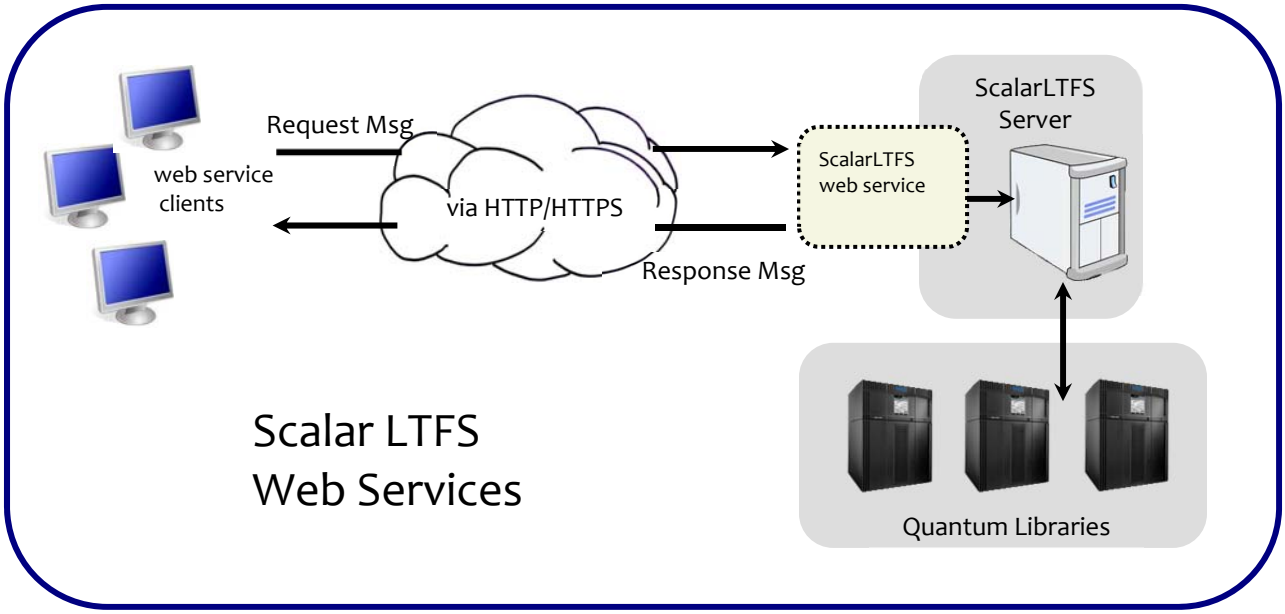
1 Scalar LTFS Web Services

1.1 REST Web Services

The Scalar LTFS web services are based on Representational State Transfer (REST) principles, consisting of clients that initiate requests, and servers that process the requests and return appropriate responses. Each request is stateless, with everything needed to process the request in each message. Requests and responses are built around the transfer of resources. A resource is a source of specific information.



The web services use HTTP protocol to provide security and functionality. The protocol has provisions to represent success or failure of the operation as well as indicating the format of the data in the request or response message. All the requests have clearly defined input and output. HTTP status codes convey the general meaning of the responses.

To implement the web services, an HTTP or HTTPS client that supports cookies is required. The web service requests are defined by the following:

- The URI for the web service (i.e. http://ipAddr/ScalarLTFS/service)
- HTTP Method (GET, POST, PUT, DELETE)
- Data Type (MIME)
- Request data in the message body

1.2 HTTP/HTTPS

The Scalar LTFS clients and the web services can communicate via HTTP or HTTPS. The web services expects HTTP request messages containing passwords to be Base64 encrypted. Data in HTTPS request messages are expected to be in clear text.

Using HTTPS, the client side application may receive a SSL Certificate Exception for an unknown certificate authority. The client application will need to have the capability to ignore or accept the SSL Security Exception warning.

2 Request Messages

2.1 Uniform Resource Identifiers (URIs)

The URIs for the Scalar LTFS web services adhere to this format:

```
https://ipaddr/ScalarLTFS/service[/parameters][?querystring]
```

The base prefix, Scalar LTFS, allows for the URI to be redirected to the web service. Each service request must begin with /ScalarLTFS (case sensitive, no spaces). Service defines the resource requested and is required. The optional parameters and query string may be appended to a resource to further define it.

The service URI signature is defined using a standard notation that indicates the parameters that distinguish the resource and any filters. For example:

```
/ScalarLTFS/media
```

refers to all media in the system. To further define the media service, a barcode parameter may be added to refer to a specific media with a barcode of L12345 (user defined parameters are indicated by italicizes):

```
/ScalarLTFS/media/L12345
```

A query string may be valid on some requests. In this case, the query string acts as a filter, narrowing down the volumes returned in the response. The query string transforms the request into one for media with an a_state of attached:

```
/ScalarLTFS/media?a_state=attached
```

The requests for each service have clearly defined parameters and query strings. These are listed in Section 10 Web Services Definition Tables.

2.2 HTTP Methods

When combined with the location (URI) of a particular resource (or collection of resources) the HTTP method determines the operation of the service. Each service is defined to accept one or more of the following HTTP methods:

- **GET** – Retrieves a resource
- **POST** – Changes the state of a resource or creates it
- **PUT** – updates a resource
- **DELETE** – Removes a resource

When POST and PUT actions are used to add or alter data on the web server, they must include a message body that contains the data to add or update. For example, an HTTP POST to update a resource requires a URI, the POST method, and the message body. The message headers must detail the format type of the data. POST messages that define an action (i.e. shutdown), may not require data in the message body.

2.3 HTTP Headers

The Scalar LTFS web services uses several http headers to garner information about the request. For POST and PUT requests that create or update resources, the web services uses the Content-Type header to determine the request's data format type. Content-Length is required for messages that include application/bin data. Override headers allow complete access to the web services in the event the client side application limits the methods or Content-Type in the request messages.

2.3.1 Content-Type

POST and PUT messages that include data in the message body require a Content-Type header to identify the format of the data in the request message body. If the data type in the message body does not match the Content-Type header, the web services will return an error. If the data type the web service receives has not been defined for that specific POST or PUT service request, an error will be returned.

Content type for text data:

```
Content-Type: text/plain;charset=UTF-8
```

XML data:

```
Content-Type: application/xml;charset=UTF-8.
```

File data:

```
Content-Type: application/Application/bin
```

2.3.2 Content-Length

For messages containing file data in the message body, the web services expects a Content-Length header specifying the number of bytes contained in the request body:

```
Content-Length: n
```

2.3.3 Override Headers

The Scalar LTFS web services recognizes two override headers. A content override uses the following format:

```
SLTFS-Content-Override: valid content type (xml,text,bin)
```

Upon receipt of a content override, the web services disregards any other Content-Type header in the request and uses the type specified in the override header.

A method override has the following format:

```
X-HTTP-Method-Override: PUT|POST|DELETE|GET
```

The method specified in the override header will override the request method.

All header names (i.e. Content-Type) are case insensitive. Other headers included in the request message are ignored by the web services

2.4 Multi-Part Request

The web service accepts multi-part file data for uploaded files. For POST messages that receive file data, an alternative to adding the file data to the message body is to use a multi-part/form type request. The request message body will be empty and the uploaded file is attached via a multi-part message. The file 'name' in the request must be 'Filedata', case sensitive.

3 Response Messages

The web services accepts the requests for a particular resource, performs the required operation and returns a response message based on the outcome of the processing. The response messages will contain an HTTP status code, HTTP headers and a response body.

The status code indicates the success or failure of the processing. A list of status codes used by the Scalar LTFS web services are listed under Response Status Codes. Expected status codes for each service are listed in the Definition Tables.

The web services sets headers based on the presence and type of data being returned. The type of data returned for each request is listed in the Definition Tables. Clients can expect the following headers in the response messages:

Text Data Header:

```
Content-Type: text/plain; charset=UTF-8
Content-Length: n
```

XML Data Header:

```
Content-Type: application/xml;charset=UTF-8
Content-Length: n
```

Binary Data Header (used to return files):

```
Content-Type: application/bin
Content-Length: n
Content-Disposition: attachment; filename="filename.tgz”
```

In order to avoid caching of the responses, this header is added to each response message:

```
Cache-Control: no-cache, must-revalidate
```

For successful PUT requests, the data from the request message is returned in the response messages.

The response body may contain the data for the resource requested or XML formatted error messages. If no data is required for a response message, the message body will be empty.

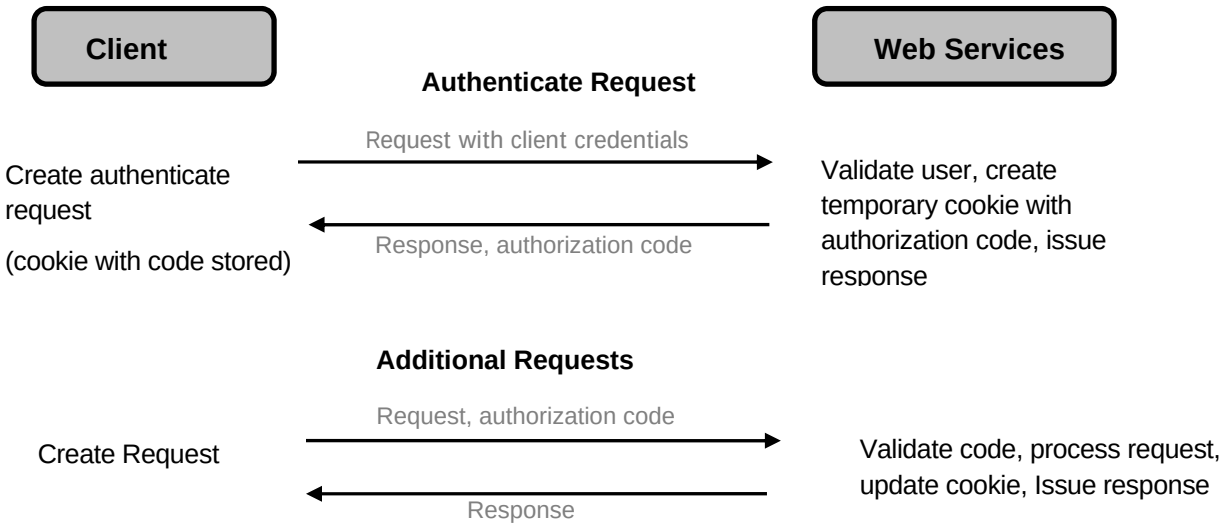
4 Authentication

In order to begin a session, the first service request must be /ScalarLTFS/authenticate. Only after a valid authentication has been received will the client be able to access the web services. Authentication is accomplished by the client including credentials with a user id, password and client type in the message body of an authenticate request.

After authentication to the server, a persistent session will be maintained by the web services. When a valid user name and password are received, the web services creates an authentication code and returns it in a cookie (sltfsWS). Any subsequent requests from the client must support passing the cookie to keep the session alive.

In order to end a session, the client will issue a DELETE authenticate request. In processing the DELETE request, the web services will delete the cookie. After a specified amount of time without any activity, the session will time out. Any request received after the session has ended, either by inactivity or a delete request, will receive a 401 Unauthorized response and the client must issue another authenticate request.

If authentication fails, an error response code is issued. No other information will be returned to explain the exception.



5 Request/Response Examples

Each web service transaction consists of a request message from the client, initiating the transaction and a corresponding response message from the web services.

5.1 Multiple Instances

Multiple instance resources require a key to retrieve a specific single instance. The GET for a multiple instance object has two ways to invoke the action. The standard GET uses only the service request in the URI and receives all the instances of the object in the system. For example, /ScalarLTFS/drives will return XML data in the message body for multiple drives. The drive nodes are repeated for each drive in the system.

5.1.1 Multiple Instance GET Requests

Request

```
GET https://localhost/ScalarLTFS/drives
```

Response

```
HTTP/1.1 200 OK
Content-Length: n
Content-Type: application/xml;charset=UTF8
. . .
<?xml version="1.0"?>
<drives>
   <drive>
      <cur_state>pending_attach</cur_state>
      <rdy_state>online</rdy_state>
      <drive_sn>F098934004</drive_sn>
      <scsi_pid>Ultrium 5-SCSI</scsi_pid>
      <scsi_vid>HP</scsi_vid>
      <barcode/>
      <scsi_asc>0</scsi_asc>
      <scsi_ascq>0</scsi_ascq>
      <partition_sn>ADICA0C0046426_LLA</partition_sn>
      <partition_name>unknown</partition_name>
   </drive>
   <drive>
   . . .
   </drive>
. . .
</drives>
```

In order to receive a single instance of the drive resource, the client appends a key parameter to the URI. For /drive, the key is the drive serial number. Adding a value for the key (drive_sn) generates a response with a single instance of /drives. The response message body contains the XML data.

Request

```
GET https://localhost/ScalarLTFS/drives/F098934004
```

Response

```
HTTPS/1.1 200 OK
Content-Length: 374
Content-Type: application/xml;charset=UTF8
. . .
<?xml version="1.0"?>
<drive>
   <cur_state>pending_attach</cur_state>
   <rdy_state>online</rdy_state>
   <drive_sn>F098934004</drive_sn>
   <scsi_pid>Ultrium 5-SCSI</scsi_pid>
   <scsi_vid>HP</scsi_vid>
   <barcode/>
   <scsi_asc>0</scsi_asc>
   <scsi_ascq>0</scsi_ascq>
   <partition_sn>ADICA0C0046426_LLA</partition_sn>
   <partition_name>unknown</partition_name>
</drive>
```

5.1.2 Multiple Instance PUT Requests

Update requests for multiple instance resources will contain the new values in XML format in the message body. The following example updates a single partition. The partition serial number is appended to the URI for the request. The response XML will return the updated values. Any exceptions to this format are listed in *Section 10 Web Services Definition Tables*.

Request

```
PUT https://localhost/ScalarLTFS/partitions/ADICA0C0046426_LLE
Content-Type: application/xml;charset=UTF8
```

Response

```
HTTPS/1.1 200 OK
Content-Length: 111
Content-Type: application/xml;charset=UTF8
. . .
<?xml version="1.0"?>
<partition>
   <name>partition_name</name>
   <config_index>1</config_index>
</partition>
```

For requests that accept multiple updates at one time, the entity node must include an attribute with the entity id. The entity nodes will repeat for each entity to be updated. The following example updates two partitions. The definition tables will list which requests are valid to update multiple entities with one request.

Request

```
PUT https://localhost/ScalarLTFS/partitions
Content-Type: application/xml;charset=UTF8
```

Response

```
HTTPS/1.1 200 OK
Content-Length: 374
Content-Type: application/xml;charset=UTF8
. . .
<?xml version="1.0"?>
<partitions>
   <partition partition_sn='ADICA0C0046426_LLE'>
   <name >newdata</name >
   <config_index>1</config_index>
</partition>
   <partition partition_sn='ADICA0C0046426_LLE'>
      <cur_state>1</cur_state>
   </partition>
</partitions>
```

5.2 Scalar Access

5.2.1 Scalar GET Requests

Scalar resources may be accessed as a singleton. This eliminates the need to serialize the object as XML. The method to access the scalar object is to append the name of the object onto the URI. For example, to get the date, ‘date’ is appended to the datetime URI and the data is returned as text.

 # Request

```
GET https://localhost/ScalarLTFS/datetime/date
```

 # Response

```
HTTPS/1.1 200 OK
Content-Length: 9
Content-Type: text/plain;charset=UTF-8
. . .

10192011
```

A request for multiple scalar values results in an XML formatted response. Using datetime again, but without an object appended, retrieves all the datetime values:

 # Request

```
GET http://localhost/ScalarLTFS/datetime
```

 # Response

```
HTTP/1.1 200 OK
Content-Length: 232
Content-Type: application/xml;charset=UTF8
. . .
<?xml version="1.0"?>
<datetime>
   <date>04022012</date>
   <time>1758</time>
   <timezone>US/Mountain</timezone>
   <datetm>1758 04022012</datetm>
   <itime>1333411109</itime>
   <datetm2>05:58 pm Mon Apr 02 2012</datetm2>
</datetime>
```

5.2.2 Scalar PUT Requests

Updating a scalar works in the same manner as the GET requests. The Content-Type header of the request message indicates the update type to the web services. Text data and a text Content-Type header is required to update one scalar value. The scalar value is specified in the URI. The message body contains the text value.

Request

```
PUT http://localhost/ScalarLTFS/system/settings/uilogouttime
Content-Type: text/plain;charset=UTF-8
. . .
75
```

Response

```
HTTP/1.1 200 OK
Content-Length: 3
Content-Type: text/plain;charset=UTF-8
. . .
75
```

XML formatted data and an XML Content-Type header is required to update multiple values for the resource specified in the URI. With a successful update, the updated values are returned in XML format in the response message body. Generally, if any of the updates fail, all of the updates fail. Exceptions are listed in Section 11 Definition Tables.

Request

```
PUT http://localhost/ScalarLTFS/system/settings
Content-Type: application/xml;charset=UTF-8
. . .
<settings>
   <uilogouttime>75</uilogouttime>
   <setupwizard>false</setupwizard>
   <sltfsserviceuser>disabled</sltfsserviceuser>
</settings>
```

Response

```
HTTP/1.1 200 OK
Content-Type: application/xml;charset=UTF-8
. . .
<?xml version="1.0"?>
<settings>
   <UILogoutTime>75</UILogoutTime>
   <setupwizard>false</setupwizard>
   <sltfsserviceuser>disabled</sltfsserviceuser>
</settings>
```

6 Auto-generated Request Messages

The web services provides for automatically generated messages to be processed without affecting the client's session time. With the exception of an authenticate request, any request HTTP message may be marked as auto-generated by adding an "auto=1" query string to the URI. The message is processed, but the session time in the cookie is not reset. This prevents polling requests from extending the user session.

 # Request

```
GET https://localhost/ScalarLTFS/datetime?auto=1
```

7 Response Status Codes

The following list of HTTP response status codes are utilized by the web services. The status codes returned will vary by service.

7.1 200 Level

With the exception of a 203 response status code, a 200-level response code indicates that the processing of the transaction completed successfully.

200 OK

The request has succeeded. The information returned with the response is dependent on the method used in the request, for example:

- GET: an entity corresponding to the requested resource is sent in the response;
- POST, PUT: the action was taken, or the resource was updated.
- DELETE: The entity was deleted.

201 CREATED

The request has been fulfilled and resulted in a new resource being created. The response message body may contain the data used to create the resource.

202 ACCEPTED

The request has been accepted for processing, but the processing has not been completed. Returned for system shutdown, system reboot, network restart, clear to ship and set to factory defaults. The accepted response message is sent and then the services takes the required action.

203 NON AUTHORITATIVE

A 203 response is used for error responses for messages that originated with the SLTFS GUI ("gui" client type in the credentials). This response is a wrapper for most error messages due to the limitations of the GUI. In each 203 error response will be an XML node <response_status> with the actual status code for the request in the request body. 401, 409 and 503 Response status codes will not be wrapped in a 203.

7.2 400 Level

A 400-level response code indicates there was some problem with the data syntax, such as missing required fields, or an invalid parameter. The web service believes it has encountered a client-side error. These types of errors can usually be resolved by the user by resubmitting the transaction with the corrected data.

400 BAD REQUEST

The resource identified by the request is not valid. Invalid parameters for a service request can invoke this error code. XML formatted messages in the response body will give further explanation of the error.

401 UNAUTHORIZED

The request requires user authentication. This error code is the result from an invalid authenticate request or any service request that does not contain a valid authorization code. No other error messages will be given to explain the error. A 401 Unauthorized is given when a user's session has expired.

403 FORBIDDEN

The server understood the request, but is refusing to fulfill it. Authorization will not help and the request should not be repeated. This response is returned for permissions errors. A 403 Forbidden is issued when the user's role does not allow the specific request, or when the service user is authenticating (logging in) when the service user has been disabled by the client.

404 NOT FOUND

The server has not found anything matching the request URI. The request was syntactically correct, but the resource was not found, for example when a requested resource was not found in the data base. No indication is given of whether the condition is temporary or permanent. Typically no message body is returned with a 404 Not Found.

405 METHOD NOT ALLOWED

The method specified in the Request-Line is not allowed for the resource identified by the Request-URI. XML is included in the message body listing the allowable methods for the service.

406 NOT ACCEPTABLE

The resource identified by the request is only capable of generating response entities which have content characteristics not acceptable according to the accept headers sent in the request. This may be returned with report resources if the Accept type is not valid for the report.

409 CONFLICT

The request could not be completed due to a conflict with the current state of the resource. This code is returned when the service user is currently logged in, precluding any other requests from processing.

412 PRECONDITION FAILED

The request could not be completed due to an existing condition. This code is returned for some system operations (reboot, download firmware, etc.) if there is currently i/o ongoing or for a database update of drives, media or partitions if the entity is in a "pending" state (i.e. pending attach).

7.3 500 Level

A 500-level response code indicates a system error.

500 INTERNAL SERVER ERROR

The server encountered an unexpected condition which prevented it from fulfilling the request. This is status code is returned with a web services processing error, on an unsuccessful execution of a script, or a PHP error. Non-PHP errors will return an XML formatted message in the message body.

501 NOT IMPLEMENTED

The server does not support the functionality required to fulfill the request.

503 SERVICE UNAVAILABLE

The server is currently unable to handle the request. This response is returned for any request after a user has initiated a firmware upgrade, clear to ship, or a reset to factory defaults.

8 Error Messages

In addition to the response status code, the web services will, for most error conditions, return XML formatted error messages in the message body.

For some errors, the response status codes are sufficient to convey the error without an error message. The following response status codes do not return error messages:

- 401 UNAUTHORIZED: the user has not been authenticated due to invalid credentials, an invalid cookie, or the user's session has expired.
- 409 CONFLICT: the service user is logged in and no other users may access the system.
- 503 SERVICE UNAVAILABLE: a firmware upgrade, reset to factory defaults or clear to ship has been initiated and users are locked out of the system until the system reboot occurs.

The following response status codes may contain an error message:

- 403 FORBIDDEN: A 403 is returned from an authenticate request when the service user has been disabled or locked out; no XML error message is returned. A response with a 403 from any other request, will contain an XML error message.
- 404 NOT FOUND: A 404 not found indicates that no data has been found for the resource requested. No XML data is typically returned, unless the request was updating multiple entities. For example, a 404 returned from a GET media request indicates no media are in the database volume table; no XML error message is returned. A 404 returned from a PUT media request (update) for one volume indicates the volume is not in the database; no XML error message is returned. A 404 is returned for a PUT media request for multiple volumes if one of the volumes was not found in the database; the XML error message will indicate which volume was not found.

All error messages returned will have the following format:

```
<fault>
   [<response_status>n</response_status>]
   . . .
   <error>text error message</error>
   <ws_error>n</ws_error>
</fault>
```

The data will always contain a text error message and an integer web services error code. Optional nodes will contain other data for the error. The web service error codes and a description of each are listed in *Appendix B: Web Services Error Codes*. The possible status codes returned for a request are given in *Appendix A: Resource Objects*.

8.1 Client Side Errors

Client side errors occur when the request message contains invalid or incomplete data (invalid content type, invalid method, invalid parameters, invalid data, etc.).

Authentication errors are client side errors that occur if the client has not established a session with an authenticate request or the client's session has timed out due to inactivity. A response status code is the only indication of an unauthorized request; the message body will be empty.

Request (not authenticated)

```
GET https://localhost/ScalarLTFS/network
```

Response

```
HTTP/1.1 401 Unauthorized
```

Client side error, returning an error message:

Request (invalid service request given on the URI)

```
GET http://localhost/ScalarLTFS/invalidservice
```

Response

```
HTTP/1.1 400 Bad Request
Content-Length: 136
Content-Type: application/xml;charset=UTF8
. . .
<?xml version="1.0"?>
<fault>
   <request>invalidservice</request>
   <error>Invalid request</error>
   <ws_error>351</ws_error>
</fault>
```

8.2 Database Errors

For database resources, errors may occur that are either client side or server side. Both client side or server side errors return the ODBC error as the text error message in the response.

Server side errors occur if the web service executes an invalid query or if a table or view is not found in the database. If the web services detects a server side error, a 500 Internal Server Error with a 119 web service error code is returned:

If a database query fails due to user data, a 406 Not Acceptable with a 107 web services error code is returned.

For updates requiring multiple rows to be updated, if one update fails, no updates are performed.

If an item is not found for a database DELETE or PUT (update) request, the web services returns a 404 not found. For a multi-item update, an error message is also returned identifying the item that was not found.

Request (update a setting)

```
POST http://localhost/ScalarLTFS/system/settings/uilogouttime
```

Response

```
HTTP/1.1 406 Not Acceptable
Content-Length: 173
Content-Type: application/xml;charset=UTF8
. . .
<fault>
   <results>Update Failed</results>
   <error>[unixODBC]ERROR: invalid value for UILogoutTime;Error while
executing the query</error>
</fault>
```

8.3 500 Internal Server Errors

Client-side and server-side errors may return a 500 Internal Server Error response status codes. These are caused by an error in web service processing or a non-successful script execution.

The response message will contain an error message in the message body. The web services verifies client data, when possible, before calling scripts, but 500 errors can occur with invalid data. If an error occurs with the execution of a script, the web services, in most cases, cannot determine if it is caused by a processing error or by invalid user data. For a non-successful script execution, the response message will contain any script errors generated, the script error code, and the script that was executing.

If a fatal error occurs in the web services, a 500 Internal Server Error response is returned and there is no error message in the response message.

An example of a 500 Internal Server error:

Request

```
POST http: //localhost/ScalarLTFS/licenses/7AGJVKMW5K2XEZC8
```

Response

```
HTTP/1.1 500 Internal Service Error
Content-Length: 230
Content-Type: application/xml;charset=UTF8
. . .
<?xml version="1.0"?>
<fault>
   <requestURI>/ScalarLTFS/licenses/K1293840AC</requestURI>
   <script_err> The license key is not valid</script_err>
   <error_code>104</error_code>
   <error>Script Failed: License Add</error>
   <ws_error>215</ws_error>
</fault>
```

9 Web Service Resources

A brief description of the web service resources are listed below. Detailed information, including valid methods, parameters and URI definitions for each web service interface is given in the Definition Tables.

Web Services	***Description***
authenticate	Authenticates the client, and authorizes the client to access the services. Creates or deletes a session.
contact	Retrieve/update contact data including name, email, phone and company.
datetime	Get and set the system date, time and timezone settings.
drives	Retrieve or update drives.
elements	Retrieve element table data.
emailconfig	Retrieve and update email server configuration values.
files	Retrieve a list of extended snapshot files to download or download an existing extended snapshot.
filters	Retrieve details on all filters or for a specific filter. Create, update or delete a media or diagnostic ticket filter.
fwupgrade	Retrieve a recent firmware upgrade version number.
hosts_allowed	Retrieve, update and delete security IP addresses.
ipmi	Retrieve IPMI manufacturing hardware and network data.
jobs	Retrieve the job queue, details of the jobs and cancel jobs.
ldap	Get and set the LDAP configuration. Enable remote logins, ACLs and test the configuration and users.
licenses	Retrieve license data for each feature. Add a license.
media	Retrieve media information. Update media to attach, format and sequester.
messages	Get a list of messages, cancel messages and create admin system messages.
network	Retrieve and update network parameters including hostname, multiple Ethernet interface IP addresses, gateway, domain name, DNSdomain name, dns_ip and netmask.
ntp	Retrieve and update the server list and status. Change the state of the NTP servers (stop/start).
operations	Initiate volume group operations: prepare for export, replicate, assign, merge and repair volume groups.
partitions	Retrieve and update partitions data.
pmd_configuration	Retrieves partition data and media, drive data for each media or drive in the partition.

Web Services	*Description*
product	Returns information specific to the client's Scalar LTFS server, including model, vendor, serial number and version numbers.
rascontacts	Retrieve, add, update or delete email contacts for diagnostic ticketd snf messages.
rastickets	Retrieve diagnostic ticket data & close tickets.
Reference resources	Retrieve the indexes and text values of states, roles, types and reasons
reports	Create, download or email a component information, configuration record, media or component information report.
session	Retrieve current session data.
states	Retrieve the index and text values for states.
status	Retrieve hardware component, system or i/o status.
storage_slots	Retrieve storage slot data.
system	Execute Scalar LTFS server level functions including download firmware, reboot, shutdown, and save/restore configuration. Retrieve or update system settings.
users	Retrieve and update user data in the database user table. Add, delete users.
volume groups	Create and delete volume groups. Retrieve lists of volume groups and modify volume group configurations.

10 Web Services Definition Tables

Each web service request is defined below with the allowable methods and the expected data in the request message and response message. Expected response status codes and web service error codes are given. If a content-type header is expected for a request, it is given. The web services check the content-type header on POST and PUT messages. Other headers may be present in the request message; the web service does not use them.

Each service request is listed with the valid methods and URIs. Special conditions for a request are listed in the description. Conditions that can cause a specific response code may be described in the request description. Refer to the Response Status Codes section for a general description of the response status code. Refer to Appendix B (Section 12 Web Services Error Codes) for a general description of the web service error codes and the expected response message data.

URI parameters listed within brackets ({ }) are variable parameters and a value is expected to be provided by the user (email address, barcode, user name, etc.). For instance, /ScalarLTFS/media/{barcode} is expecting a barcode: /ScalarLTFS/media/B01121.

The following errors may be returned for all requests and are not listed in the tables:

- 400 Bad Request
    - WS 223 Invalid Request

- 401 Unauthorized returned when the client has not created a session with an authenticate request, or if the session has expired.
- 405 Method Not Allowed returned if the method specified is not valid for the request.
    - WS 222 Invalid Method
- 409 Conflict is returned if the service user has logged on. All other users' requests will fail until the service user has logged off.
- 500 Internal Server Error with the following:
    - WS 100 Database Connection Error
    - WS 353 Web Services Processing Error (unable to open the log files)
- 503 Service Unavailable is returned if a download firmware, clear to ship or reset to factory defaults has been initiated. All users are locked out until the system has been rebooted.

10.1 Authenticate

Authenticates the client, and authorizes the client to access the web services. Creates or deletes a session authorization code. Authenticate service requests return only the response status codes (no error messages in the message body).

10.1.1 DELETE /ScalarLTFS/authenticate

Description: End the current user's session

URI	***/ScalarLTFS/authenticate***
Method	DELETE
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
	409 Conflict
Response Data	N/A

10.1.2 POST /ScalarLTFS/authenticate

Description: Authenticates the user name, password and client type. Creates a persistent session. Valid client types are 'gui', 'vision', 'app', 'guardian' and 'mfg'. Client type data is not case sensitive.

If a request message is HTTP, the password data must be Base64 encrypted. HTTPS messages should contain passwords in clear text.

If remote authentication (LDAP) should be used to verify the user name and password credentials, ldap must be true. If the ldap element is omitted or is false, local authentication is used.

No error messages are returned for an authenticate request. The following status codes relay the following information:

- 401 Unauthorized: the password, user, or client type is invalid, the content type is not XML, or the method is not POST.
- 403 Forbidden: the service user attempts to log in or authenticate and the service user is disabled on the system.
- 409 Conflict: the service user is currently logged in. No users may create a session while the service user is logged in.
- 502 Bad Gateway: remote authentication (LDAP) has been specified and the remote server is unavailable.
- 503 Service Unavailable: the system is unavailable . This will occur if a library upgrade or other operation has been initiated and the system has not yet been shut down.

URI	***/ScalarLTFS/authenticate***
Method	POST
User Role Access	Admin, Service, User
Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<credentials>`
	`  <user>user name</user>`
	`  <password>password</password>`
	`  <clientinfo>clienttype</clientinfo>`
	`  <ldap>true|false</ldap>[optional]`
	`</credentials>`

Response Codes	401 Unauthorized 403 Forbidden 409 Conflict 502 Bad Gateway 503 Service Unavailable
Response Data	N/A

10.2 Contact

10.2.1 GET /ScalarLTFS/contact

Description: Retrieve the system contact information.

URI	***/ScalarLTFS/contact***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 6 contact

10.2.2 GET /ScalarLTFS/contact/{contact_parameter}

Description: Retrieve a single contact value.

URI	***/ScalarLTFS/contact/{contact_parameter}***
Method	GET
User Role Access	Admin, Service, User
Parameters	URI contact_parameter may be any contact value: fname, lname, email, phone, description, company
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	text value

10.2.3 PUT /ScalarLTFS/contact/{contact_parameter}

Description: Update a single contact value. The request data is expected to be a single text value.

URI	***/ScalarLTFS/contact/{contact_parameter}***
Method	PUT
User Role Access	Admin
Parameters	URI contact_parameter may be any contact value: fname, lname, email, phone, description, company
Request Header	Content-Type: text/plain; charset=UTF-8
Request Data	text value
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	On successful update, returns the request message data

10.2.4 PUT /ScalarLTFS/contact

Description: Update the system contact information. Include any values to be updated in the request data object. All contact elements are optional and only the values included are updated.

URI	***/ScalarLTFS/contact***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8
Request Data	See Figure 6 contact
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns request message data on successful update

10.3 Date and Time

10.3.1 GET /ScalarLTFS/datetime

Description: get all values for the date and time. Returns the date, time and timezone. The date and time are returned in various formats. Timezone uses the zone info directory format (i.e. America/Chicago). To get the date or time in one specific format use one of the /datetime/date_parameter requests.

URI	***/ScalarLTFS/datetime***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 8 datetime

10.3.2 GET /ScalarLTFS/datetime/date

Description: Get the current date in the format mmddyyyy.

URI	***/ScalarLTFS/datetime/date***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	mmddyyyy

10.3.3 GET /ScalarLTFS/datetime/datetm

Description: Get the current date and time in the format hhmm mmddyyyy.

URI	***/ScalarLTFS/datetime/datetm***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	hhmm mmddyyyy

10.3.4 GET /ScalarLTFS/datetime/datetm2

Description: Get the system date and time formatted as 07:22 pm Wed Feb 08 2012.

URI	***/ScalarLTFS/datetime/datetm2***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	hh:mm am/pm day mmm dd yyyy

10.3.5 GET /ScalarLTFS/datetime/itime

Description: Get the current time as an integer. Returns the number of seconds since epoch (1970-01-01 00:00:00 UTC).

URI	***/ScalarLTFS/datetime/itime***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	n

10.3.6 GET /ScalarLTFS/datetime/time

Description: Get the current time in the format hhmm.

URI	***/ScalarLTFS/datetime/time***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	hhmm

10.3.7 GET /ScalarLTFS/datetime/timezone

Description: Get the system timezone. Timezones are zone info directory format (i.e. America/Chicago).

URI	***/ScalarLTFS/datetime/timezone***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	time zone

10.3.8 PUT /ScalarLTFS/datetime

Description: Update the system date, time and/or timezone. Include any values to be updated in the request data object. Valid update elements are date, time, timezone and datetm. The elements are optional and only the values included are updated. To see a list of valid timezone values, see Section 10.3.12.

If NTP is enabled, the date and time cannot be updated and WS error 229 will be returned. (*Section 12.54*.)

URI	***/ScalarLTFS/datetime***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<?xml version="1.0"?>`
	`<datetime>`
	`  <date>mmddyyyy</date>`
	`  <time>hhmm</time>`
	`  <timezone>tmz</timezone>`
	`  <datetm>hhmm mmddyyyy</datetm>`
	`</datetime>`

Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Request data is returned on a successful update.

10.3.9 PUT /ScalarLTFS/datetime/date

Description: Update the date. This single value update requires a text value in the request message.

If NTP is enabled, the date cannot be updated. WS error 229 will be returned. (*See section 12.54*)

URI	***/ScalarLTFS/datetime/date***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: text/plain; charset=UTF-8
Request Data	mmddyyyy
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	mmddyyyy

10.3.10 PUT /ScalarLTFS/datetime/time

Description: Update the time. This single value update requires a text value in the request message.

If NTP is enabled, the date cannot be updated. WS error 229 will be returned. (See section 12.54)

URI	***/ScalarLTFS/datetime/time***
Method	PUT
User Role Access	Admin,
Parameters	N/A
Request Header	Content-Type: text/plain; charset=UTF-8
Request Data	hhmm
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	hhmm

10.3.11 **PUT /ScalarLTFS /datetime/datetm**

Description: Update the date and time This single value update requires a text value in the request message.

If NTP is enabled, the date cannot be updated. WS error 229 will be returned. (See section 12.54)

URI	***/ScalarLTFS /datetime/datetm***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: text/plain; charset=UTF-8
Request Data	hhmm mmddyyyy
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	hhmm mmddyyyy

10.3.12 **PUT /ScalarLTFS/datetime/timezone**

Description: Set the timezone, using zone info directory format (i.e. America/Chicago.) This single value update requires a text value in the request message. For a list of valid timezone values, see Section 10.3.13 /ScalarLTFS/timezones.

URI	***/ScalarLTFS/datetime/timezone***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: text/plain; charset=UTF-8
Request Data	Timezone value
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	timezone

10.3.13 GET /ScalarLTFS/timezones

Description: Retrieve a list of all valid timezones. Timezones are zone info directory format (i.e. America/Chicago).

URI	***/ScalarLTFS/timezones***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 78 timezones

10.4 Drives

10.4.1 GET /ScalarLTFS/drives

Description: Retrieve drive data for each drive in the system. Include the query string to filter the list of drives returned. If no drives are found, an empty drives object is returned.

URI	***/ScalarLTFS/drives[?{element}=data]***
Method	GET
User Role Access	Admin, Service, User
Parameters	The optional query string is a search string to filter the resulting list of drives. Any drive element may be used as a query variable and multiple query variables may be used. Example: /drives?partition_name=partition1&rdy_state=online returns online drives in partition1.
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See figure Figure 10 drives

10.4.2 GET /ScalarLTFS/drives/{driveserialnumber}

Description: Retrieve drive data for a specific drive, indicated by the drive serial number on the URI.

If the drive is not found a 404 Not Found is returned.

URI	***/ScalarLTFS/drives/{driveserialnumber}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 404 Not Found 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 9 drive

10.4.3 PUT /ScalarLTFS/drives

Description: Update multiple drives, taking them online or offline. The drive serial number (drive_sn) attribute on the drive node is required. If one update fails, none of the updates are performed. The drive objects should be repeated for each drive to be updated.

Only fields to be updated should be included in the request message. The only valid update field is cur_state. cur_state values may be obtained with a GET /ScalarLTFS/states (See Section 10.24.7) Drives may be taken online or offline with attached and sequestered state values.Cur_state values may contain text or the numeric value for the state. The response data will contain the numeric value

If the drive is currently in any ‘pending’ state, the update will fail with a 412 Precondition error (ws code 114). Cur_state values may contain text or the numeric value for the state. The response data will contain the numeric value.

URI	*/ScalarLTFS/drives*
Method	PUT
User Role Access	Admin, Service
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/xml;charset=UTF-8
Request Data	<drives> <drive drive_sn='x'> <cur_state>data</cur_state> </drive> <drive drive_sn='y'> . . . </drive> . . . </drives>
Response Codes	200 OK 400 Bad Request 403 Forbidden 404 Not Found 412 Precondition Failed 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns request data on successful update

10.4.4 PUT /ScalarLTFS/drives/{driveserialnumber}

Description: Update drive data for a specified drive, indicated by the driveserialnumber. Only values to be updated are included in the request message. The only valid update field is cur_state. cur_state values may be obtained with a GET /ScalarLTFS/states (See Section 10.24.7). Drives may be taken online or offline with attached and sequestered state values.

If the cur_state is in any 'pending' state, the update will fail with a 412 Precondition error (ws code 114). Cur_state values may contain text or the numeric value for the state. The response data will contain the numeric value.

URI	***/ScalarLTFS/drives/{driveserialnumber}***
Method	PUT
User Role Access	Admin, Service
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<drive>`
	`  <cur_state>value</cur_state>`
	`</drive>`

Response Codes	200 OK 400 Bad Request 403 Forbidden 404 Not Found 412 Precondition Failed 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns request data on successful update

10.5 Elements

10.5.1 GET /ScalarLTFS/elements

Description: Retrieve all element objects.

URI	***/ScalarLTFS/elements***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Data	See Figure 12 elements

10.6 Email Server Configuration

10.6.1 GET /ScalarLTFS/emailconfig

Description: Retrieves email configuration values. Host, sender and username. If email messages are not authenticated, username will be null.

The password element is an indication of whether or not the password is set in the database. The password value is not returned, but asterisks (*) are returned if the password has been set, null is returned if the password has not been set.

URI	***/ScalarLTFS/emailconfig***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 13

10.6.2 GET ScalarLTFS/emailconfig/{emailconfig_parameter}

Description: Retrieve a single email configuration value.

URI	***/ScalarLTFS/emailconfig/{emailconfig_parameter}***
Method	GET
User Role Access	Admin, Service, User
Parameters	URI emailconfig_parameter may be: host, sender, username.
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	text value

10.6.3 **PUT /ScalarLTFS/emailconfig**

Description: Update email server configuration values. Multiple fields (or all) may be updated in one request by adding one or more elements emailconfig object in the XML. Username and password are only be used if emails should be sent authenticated.

Host and sender may be up to 128 characters. Username may be up to 65 characters. If a request message is HTTP, the password value must be Base64 encrypted.

URI	***/ScalarLTFS/emailconfig***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<emailconfig>`
	`  <host>server</host>`
	`  <sender>sender email address</sender>`
	`  <username>authenticated account user name </username>`
	`  <password>authenticated account password</password>`
	`</emailconfig`

Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns request message data on successful update

10.6.4 **PUT /ScalarLTFS/emailconfig/{emailconfig_parameter}**

Description: Updates a single email configuration value. If updating the password, if the request is sent HTTP, the password value must be Base64 encrypted.

URI	***/ScalarLTFS/emailconfig/{emailconfig_parameter}***
Description	Updates a single email configuration value. Valid parameters: host, sender, username, password. If a request message is sent HTTP, the password value must be Base64 encrypted. Password values in HTTPS must be in clear text. This request is restricted to admin roles.
Method	PUT
User Role Access	Admin
Parameters	URI emailconfig_parameter may be: host, sender, username, password.
Request Header	Content-Type:text/plain;charset=UTF-8
Request Data	text value
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	On successful update, returns the request message data

10.7 Files

Retrieve an extended snapshot or list of available extended snapshots from the server. These requests may be used in conjunction with /system/ext_snapshot. The extended snapshot request (without a download query string) creates a file and returns the filename. The file can be downloaded with a /files request.

10.7.1 GET /ScalarLTFS/files/ext_snapshot

Description: Retrieve a list of extended snapshot files available for download. If there are no files available for download, a 404 is returned. See Section 10.7.2/ files/ext_snapshot/{filename} for downloading the file.

URI	***/ScalarLTFS/files/ext_snapshot***
Method	GET
User Role Access	Admin, Service
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 404 Not Found
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 16 file_list

10.7.2 **GET /ScalarLTFS/files/ext_snapshot/{filename}**

Description: Download the extended snapshot file specified by {filename}. The extended snapshot is created with a /system/ext_snapshot request . A 404 Not found is returned if the file is not found on the server. To get a list of currently available extended snapshot files, use /files/ext_snapshot (see section 10.7.1.)

URI	***/ScalarLTFS/files/ext_snapshot/{filename}***
Method	GET
User Role Access	Admin, Service
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 404 Not Found
Response Header	Content-Type: application/bin
Response Data	Extended snapshot file

10.8 Filters

Create, modify or delete filters. Retrieve a list of the media and diagnostic ticket filters or the details of a specific filter. Once created, filters may be used as URI query variables with /media, /tickets or /reports to narrow down the resulting data set. The user that created the filter is the 'owner' of the filter.

10.8.1 GET /ScalarLTFS/filters

Description: Retrieve a list of media and diagnostic ticket filters. The response includes filters created by the current user and public filters created by other users.

URI	***/ScalarLTFS/filters***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 18 filters

10.8.2 DELETE /ScalarLTFS/filters/media/{filtername}

Description: Delete the media filter specified by filtername. A filter may only be deleted by its owner.

URI	***/ScalarLTFS/filters/media/{filtername}***
Method	DELETE
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 404 Not Found 500 Internal Server Error
Response Data	N/A

10.8.3 DELETE /ScalarLTFS/filters/ticket/{filtername}

Description: Delete the diagnostic ticket filter specified by filtername. A filter may only be deleted by its owner.

URI	***/ScalarLTFS/filters/ticket/{filtername}***
Method	DELETE
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 404 Not Found 500 Internal Server Error
Response Data	N/A

10.8.4 GET /ScalarLTFS/filters/media

Description: Retrieve a list of media filters, including the filter names and details of the filters. The response includes filters created by the current user and public filters created by other users.

URI	***/ScalarLTFS/filters/media***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 37 media_filter_list

10.8.5 GET /ScalarLTFS/filters/tickets

Description: Retrieve a list of diagnostic ticket filters, including the filter names and details of the filters. The response includes filters created by the current user and public filters created by other users.

URI	***/ScalarLTFS/filters/tickets***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 75 ticket_filter_list

10.8.6 GET /ScalarLTFS/filters/media/{filtername[:owner]}

Description: Retrieve the details of a specific media filter specified by {filtername If the filter 's owner is not the current user, the owner's user id must be appended to the URI, after the filtername as /filters/media/filtername:username.

The search list will have a search element for each search criteria. The elements will be listed in the order that they are applied. The first search element's bit_operator node will be null. If the filter has no search criteria, the search_list node will be null.

The sort list will have a sort element for each search criteria. The elements will be listed in the order that they are applied. If the filter has no sort specified, the sort_list node will be null. If the filter is not found, a 404 Not Found is returned. If a filter exists, but is owned by a different user and is not public, a 403 Forbidden response will be returned.

URI	***/ScalarLTFS/filters/media/{filtername[:owner]}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 403 Forbidden 404 Not Found
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 17 filter

10.8.7 GET /ScalarLTFS/filters/tickets/{filtername[:owner]}

Description: Retrieve the details of a specific diagnostic ticket filter specified by {filtername}. If the filter's owner is not the current user, the owner's user id must be appended to the URI, after the filtername as "/filters/tickets/filtername:username".

The search list will have a search element for each search criteria. The elements will be listed in the order that they are applied. The first search element's bit_operator node will be null. If the filter has no search criteria, the search_list node will be null.

The sort list will have a sort element for each search criteria. The elements will be listed in the order that they are applied. If the filter has no sort specified, the sort_list node will be null.

If the filter is not found, a 404 Not Found is returned. If a filter exists, but is owned by a different user and is not public, a 403 Forbidden response will be returned.

URI	***/ScalarLTFS/filters/tickets/{filtername[:owner]}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 403 Forbidden 404 Not Found
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 17 filter

10.8.8 **POST /ScalarLTFS/filters/media/{filtername}**

Description: Create a media filter. Once created, the filter may be used as a URI query variable with /media or /reports/media.

Filtername is a user defined string with a maximum of 24 characters and is restricted to alphanumeric characters, dashes ('-') and underscores ('_').

The search list elements are used for the filtering criteria. The sort list elements determine the resulting data set's order. Elements under <filter> are optional. At least one search or sort element is required. See Appendix C: Filters for more information and the expected values for the request data.

URI	***/ScalarLTFS/filters/media/{filtername}***
Method	POST
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<filter>`
	`  <type>media </type>`
	`  <filter_name>data</filter_name>`
	`  <user_name>adata</user_name>`
	`  <public> 0|1</public>`
	`  <negate_search> 0|1 </negate_search>`
	`  <search_list>`
	`  <search>`
	`  <column>data</column>`
	`  <operator>data</operator>`
	`  <value>data</value>`
	`  <bit_operator>AND/OR</bit_operator>`
	`  </search>`
	`  . . .`
	`  </search_list>`
	`  <sort_list>`
	`  <sort>`
	`  <column>data</column>`
	`  <ascending>0|1</ascending>`
	`  </sort>`
	`  . . .`
	`  </sort_list>`
	`</filter>`

Response Codes	201 Created 400 Bad Request 500 Internal Server Error
Response Header	N/A
Response Data	N/A

10.8.9 **POST /ScalarLTFS/filters/tickets/{filtername}**

Description: Create a diagnostic ticket filter. Once created, the filter may be used as a URI query variable with /rastickets or /reports/ticket.

Filtername is a user defined string with a maximum of 24 characters and is restricted to alphanumeric characters, dashes ('-') and underscores ('_').

The search list elements are used for the filtering criteria. The sort list elements determine the resulting data set's order. Elements under <filter> are optional. At least one search or sort element is required. See Appendix C: Filters for more information and the expected values for the request data.

URI	***/ScalarLTFS/filters/media/{filtername}***
Method	POST
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<filter>`
	`  <type>ticket</type>`
	`  <filter_name>data</filter_name>`
	`  <user_name>adata</user_name>`
	`  <public> 0|1</public>`
	`  <negate_search> 0|1 </negate_search>`
	`  <search_list>`
	`  <search>`
	`  <column>data</column>`
	`  <operator>data</operator>`
	`  <value>data</value>`
	`  <bit_operator>AND/OR</bit_operator>`
	`  </search>`
	`  . . .`
	`  </search_list>`
	`  <sort_list>`
	`  <sort>`
	`  <column>data</column>`
	`  <ascending>0|1</ascending>`
	`  </sort>`
	`  . . .`
	`  </sort_list>`
	`</filter>`

Response Codes	201 Created 400 Bad Request 500 Internal Server Error
Response Header	N/A
Response Data	N/A

10.8.10 **PUT ScalarLTFS/filters/media /{filtername}**

Description: Update an existing media filter, specified by filtername. All filter data, including unchanged attributes, must be included in the request data and should adhere to the same requirements as a POST. A filter may only be updated by the owner.

See Appendix C: Filters for more information and the expected values for the request data.

URI	***/ScalarLTFS/filters/media/{filtername}***
Method	PUT
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<filter>`
	`  <type>media|tickets</type>`
	`  <filter_name>data</filter_name>`
	`  <user_name>adata</user_name>`
	`  <public> 0|1</public>`
	`  <negate_search> 0|1 </negate_search>`
	`  <search_list>`
	`  <search>`
	`  <column>data</column>`
	`  <operator>data</operator>`
	`  <value>data</value>`
	`  <bit_operator>AND/OR</bit_operator>`
	`  </search>`
	`  . . .`
	`  </search_list>`
	`  <sort_list>`
	`  <sort>`
	`  <column>data</column>`
	`  <ascending>0|1</ascending>`
	`  </sort>`
	`  . . .`
	`  </sort_list>`
	`</filter>`

Response Codes	201 Created 400 Bad Request 403 Forbidden 404 Not Found 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns the request data on successful update.

10.8.11 **PUT ScalarLTFS/filters/tickets/{filtername}**

Description: Update an existing diagnostic ticket filter, specified by filename. All filter data, including unchanged attributes, must be included in the request data and should adhere to the same requirements as a POST. A filter may only be updated by the owner.

See Appendix C: Filters for more information and the expected values for the request data.

URI	***/ScalarLTFS/filters/tickets/{filtername}***
Method	PUT
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<filter>`
	`  <type>media|tickets</type>`
	`  <filter_name>data</filter_name>`
	`  <user_name>adata</user_name>`
	`  <public> 0|1</public>`
	`  <negate_search> 0|1 </negate_search>`
	`  <search_list>`
	`  <search>`
	`  <column>data</column>`
	`  <operator>data</operator>`
	`  <value>data</value>`
	`  <bit_operator>AND/OR</bit_operator>`
	`  </search>`
	`  . . .`
	`  </search_list>`
	`  <sort_list>`
	`  <sort>`
	`  <column>data</column>`
	`  <ascending>0|1</ascending>`
	`  </sort>`
	`  . . .`
	`  </sort_list>`
	`</filter>`

Response Codes	201 Created 400 Bad Request 403 Forbidden 404 Not Found 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns the request data on successful update.

10.9 Host List (Security IP list)

10.9.1 DELETE/ScalarLTFS/hosts_allowed/ip_address

Description: Delete the specified IP address from the allowed host list.

URI	***/ScalarLTFS/ hosts_allowed/ip_address***
Method	DELETE
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 404 Not Found 500 Internal Server Error
Response Data	N/A

10.9.2 GET /ScalarLTFS/hosts_allowed

Description: Retrieve the allowed host list. The allowed hosts are the IP addresses that have access to the filesystem. If no IP addresses have been configured, all IP addresses have access.

URI	***/ScalarLTFS/hosts_allowed***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 21 hosts_allowed

10.9.3 GET /ScalarLTFS/hosts_allowed/{ip_address}

Description: Retrieve the attributes for a specific IP address in the allowed hosts list.

URI	***/ScalarLTFS/hosts_allowed/{ip_address}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 20 host

10.9.4 POST /ScalarLTFS/hosts_allowed/{ip_address}

Description: Add an IP address to the allowed hosts list. All values are optional in the request data. Values not provided will be set to the defaults: smb/nfs 1, smb_readonly/nfs_readonly 0. After IP addresses have been added, the list must be reset before it will be enabled. See section 10.29.18 **Error! Reference source not found.**. If an invalid IP address is given a 400 Bad Request, ws_error 256 is returned.

URI	***/ScalarLTFS/hosts_allowed/{ip_address}***
Method	POST
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<host>`
	`  <smb>1 </smb>`
	`  <smb_readonly>0 </smb_readonly>`
	`  <nfs> </nfs>`
	`  <nfs_readonly>1|0 </nfs_readonly>`
	`</host>`

Response Codes	201 Created 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	N/A
Response Data	N/A

10.9.5 PUT /ScalarLTFS/hosts_allowed

Description: Update multiple IP addresses in the allowed hosts list. Include a host object for each IP to be updated. The IP addresses to be updated are identified by the ip attribute on the host node. If one update fails, none of the updates are performed. Only fields to be updated should be included in the request message. The valid update elements are smb, smb_readonly, nfs,nfs_readonly.

After the updated, the list must be reset before it will be enabled. See section 10.29.18 **Error! Reference source not found.**.

URI	***/ScalarLTFS/hosts_allowed***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/xml;charset=UTF-8
Request Data	<hosts_allowed> <host ip='n.n.n.n'> <smb>1|0 </smb> <smb_readonly>1|0 </smb_readonly> <nfs>1|0 </nfs> <nfs_readonly>1|0 </nfs_readonly> </host> <host ip='n.n.n.n'> . . . </host> . . . </hosts_allowed>
Response Codes	201 Created 400 Bad Request 403 Forbidden 404 Not Found 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns request data on successful update

10.9.6 PUT /ScalarLTFS/hosts_allowed/{ip_address}

Description: Update the allowed host IP address, specified in the URI. Only fields to be updated should be included in the request message. The valid update elements are smb, smb_readonly, nfs,nfs_readonly.

After the update, the list must be reset. See section 10.29.18 **Error! Reference source not found.**.

URI	***/ScalarLTFS/hosts_allowed/{ip_address}***
Method	PUT
User Role Access	Admin
Request Header	Content-Type: application/xml;charset=UTF-8
Parameters	N/A
Request Header	N/A

Request Data	`<?xml version="1.0"?>`
	`<host'>`
	`<smb>1|0|true|false </smb>`
	`<smb_readonly>1|0|true|false </smb_readonly>`
	`<nfs>1|0|true|false </nfs>`
	`<nfs_readonly>1|0|true|false </nfs_readonly>`
	`</host>`

Response Codes	201 Created 400 Bad Request 403 Forbidden 404 Not Found 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns the request data on successful update.

10.10 IPMI

10.10.1 GET /ScalarLTFS/ipmi

Description: Retrieve IPMI manufacturing hardware and network data.

URI	***/ScalarLTFS/ipmi***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 24 ipmi

10.11 Jobs

10.11.1 GET /ScalarLTFS/jobdetails

Description: Get a list of jobs, including the details for replication jobs. For each volume in a replication job, a job_volume object includes the status of the replication job.

An optional query string will filter the list of jobs and return those completed within the number of days specified. For example, /jobqueue?completed=3 will return a list of jobs completed within the last 3 days.

URI	***/ScalarLTFS/jobdetails[?completed=n]***
Method	GET
User Role Access	Admin, Service, User
Parameters	Optional query string, completed=n, where n is a number of days
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 28 jobs

10.11.2 **GET /ScalarLTFS/jobqueue**

Description: Get a list of jobs. This returns basic status only, it does not return the job_volume list for replication jobs. Use 10.11.1 GET /ScalarLTFS/jobdetails for volume replication status.

An optional query string will filter the list of jobs and return those completed within the number of days specified. For example, /jobqueue?completed=3 will return a list of jobs completed within the last 3 days.

URI	***/ScalarLTFS/jobqueue[?completed=n]***
Method	GET
User Role Access	Admin, Service, User
Parameters	Optional query string, completed=n, where n is a number of days
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 28 jobs

10.11.3 **GET /ScalarLTFS/jobqueue/{id}**

Description: Get the job specified by the id.

URI	***/ScalarLTFS/jobqueue/{id}***
Method	GET
User Role Access	Admin, Service, User
Parameters	Optional query string, completed=n, where n is a number of days
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 28 jobs

10.11.4 PUT /ScalarLTFS/jobqueue

Description: Update (cancel) multiple jobs. The job id (id) attribute on the job node is required. If one update fails, none of the updates are performed. The job objects should be repeated for each job to be updated. The only valid update value is job_state and may be set to ‘canceled’ or 3.

URI	***/ScalarLTFS/ldap/certficates/{name}***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	N/A

Request Data	`<jobs>`
	`  <job id='n'>`
	`  <job_state>1</job_state>`
	`  </job>`
	`  ….`
	`</jobs>`

Response Codes	200 OK 400 Bad Request 404 Not Found 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Request data is returned on success.

10.11.5 PUT /ScalarLTFS/jobqueue/{id}

Description: Update (cancel) the job specified by id. The only value that may be updated is the job_state and may be set to 3 or ‘canceled’.

URI	***/ScalarLTFS/jobqueue/{id}***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8
Request Data	N/A
Response Codes	200 OK 400 Bad Request 404 Not Found 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Request data is returned on success

10.11.6 **GET /ScalarLTFS/joberrors**

Description: Get the list of job errors.

URI	***/ScalarLTFS/joberrors***
Method	GET
Parameters	N/A
Request Header	N/A
User Role Access	Admin, Service, User
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 26 joberror

10.11.7 **GET /ScalarLTFS/jobstates**

Description: Get the list of job states.

URI	***/ScalarLTFS/jobstates***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 29 jobstates

10.12 LDAP

10.12.1 DELETE /ldap/certificates/{filename}

Description: Delete the startTLS certificate specified by filename.

URI	***/ScalarLTFS/ldap/certficates/{name}***
Method	DELETE
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 404 Not Found 500 Internal Server Error
Response Header	N/A
Response Data	N/A

10.12.2 GET /ScalarLTFS/ldap/certificates

Description: Get a list of the LDAP startTLS certificates.

URI	***/ScalarLTFS/ldap/certficates***
Method	GET
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 3 certificate_list

10.12.3 **POST /ScalarLTFS/ldap/certificates**

Description: Upload a certificate file. The file may be included in the body of the request message or may be sent as a multi-form message. If sent as a multi/part-form message, the upload key for the file must be 'Filedata'.

If the certificate fails verification, a 400 Bad Request, ws_error 136 is returned. See Section 12.24 136 Invalid Certificate File

If the upload fails, a 500 Internal Server, ws_error 352 is returned. See Section 12.74 352 File Upload Error.

URI	***/ScalarLTFS/ldap/certficates/{name}***
Method	POST
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: multipart/form-data Content-Type: application/bin, (used when the file is included as part of message body)
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	N/A

10.12.4 DELETE /ScalarLTFS/configuration

Description: Clear all ldap configuration values. All server settings are cleared, LDAP is disabled for login and ACLs are disabled.

URI	***/ScalarLTFS/ldap/configuration***
Method	DELETE
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 403 Forbidden 500 Internal Server Error
Response Header	N/A
Response Data	N/A

10.12.5 GET /ScalarLTFS/ldap/configuration

Description: Get the LDAP configuration settings. If the password has been previously set, it is not returned. Asterisks(*****) are returned if the password has previously been configured. If the password has not been configured, a null <password> empty element is returned.

URI	***/ScalarLTFS/ldap/configuration***
Method	GET
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 403 Forbidden
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 31 ldap_configuration

10.12.6 GET /ScalarLTFS/ldap/configuration/{ldap_element}

Description: Retrieve a single LDAP configuration value. ldap-element may be any element in the ldap_configuration object. (i.e. server, principal_user) with the exception of password.

This request is restricted to admin users with the exception of enabled. /ScalarLTFS/ldap/configuration/enabled is accessible to any user and does not require authentication.

URI	***/ScalarLTFS/ldap/certficates/{ldap_element}***
Method	GET
User Role Access	Admin, Service, User (Service and user /{enabled} value only)
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	Content-Type: plain/text;charset=UTF-8
Response Data	Text value

10.12.7 POST /ScalarLTFS/ldap/configuration?action=test

Description: Test the LDAP configuration. The query string is required. The LDAP configuration values to be tested must be included in the request. The alternate server (alt_server) is optional, it may be null or omitted if an alternate server is not configured.

If both servers are given, both servers are tested and any error response will indicate which server failed and what error was detected.

Configuration errors are 400 Bad Request with the following ws errors:

- WS 130 Primary Server Failed
- WS 131 Alternate Server Failed
- WS 134 Both Servers Failed

See *Appendix B: Web Services Error Codes* for more information.

For testing an LDAP user, use POST /ScalarLTFS/ldap/configuration?action=testuser (Section 10.12.8).

URI	*/ScalarLTFS/ldap/configuration?action=test*
Method	POST
User Role Access	Admin
Parameters	Content-Type: application/xml;charset=UTF-8
Request Header	N/A
Request Data	See Figure 31 ldap_configuration
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	N/A
Response Data	N/A

10.12.8 POST /ScalarLTFS/ldap/configuration?action=testuser

Description: Test an LDAP user. The query string is required. The LDAP configuration values to be tested must be included in the request. The alt_server is optional, it may be null or omitted if an alternate server is not configured. The user's credentials will be verified and the user's group membership (role) will be returned. A user may be a 'user', 'admin' or both 'admin and user'

If the user fails verification, a 400 Bad Request, ws_error 132 is returned. See Section 12.20132 LDAP User Test Failed.

For testing an LDAP configuration, use POST /ScalarLTFS/ldap/configuration?action=test (Section 10.12.7).

URI	*/ScalarLTFS/ldap/configuration?action=test*
Method	POST
User Role Access	Admin
Parameters	Content-Type: application/xml;charset=UTF-8
Request Header	N/A
Request Data	See Figure 31 ldap_configuration
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	Text user role: 'admin', 'user' or 'admin and user'

10.12.9 **PUT /ScalarLTFS/ldap/configuration**

Description: Update the LDAP configuration values. Include any values to be updated in the request data. If a value is omitted from the ldap_configuration object, the configured value will remain unchanged. If a value is included, but empty/null, the configured value will be cleared.

Note: If ACLs are enabled the samba configuration file is updated and smb is restarted. If the samba configuration cannot be configured for ACLs, ACLs will not enabled. Other LDAP configuration settings will be saved. An LDAP configuration test could be successful, but the update fail when ACLS are enabled. A 400 Bad Request, ws_error 135 is returned, see section 12.23.

URI	***/ScalarLTFS/ldap/configuration***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8
Request Data	See Figure 31 ldap_configuration
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns request data on successful update

10.12.10 **PUT /ScalarLTFS/ldap/configuration/enabled**

Description: Update the LDAP enabled flag.

URI	***/ScalarLTFS/configuration/enabled***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8
Request Data	‘true’ | ‘false’ | 1 | 0
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns request data on successful update

10.13 Licenses

10.13.1 GET /ScalarLTFS/licenses

Description: Retrieve license data for all features.

URI	***/ScalarLTFS/licenses***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 33 licenses

10.13.2 POST /ScalarLTFS/licenses/{key}

Description: Add the license key specdifiy by key on the URI.

If the key is invalid, a 500 Internal Server error with a ws_error of 215 is returned. See Section 12.44 215 Script Error

URI	***/ScalarLTFS/licenses/{key}***
Method	POST
User Role Access	Admin, Service
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	201 Created 403 Forbidden 500 Internal Server
Response Header	N/A
Response Data	N/A

10.14 Media

10.14.1 GET /ScalarLTFS/media

Description: Retrieve a list of volumes. An optional query string may be appended to the URI to filter the list. If no volumes are found, an empty media object is returned.

URI	***/ScalarLTFS/media[?{attribute}=value|filter={filtername[:owner]}]***
Method	GET
User Role Access	Admin, Service, User
Parameters	The query parameter may be filter or a volume {attribute}: ▪ Filter = filtername [:owner] applies a previously created media filter to the result set. The owner is optional and is the user id that created the filter. If an owner is not given, the owner defaults to the current user. If the filter exists, but is not owned by the current user and is not a public filter, a permissions error will be returned. If the filter does not exist, an error is returned. See /filters for filter details ▪ attribute= value Any valid volume attribute, (<volume> element) in the may be used as a query variable. Multiple parameters are acceptable. For example, /media?a_state=attached&tape_type=LTO-5 will return all attached LTO-5 media.
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 35 media

10.14.2 **GET /ScalarLTFS/media/{barcode}**

Description: Retrieve media data for the volume identified by barcode. If the volume is not found, a 404 Not Found is returned.

URI	***/ScalarLTFS/media/{barcode}***
Method	GET
Request Data	N/A
Parameters	N/A
Request Header	N/A
User Role Access	Admin, Service, User
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Reponse Data	Figure 83 volume

10.14.3 **PUT /ScalarLTFS/media**

Description: Update multiple volumes. The barcode attribute is required on the volume node. If one update fails, none of the updates are performed. The volume objects should be repeated for each volume to be updated.

Only values to be updated should be included in the request message. The only volume values that may be updated are a_state and comment. Valid update values:

- a_state: pending format, pending attach, pending export, sequester. The text string may be given or the index value for those states. See Section 10.24.7 GET /ScalarLTFS/states for a_state values.
- comment: any text string, up to 30 characters

If a_state is currently in any ‘pending’ state, the update will fail with a 412 Precondition error (ws code 114). Cur_state values may contain text or the numeric value for the state. The response data will contain the numeric value.

On successful a_state changes, a job is created to attach, sequester, format or prepare to export the volumes.

URI	***/ScalarLTFS/media***
Method	PUT
User Role Access	Admin, Service, User, User and service roles may update comment, and are restricted to updating a_state to sequester and pending attach.
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8
Request Data	<media> <volume barcode=barcode'> [<a_state >new state</ a_state>] [<comment>string</comment>] </volume> <volume barcode='barcode'> . . . </volume> . . . </media>
Response Codes	200 OK 400 Bad Request 403 Forbidden 404 Not Found 412 Precondition Failed 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns request data on successful update

10.14.4 **PUT /ScalarLTFS/media/{barcode}**

Description: Update the volume specified by barcode on the URI.

Only the values to be updated should be included in the volume object. The only volume values that may be updated are a_state and comment. Valid update values:

- a_state; pending format, pending attach, pending export, sequester. The text string may be given or the index value for those states. See Section 10.24.7 GET /ScalarLTFS/states for a_state values.
- comment: any text string, up to 30 characters

If a_state is currently in any 'pending' state, the update will fail with a 412 Precondition error (ws code 114). Cur_state values may contain text or the numeric value for the state. The response data will contain the numeric value.

On successful a_state changes, a job is created to attach, sequester, format or prepare to export the volume.

URI	***/ScalarLTFS/media/{barcode}***
Method	PUT
User Role Access	Admin, Service, User, User and service roles may update comment, and are restricted to updating a_state to sequester and pending attach.
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<?xml version="1.0"?>`
	`<volume>`
	`[<a_state >newdata </ a_state>]`
	`[<comment>string</comment>]`
	`</volume>`

Response Codes	200 OK 400 Bad Request 403 Forbidden 404 Not Found 412 Precondition Failed 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns the request data on successful update.

10.14.5 **GET /ScalarLTFS/media_counts**

Description: Retrieve the number of media per partition.

URI	***/ScalarLTFS/media_counts***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Response Codes	200 OK 500 Internal Server
Request Data	N/A
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 36 media_counts

10.15 Messages

10.15.1 GET /ScalarLTFS/messages

Description: Retrieve a list of system messages. An optional query filter may be appended to the URI to filter the list.

If no messages are found, an empty messages object is returned.

URI	***/ScalarLTFS/messages[?{attribute}=value***
Method	GET
User Role Access	Admin, Service, User
Parameters	The query parameter may be a message {attribute}: attribute= value Any valid message attribute, (<message> element) may be used as a query variable. Multiple parameters are acceptable. For example, /messages?closed=0& msg_config_type=M105 will return all open M105 messages
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 39 messages

10.15.2 GET /ScalarLTFS/messages/{id}

Description: Retrieve a specific message, identified by the id number on the URI.

If the message is not found, a 404 Not Found is returned.

URI	***/ScalarLTFS/ message/{id}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server Error
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 38 message

10.15.3 **POST /ScalarLTFS/messages**

Description: Create a custom system message. An A500 message type will be added with the text provided in the request message.

URI	***/ScalarLTFS/messages/{id}***
Method	POST
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A

Request Data	`<message>`
	`  <text>New message</text>`
	`</message>`

Response Codes	201 Created 400 Bad Request 500 Internal Server Error
Response Header	N/A
Response Data	N/A

10.15.4 **PUT ScalarLTFS/messages**

Description: Update (close) multiple messages. The id attribute is required on the message node. If one update fails, none of the updates are performed. The message objects should be repeated for each volume to be updated.

Only values to be updated should be included in the message object. The closed_by value is the only value that may be updated, and the update will close the message.

URI	***/ScalarLTFS/media/messages***
Method	PUT
User Role Access	Admin, Service
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<?xml version="1.0"?>`
	`<messages>`
	`  <message id="5">`
	`  <closed_by>username</closed_by>`
	`  </message>`
	`  ….`
	`</messages>`

URI	*/ScalarLTFS/media/messages*
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns the request data on successful update.

10.15.5 **PUT /ScalarLTFS/messages/{id}**

Description: Update (close) the message specified by id on the URI.

Only values to be updated should be included in the message object. The closed_by value is the only value that may be updated, and the update will close the message.

URI	*/ScalarLTFS/media/messages/{id}*
Method	PUT
User Role Access	Admin, Service
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<message id="5">`
	`  <closed_by>username</closed_by>`
	`</message>`

Response Codes	200 OK 400 Bad Request 403 Forbidden 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns the request data on successful update.

10.16 Network

10.16.1 DELETE /ScalarLTFS/network/interfaces/eth{n}

Description: clear the gateway, IP address and netmas values for ethn.

Network configuration values may not be reset if I/O is currently ongoing and will return a 412 Precondition Failed error.

URI	***/ScalarLTFS/ network/interfaces/eth{n}***
Method	DELETE
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 412 Precondition Failed 500 Internal Server
Response Data	N/A

10.16.2 GET /ScalarLTFS/network

Description: Retrieve all network parameters.

URI	***/ScalarLTFS/network***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 41 network

10.16.3 GET /ScalarLTFS/network/{nwparameter}

Description: Retrieve a single network value specified by nwparameter on the URI. Valid values for nwparameter: hostname, gateway, domainname, dns_ip;

URI	***/ScalarLTFS/network/nwparameter***
Method	GET
User Role Access	Admin, Service, User
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	text value

10.16.4 GET /ScalarLTFS/network/interfaces/eth{n}

Description: Retrieve Ethernet data for one device specified by ethn on the URI, where n is the device number (1-5).

URI	***/ScalarLTFS/network/interfaces/eth{n}***
Description	Retrieve ethernet data for one device, n is the device number (1-5).
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 23 interface

10.16.5 GET /ScalarLTFS/network/interfaces/eth{n}/{device_parameter}

Description: Retrieve one device value for one ethernet device specified by ethn and device_parameter on the URI. N is the device number 1-5, and valid device parameters are devname, netmask, ipaddr, gateway, portspeed.

URI	***/ScalarLTFS/network/interfaces/{ethn}/devparameter***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	text value

10.16.6 POST /ScalarLTFS/network?action=restart

Description: Restart the network. An accepted response is returned before the restart is executed. A network restart is not permitted if I/O is currently ongoing. A 412 Precondition Failed, with a ws_error of 253 is returned.

URI	***/ScalarLTFS/ network?action=restart***
Method	POST
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	202 Accepted 403 Forbidden 412 Precondition Failed
Response Data	N/A

10.16.7 **PUT /ScalarLTFS/network**

Description: Set multiple (or all) network parameters. Only values that are to be updated should be included in the network object. For interface objects, four parameters (devname, netmask, ipaddr, gateway) must all be included for that device. Null or empty data for an element (<hostname/) will reset/clear that value.

Note: With multiple nodes, a failed update indicates one of the updates failed. If the updates were performed in multiple actions, one or more of the others may have successfully updated. Network configuration values may not be updated if I/O is currently ongoing.

ws_errors returned, see Appendix B: Web Services Error Codes (section 12) for details.

- WS 233 Invalid Host Name
- WS 234 Invalid Ethernet Value
- WS 236 Invalid Network Value
- WS 238 Duplicate IP Address
- WS 252 Drive Mounted
- WS 253 I/O Ongoing
- WS 215 Script error (Network Configuration)

Note: A network restart is required for the updated values to be picked up. Use POST /ScalarLTFS/network?action=restart (section 10.16.6).

URI	***/ScalarLTFS/network***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<?xml version="1.0"?>`
	`<network>`
	`  <interface>`
	`  <devname>data</devname>`
	`  <netmask>data</netmask>`
	`  <ipaddr> data </ipaddr>`
	`  <gateway> data </gateway>`
	`  </interface>`
	`  …..`
	`  <hostname>data</hostname>`
	`  <gateway>data</gateway>`
	`  <domainname>data</domainname>`
	`  <dns_ip>data</dns_ip>`
	`</network>`

URI	*/ScalarLTFS/network*
Response Codes	200 OK 400 Bad Request 403 Forbidden 412 Precondition Failed 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Request data returned on successful update.

10.16.8 **PUT /ScalarLTFS/network/interfaces**

Description: Update multiple Ethernet devices. 4 parameters must be given for each interface object: devname, netmask, ipaddr, gateway.

Note: With multiple devices, a failed update indicates one of the updates failed. If the updates were performed in multiple actions, one or more of the others may have successfully updated.

Network configuration values may not be updated if I/O is currently ongoing.

ws_errors returned, see Appendix B: Web Services Error Codes (section 12) for details.

- WS 234 Invalid Ethernet Value
- WS 236 Invalid Network Value
- WS 238 Duplicate IP Address
- WS 252 Drive Mounted
- WS 253 I/O Ongoing
- WS 215 Script error (Network Configuration)

Note: A network restart is required for the updated values to be picked up. Use POST /ScalarLTFS/network?action=restart (section 10.16.6).

URI	***/ScalarLTFS/network/interfaces***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/xml;charset=UTF-8
Request Data	<?xml version="1.0"?> <interfaces> <interface> <devname>data</devname> <netmask>data</netmask> <ipaddr> data </ipaddr> <gateway> data</gateway> </interface> …. . . . </interfaces>
Response Codes	200 OK 400 Bad Request 403 Forbidden 412 Precondition Failed 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Request data returned on successful update.

10.16.9 **PUT /ScalarLTFS/network/interfaces/eth{n}**

Description: Update data for one Ethernet device. Netmask, ipaddr and gateway is required. Devname is optional, but if given must match the ethn parameter on the URI.

ws_errors returned, see Appendix B: Web Services Error Codes (section 12) for details.

- WS 234 Invalid Ethernet Value
- WS 236 Invalid Network Value
- WS 238 Duplicate IP Address
- WS 252 Drive Mounted
- WS 253 I/O Ongoing
- WS 215 Script error (Network Configuration)

Note: A network restart is required for the updated values to be picked up. Use POST /ScalarLTFS/network?action=restart (section 10.16.6).

URI	***/ScalarLTFS/network/interfaces/ethn***
Description	Update data for one Ethernet device. . Netmask, ipaddr and gateway is required. Devname is optional, but if given must match the ethn parameter on the URI. This request is restricted to admin roles. Network configuration values may not be set if I/O is currently ongoing. Note: A network restart is required for the updated values to be picked up.
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<?xml version="1.0"?>`
	`<interface>`
	`[<devname>data</devname>]`
	`<netmask>data</netmask>`
	`<ipaddr> data </ipaddr>`
	`<gateway> data </gateway>`
	`</interface>`

Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Request data returned on successful update.

10.17 Network Time Protocol (NTP)

10.17.1 GET /ScalarLTFS/ntp

Description: Retrieve the NTP configuration status, daemon status and a list of the NTP servers.

URI	***/ScalarLTFS/ntp***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 44 ntp

10.17.2 GET /ScalarLTFS/ntp/servers

Description: Retrieve the NTP server list.

URI	***/ScalarLTFS/ntp/servers***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 45 ntpservers

10.17.3 **POST /ScalarLTFS/ntp?action=start|stop**

Description: Change the state of NTP to start or stop ntpd. The URI query string is required.

URI	***/ScalarLTFS/ntp?action=start | stop***
Method	POST
User Role Access	Admin
Parameters	Query parameter action, values are ‘start’ and ‘stop’.
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server
Response Data	N/A

10.17.4 **PUT /ScalarLTFS/ntp/servers**

Description: Update the NTP server list. The entire list of servers is required and at least one server must be given. After the server list is updated, NTP is restarted.

URI	***/ScalarLTFS/ntp/servers***
Description	Update the NTP server list.
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<ntpservers>`
	`  <server>server IP or name</server>`
	`  <server> server IP or name </server>`
	`  ….`
	`</ntpservers`

Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns the request data on a successful update.

10.17.5 **PUT /ScalarLTFS/ntp/status**

Description: Update the NTP configuration status to enable or disable NTP. NTP will be started on ‘enable’ and stopped on ‘disabled’.

URI	***/ScalarLTFS/ntp/status***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: text/plain; charset=UTF-8
Request Data	Text value: ‘enable’/’enabled’/’disable’/’disabled’
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	Returns the request data on a successful update.

10.18 Operations

Volume group errors that may be returned with the following requests, see Appendix B: Web Services Error Codes for details.

Volume group errors, see Appendix B: Web Services Error Codes for details.

- WS 125 Empty Volume Group
- WS 126 Invalid Volume Group
- WS 128 Invalid Volume Group State
- WS 129 Invalid Volume
- WS 133 Volume Groups Duplicates
- WS 149 Destination Volume Group Exists
- WS 151 Invalid Volume Group Name
- WS 153 Offline Volumes

10.18.1 POST /ScalarLTFS/operations/assignment

Description: Initiate a volume group assignment, assign volumes from either the scratch media or discovered media volume groups to an existing volume group. An assignment job is started for each volume.

Each volume listed must belong to the source volume group, and must be either sequestered or auto-attachable. The destination volume group state must be ready or empty.

URI	***/ScalarLTFS/operations/assignment***
Method	POST
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<assign>`
	`  <volgroup_name>source</volgroup_name>`
	`  <volume_list>`
	`  <barcode>`
	`  ...`
	`  </volume_list>`
	`  <dest_volgroup_name>destination</dest_volgroup_name>`
	`</assign>`

Response Codes	200 OK 400 Bad Request 404 Not Found 500 Internal Server
Response Header	N/A
Response Data	N/A

10.18.2 **POST /ScalarLTFS/operations/merge**

Description: Merge two volume groups together. The merge_empty element is optional, if omitted it defaults to true. A merge job is started for the operation. The source volume group may not be the scratch media or discovered media volume groups.

The destination volume group:

- May not be scratch media or discovered media
- Must be ready or empty

URI	***/ScalarLTFS/operations/merge***
Method	POST
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<merge>`
	`  <volgroup_name>000008</volgroup_name>`
	`  <dest_volgroup_name>newVG</dest_volgroup_name>`
	`  [<merge_empty>1|0</merge_empty>]`
	`</merge>`

Response Codes	200 OK 400 Bad Request 404 Not Found 500 Internal Server
Response Header	N/A
Response Data	N/A

10.18.3 **POST /ScalarLTFS/operations/prepare_export**

Description: Initiate a prepare for export for one or more volumes. A prepare for export job is started for each volume group. The volume groups:

- May not be discovered media or scratch media
- May not be empty
- May not contain any offline media

URI	***/ScalarLTFS/operations/prepare_export***
Method	POST
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

URI	*/ScalarLTFS/operations/prepare_export*
Request Data	<prepare_export> <volgroup_list> <volgroup_name>volume group </volgroup_name> …. </volgroup_list> </prepare_export>
Response Codes	200 OK 400 Bad Request 404 Not Found 500 Internal Server
Response Header	N/A
Response Data	N/A

10.18.4 **POST /ScalarLTFS/operations/repair**

Description: Initiate a repair job on a volume group.

The volume group:

- May not be the scratch media or discovered media volume groups
- Must have scratch enabled
- State must be unavailable

URI	*/ScalarLTFS/operations/repair*
Method	POST
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8
Request Data	<repair> <volgroup_name>name</volgroup_name> </repair>
Response Codes	200 OK 400 Bad Request 404 Not Found 500 Internal Server
Response Header	N/A
Response Data	N/A

10.18.5 **POST /ScalarLTFS/operations/replicate**

Description: Initiate a replication job, to copy one volume group to a new volume group. The request data includes the source volume group name and the destination volume group name.

The source volume group:

- May not be the scratch media or discovered media volume groups
- Must be in the ready state
- May not contain any offline volumes

The destination volume group must be a new volume group that does not currently exist in the system.

The verify element is optional, and if included, values are true or false. If true, the replicate job will be include a verification process. If not included, verify defaults to false.

A replication job will be started for the volume group.

URI	***/ScalarLTFS/operations/replicate***
Method	POST
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<replicate>`
	`  <volgroup_name>000008</volgroup_name>`
	`  <dest_volgroup_name>newVG</dest_volgroup_name>`
	`  [<verify>true</verify>]`
	`</replicate>`

Response Codes	200 OK 400 Bad Request 404 Not Found 500 Internal Server
Response Header	N/A
Response Data	N/A

10.18.6 **POST /ScalarLTFS/operations/safe_repair**

Description: Initiate a safe repair job on a volume group.

The source volume group:

- Must not be scratch media or discovered media
- Volume group state must be ready or unavailable.
- Must contain at least one sequestered volume
- May not contain any offline media

The destination volume group must be a new volume group name that does not exist in the system.

URI	***/ScalarLTFS/operations/safe_repair***
Method	POST
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<safe_repair>`
	`  <volgroup_namename</volgroup_name>`
	`  <dest_volgroup_name>new volume group</dest_volgroup>`
	`<safe_repair>`

Response Codes	200 OK 400 Bad Request 404 Not Found 500 Internal Server
Response Header	N/A
Response Data	N/A

10.19 Partition Configurations

Note: partition policies were removed in 2.4. All partition configuration resources return the default system values. The requests have either been deprecated or removed.

10.19.1 GET /ScalarLTFS/partition_configs [deprecated]

Description: Retrieve the default partition configuration policy.

URI	***/ScalarLTFS/partition_configs***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 48 partitionconfig

10.20 Partitions

10.20.1 GET /ScalarLTFS/partitions

Description: Retrieve a list of partitions. An optional query string may be appended to the URI to filter the list. If no partitions are found, an empty partitions object is returned.

Note: this request does not include the media_count element in the partition object, use GET /ScalarLTFS/partitions_mc.

URI	***/ScalarLTFS/partitions[?{attribute}=value]***
Method	GET
User Role Access	Admin, Service, User
Parameters	The query parameter may be a partition {attribute}: attribute= value Any partition attribute, (<partition> element) in the may be used as a query variable. Multiple parameters are acceptable. For example, /partitions?rdy_state=online&con_state=online will return all online and connected partitions
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 49 partitions

10.20.2 GET /ScalarLTFS/partitions/{serial_number}

Description: Retrieve partition data for the partition defined by the serial number on the URI.

If the partition is not found, a 404 Not Found is returned.

URI	***/ScalarLTFS/partitions/{serial_number}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 47 partition

10.20.3 GET /ScalarLTFS/partitions/{serial_number}/media

Description: retrieve media for the partitions specified by the serial number on the URI.

URI	***/ScalarLTFS/partitions/{serial_number}/media***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Header	Content-Type: application/xml;charset=UTF-8
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Data	See Figure 35 media

10.20.4 GET /ScalarLTFS/partitions/{part_sernum}/drives

Description: Retrieve drives for the partition serial number in the URI.

URI	***/ScalarLTFS/partitions/part_sernum/drives***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 10 drives

10.20.5 PUT /ScalarLTFS/partitions

Description: Update multiple partitions. The partition serial number (partition_sn) attribute is required on the partition node. If one update fails, none of the updates are performed.

Only values to be updated should be included in the request data. The partition values that may be updated are name, rdy_state, and cur_state.

- name: less than 128 characters
- cur_state: valid values are attached or sequestered,(or the index values for these states)
- rdy_state:, valid values are online or offline (or the index values for these operation states)

If cur_state is currently in any ‘pending’ state, the update will fail with a 412 Precondition error (ws code 114).

URI	***/ScalarLTFS/partitions***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/xml;charset=UTF-8
Request Data	<partitions> <partition partition_sn=serial number'> [<cur_state>new value</cur_index>] [<rdy_state>new value</rdy_state>] [<name>name</name> </partition> <partition partition_sn=serial number'> . . . </partition> . . . </partitions>
Response Codes	200 OK 400 Bad Request 403 Forbidden 404 Not Found 412 Precondition Failed 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns request data on successful update

10.20.6 **PUT /ScalarLTFS/partitions/{serial_number}**

Description: Update the partition specified by the serial number on the URI.

Only values to be updated should be included in the request data. The partition values that may be updated are name, rdy_state, and cur_state.

- name: less than 128 characters
- cur_state: valid values are attached or sequestered,(or the index values for these states)
- rdy_state:, valid values are online or offline (or the index values for these operation states)

If cur_state is currently in any 'pending' state, the update will fail with a 412 Precondition error (ws code 114).

URI	***/ScalarLTFS/ partitions/{serial_number}***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<?xml version="1.0"?>`
	`<partition >`
	`[ <cur_state>new value</cur_index>]`
	`[ <name>name</name>]`
	`[ <rdy_state>new value</rdy_state>]`
	`</partition>`

Response Codes	200 OK 400 Bad Request 403 Forbidden 404 Not Found 412 Precondition Failed 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns the request data on successful update.

10.20.7 GET /ScalarLTFS/partitions_mc

Description: Retrieves partition data for all partitions, including sequestered counts for drives and media and the media count for the partition.

URI	***/ScalarLTFS/partitions_mc***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 49 partitions

10.20.8 GET /ScalarLTFS/partitions_mc/{serial_number}

Description: Retrieves partition data, including the media count for the partition defined by the serial number on the URI.

If the partition is not found, a 404 Not Found is returned.

URI	***/ScalarLTFS/partitions_mc/{serial_number}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 47 partition

10.21 Partition, Media, Drive Configuration

10.21.1 GET /ScalarLTFS/pmd_configuration

Description: Retrieve partition media and drive data. For each partition the volumes or drives associated with the partition are listed with the attributes on the <drive>,<partition>, and <media> nodes identifying the element by serial number or barcode.

URI	***/ScalarLTFS/pmd_configuration***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 50 pmd_configuration

10.22 Product

10.22.1 GET /ScalarLTFS/product

Description: Retrieve all product values. The serial number may be the Dell or Quantum serial number. If the Quantum serial number has been set, it is returned. If not, the Dell serial number is returned.

URI	***/ScalarLTFS/product***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Header	Content-Type: application/xml;charset=UTF-8
Response Codes	200 OK 500 Internal Server
Response Data	See Figure 52 product

10.22.2 **GET /ScalarLTFS/product/{product_parameter}**

Description: Retrieve a single product value specified by the product parameter.

URI	***/ScalarLTFS/product/{product_parameter}***
Method	GET
User Role Access	Admin, Service, User
Parameters	URI product_paramter may be any product element: baseversion, appversion, pkgversion, ltfs_format_version, ltfsversion, vendor, serialnumber, model.
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	text value

10.23 RAS (contacts, tickets)

10.23.1 DELETE /ScalarLTFS/rascontacts/{email_address}

Description: Delete the diagnostic ticket and message email contact for the email address specified in the URI.

URI	***/ScalarLTFS/rascontacts/{email_address}***
Method	DELETE
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Data	N/A
Respone Codes	200 OK 404 Not Found 500 Internal Server
Response Header	N/A
Response Data	N/A

10.23.2 GET /ScalarLTFS/rascontacts

Description: Retrieve a list of all diagnostic ticket and message email contacts.

URI	***/ScalarLTFS/rascontacts***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 53 rascontacts

10.23.3 GET /ScalarLTFS/rascontacts/{email_address}

Description: Retrieve data for a specific diagnostic ticket email contact.

URI	***/ScalarLTFS/rascontacts/{email_address}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Contact object, see Figure 53 rascontacts

10.23.4 POST /ScalarLTFS/rascontacts/{email_address}

Description: Add an email contact for diagnostic tickets and/or messages. The email address must be unique. All values are optional, if not given, notification_level defaults to 3, enabled and msgs_enabled default to 0.

URI	***/ScalarLTFS/rascontacts/{emailaddr}***
Method	POST
User Role Access	Admin,
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<contact>`
	`[<name>name</name>]`
	`[<phone1>phone number</phone1>]`
	`[<notification_level>1|2|3</notification_level>]`
	`[<enabled>0|1</enabled>]`
	`[<msgs_enabled>0|1</msgs_enabled>]`
	`</contact>`

Response Codes	201 Created 400 Bad Request 403 Forbidden 500 Internal Server
Response Header	N/A
Response Data	N/A.

10.23.5 PUT /ScalarLTFS/rascontacts/{email_address}

Description: Update the contact specified by the email address in the URI. The request data should have only the values that are to be modified.

URI	***/ScalarLTFS/rascontacts/{email_addrress}***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/xml; charset=UTF-8
Request Data	<contact> [<email_address>data</email_address>] [<name> data </name>] [<phone1> data </phone>] [<notification_level>data</notification_level>] [<enabled> 1 | 0 | true | false </enabled>] </contact>
Response Codes	200 OK 400 Bad Request 403 Forbidden 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml; charset=UTF-8
Response Data	Returns the request data on successful update.

10.23.6 GET /ScalarLTFS/rastickets

Description: Retrieve a list of diagnostic tickets. If no tickets are found, an empty rastickets object is returned.

URI	***/ScalarLTFS/rastickets***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 54 rastickets

10.23.7 GET /ScalarLTFS/rastickets/{ticket_reference_id}

Description: Retrieve data for a specific diagnostic ticket, specified by the ticket id in the URI. If the ticket is not found, a 404 Not Found is returned.

URI	***/ScalarLTFS/rastickets/{ticket_reference_id}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See **Error! Reference source not found.**

10.23.8 PUT /ScalarLTFS/rastickets

Description: Update (close) multiple diagnostic tickets. The ticket_ref attribute is required on the ticket node. If one update fails, none of the updates are processed. Only values to be updated should be included in the request data. Fields that may be updated: closed_by, status_ref, and conclusion.

URI	***/ScalarLTFS/rastickets***
Method	PUT
User Role Access	Admin, Service
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: text/plain; charset=UTF-8

Request Data	`<rastickets>`
	`  <ticket ticket_ref='n'>`
	`  <closed_by>admin</closed_by>`
	`  <status_ref>2</status_ref>`
	`  <conclusion>No comment.</conclusion>`
	`  </ticket>`
	`  ….`
	`</rastickets>`

URI	*/ScalarLTFS/rastickets*
Response Codes	200 OK 400 Bad Request 403 Forbidden 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns the request data on successful update.

10.23.9 **PUT /ScalarLTFS/rastickets/{ticket_reference_id}**

Description: Update (close) the diagnostic ticket specified by the ticket id in the URI. Only values to be modified should be included in the request data. Fields that may be updated: closed_by, status_ref and conclusion.

URI	*/ScalarLTFS/rastickets/{ticket_reference_id}*
Method	PUT
User Role Access	Admin, Service
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: text/plain; charset=UTF-8

Request Data	`<ticket>`
	`[<closed_by>text</closed_by>]`
	`[<status_ref>2</status_ref>]`
	`[<conclusion>text</conclusion>]`
	`<ticket>`

Response Codes	200 OK 400 Bad Request 403 Forbidden 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns the request data on successful update.

10.24 Reference Resources

The following resources provide the text and index values returned in the data objects for media, drives, partitions, etc.

10.24.1 GET /ScalarLTFS/opstates

Description: Retrieve a list of the operation states. Operation states do not have a display_value, the value is the text used.

URI	***/ScalarLTFS/opstates***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 56 reasons

10.24.2 GET /ScalarLTFS/opstates/{n}

Description: Get the operation state values for index n.

URI	***/ScalarLTFS/opstates/{n}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 68 state

10.24.3 **GET /ScalarLTFS/reasons**

Description: Retrieve a list of the volume state change reasons.

URI	***/ScalarLTFS/reasons***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 56 reasons

10.24.4 **GET /ScalarLTFS/reasons/{n}**

Description: Get the reason values for index n.

URI	***/ScalarLTFS/reasons/{n}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 55 reason

10.24.5 GET /ScalarLTFS/roles

Description: Retrieve a list of the user roles.

URI	***/ScalarLTFS/roles***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 60 roles

10.24.6 GET /ScalarLTFS/roles/{n}

Description: Get the role value for id n.

URI	***/ScalarLTFS/roles/{n}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 59 role

10.24.7 **GET /ScalarLTFS/states**

Description: Retrieve a list of the states.

URI	***/ScalarLTFS/states***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 69 statesFigure 60 roles

10.24.8 **GET /ScalarLTFS/states/{n}**

Description: Get the state values for index n.

URI	***/ScalarLTFS/states/{n}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 68 state

10.24.9 **GET /ScalarLTFS/types**

Description: Retrieve a list of types.

URI	***/ScalarLTFS/types***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 77 types

10.24.10 **GET /ScalarLTFS/types/{n}**

Description: Get the type values for index n.

URI	***/ScalarLTFS/types/{n}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 55 reason

10.24.11 **GET /ScalarLTFS/vgreasons**

Description: Retrieve a list of the volume group state change reasons.

URI	***/ScalarLTFS/vgreasons***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 81 vgreasonsFigure 56 reasons

10.24.12 **GET /ScalarLTFS/vgreasons/{n}**

Description: Get the volume group reason values for index n.

URI	***/ScalarLTFS/vgreasons/{n}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 55 reason

10.24.13 **GET ScalarLTFS/vgstates**

Description: Retrieve a list of the volume group states.

URI	***/ScalarLTFS/vgstates***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 82 vgstatesFigure 60 roles

10.24.1 **GET /ScalarLTFS/vgstates/{n}**

Description: Get the volume group state values for index n.

URI	***/ScalarLTFS/vgstates/{n}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 68 state

10.24.2 **ScalarLTFS/volstates**

Description: Retrieve a list of the volume states. Volume states do not have a separate display_value.

URI	***/ScalarLTFS/volstates***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 60 roles

10.24.3 **GET /ScalarLTFS/volstates/{n}**

Description: Get the volume state values for index n. Volume states do not have a display_value.

URI	***/ScalarLTFS/volstates/{n}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 68 state

10.25 Reports

10.25.1 GET /ScalarLTFS/reports/compinfo

Description: Retrieve a Component Information Report. The data is returned in the response message body, unless the optional query string is appended to the URI.

The report format is determined by the request message Accept header. The report defaults to XML if an accept type is not specified.

URIs	/ScalarLTFS/ reports/compinfo[?action=download]
Method	GET
User Role Access	Admin, Service
Parameters	Optional query parameter: action=download, downloads the report as a file
Request Header	N/A
Request Header	Accept: application/xml;charset=UTF-8 Accept: text/plain; charset=UTF-8
Request Data	N/A
Response Codes	200 OK 400 Bad Request 500 Internal Server
Response Header	Content-Type :application/bin [?action=download] Content-Type: application/xml;charset=UTF-8 [default or Accept :application/xml] Content-Type :text/plain ; charset=UTF-8 [Accept :text/plain]
Response Data	See Secton 14.1 Component Information Report for details.

10.25.2 **GET /ScalarLTFS/reports/configrecord**

Description: Retrieve a Configuration Record Report. The data is returned in the response message body, unless the optional query string is appended to the URI. .

The report format is determined by the request message Accept header. The report defaults to XML if an accept type is not specified

URIs	***/ScalarLTFS/ reports/configrecord[?action=download]***
Method	GET
User Role Access	Admin, Service
Parameters	Optional query parameter: action=download, downloads the report as a file
Request Header	N/A
Request Header	Accept: application/xml;charset=UTF-8 Accept: text/plain; charset=UTF-8
Request Data	N/A
Response Codes	200 OK 400 Bad Request 500 Internal Server
Response Header	Content-Type :application/bin [?action=download] Content-Type: application/xml;charset=UTF-8 [default or Accept :application/xml] Content-Type: text/plain ; charset=UTF-8 [Accept :text/plain]
Response Data	See Section Component Information Report0 Configuration Record Report

10.25.3 **GET /ScalarLTFS/reports/media**

Description: Retrieve a Media Report in XML or CSV format. The data is returned in the response message body, unless the optional download query string is appended to the URI. If no volumes are found, an empty report is returned.

The report format is determined by the request message Accept header. The report defaults to XML if an accept type is not specified

URIs	***/ScalarLTFS/ reports/media[?action=download] [&filter={filter_name}]***
Method	GET
User Role Access	Admin, Service, User
Parameters	Optional Query parameters: ▪ Action=download, downloads the report as a file ▪ filter = filtername:owner will apply a previously created media filter to the result set. The owner is optional and is the user id that created the filter. If an owner is not given, the owner defaults to the current user. If the filter exists, but is not owned by the current user and is not a public filter, a permissions error will be returned. If the filter does not exist, an error is returned. See GET /ScalarLTFS/filters for additional details.
Request Header	N/A
Request Header	Accept: application/xml;charset=UTF-8 Accept: text/csv; charset=UTF-8
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 406 Not Acceptable 500 Internal Server
Response Header	Content-Type: application/bin [?action=download] Content-Type: application/xml;charset=UTF-8 [default or Accept :application/xml] Content-Type: text/csv ; charset=UTF-8 [Accept :text/csv]
Response Data	See Appendix C Section 14.4 Media

10.25.4 **GET /ScalarLTFS/reports/media_count**

Description: Retrieve a Media Count Report in XML or CSV format. The data is returned in the response message body, unless the optional download query string is appended to the URI.

The report format is determined by the request message Accept header. The report defaults to XML if an accept type is not specified.

URIs	***/ScalarLTFS/ reports/media_count[?action=download]***
Method	GET
User Role Access	Admin, Service, User
Parameters	Optional query parameter: action=download, downloads the report as a file
Request Header	N/A
Request Header	Accept: application/xml;charset=UTF-8 Accept: text/csv; charset=UTF-8
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 406 Not Acceptable 500 Internal Server
Response Header	Content-Type :application/bin [?action=download] Content-Type: application/xml;charset=UTF-8 [default or Accept :application/xml] Content-Type :text/csv ; charset=UTF-8 [Accept :text/csv]
Response Data	See Section 14.5 Scalar LTFS Web ServicesMedia Count

10.25.5 **GET /ScalarLTFS/reports/messages**

Description: Retrieve a Message Summary report in XML or CSV format. The data is returned in the response message body, unless the optional download query string is appended to the URI. If no messages are found, an empty report is returned.

The report format is determined by the request message Accept header. The report defaults to XML if an accept type is not specified.

URIs	***/ScalarLTFS/ reports/messages[?action=download]***
Method	GET
User Role Access	Admin, Service, User
Parameters	Optional query parameter: action=download, downloads the report as a file
Request Header	N/A
Request Header	Accept: application/xml;charset=UTF-8 Accept: text/csv; charset=UTF-8
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 406 Not Acceptable 500 Internal Server
Response Header	Content-Type :application/bin [?action=download] Content-Type: application/xml;charset=UTF-8 [default or Accept :application/xml] Content-Type :text/csv ; charset=UTF-8 [Accept :text/csv]
Response Data	See Section 14.6 Message Summary for details.

10.25.6 **GET /ScalarLTFS/reports/tickets**

Description: Retrieve a Diagnostic Ticket Report in XML or CSV format. The data is returned in the response message body, unless the optional download query string is appended to the URI. If no tickets are found, an empty report is returned.

The report format is determined by the request message Accept header. The report defaults to XML if an accept type is not specified

URIs	/ScalarLTFS/ reports/tickets[?action=download] [&filter={filter_name}]
Method	GET
User Role Access	Admin, Service
Parameters	Optional Query parameters: ▪ Action=download, downloads the report as a file ▪ filter = filtername:owner will apply a previously created ticket filter to the result set. The owner is optional and is the user id that created the filter. If an owner is not given, the owner defaults to the current user. If the filter exists, but is not owned by the current user and is not a public filter, a permissions error will be returned. If the filter does not exist, an error is returned. See GET /ScalarLTFS/filters for additional details.
Request Header	N/A
Request Header	Accept: application/xml;charset=UTF-8 Accept: text/csv; charset=UTF-8
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 406 Not Acceptable 500 Internal Server
Response Header	Content-Type :application/bin [?action=download] Content-Type: application/xml;charset=UTF-8 [default or Accept :application/xml] Content-Type :text/csv ; charset=UTF-8 [Accept :text/csv]
Response Data	See Section 14.3 Diagnostic TicketsComponent Information Report

10.25.7 **GET /ScalarLTFS/reports/volume_groups**

Description: Retrieve a Volume Group Capacity Report in XML or CSV format. The data is returned in the response message body, unless the optional download query string is appended to the URI. If no tickets are found, an empty report is returned.

The report format is determined by the request message Accept header. The report defaults to XML if an accept type is not specified

URIs	***/ScalarLTFS/ reports/volume_groups[?action=download]***
Method	GET
User Role Access	Admin, Service, User
Parameters	Optional query parameter: action=download, downloads the report as a file
Request Header	N/A
Request Header	Accept: application/xml;charset=UTF-8 Accept: text/csv; charset=UTF-8
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 406 Not Acceptable 500 Internal Server
Response Header	Content-Type :application/bin [?action=download] Content-Type: application/xml;charset=UTF-8 [default or Accept :application/xml] Content-Type: text/csv ; charset=UTF-8 [Accept :text/csv]
Response Data	See Section 14.7 Volume Group Capacity Report

10.25.8 **POST /ScalarLTFS/reports/compinfo**

Description: Retrieve a Component Information Report. The data is returned in the response message body, unless the optional query string is appended to the URI.

The report is created the same as the GET /reports request, with the additional option for emailing the report. The content type header is required with XML request data for the email option.

The report format is determined by the request message Accept header. The report defaults to XML if an accept type is not specified.

URI	***/ScalarLTFS/ reports/compinfo[?action=download|email]***
Method	POST
User Role Access	Admin, Service
Parameters	Optional query parameter: action=download, downloads the report as a file action=email, emails the report to the specified recipients
Request Header	Content-Type: application/xml;charset=UTF-8 [required for email option] Accept: application/xml;charset=UTF-8 Accept: text/plain; charset=UTF-8

Request Data	Required for the email option:
	`<report>`
	`  <email>`
	`  <sendto>email address</sendto>`
	`  . . .`
	`  </email>`
	`</report>`

Response Codes	200 OK 400 Bad Request 500 Internal Server
Response Header	Content-Type: application/bin [?action=download] Content-Type: application/xml;charset=UTF-8 [default or Accept :application/xml] Content-Type: text/plain; charset=UTF-8 [Accept:text/plain]
Response Data	See Section 14.1Component Information Report

10.25.9 **POST /ScalarLTFS/reports/configrecord**

Description: Retrieve a Configuration Record Report. The data is returned in the response message body, unless the optional query string is appended to the URI.

The report is created the same as the GET /reports request, with the additional option for emailing the report. The content type header is required with XML request data for the email option.

The report format is determined by the request message Accept header. The report defaults to XML if an accept type is not specified

URI	***/ScalarLTFS/ reports/configrecord[?action=download|email]***
Method	POST
User Role Access	Admin, Service
Parameters	Optional query parameter: action=download, downloads the report as a file action=email, emails the report to the specified recipients
Request Header	Content-Type: application/xml;charset=UTF-8 [required for email option] Accept: application/xml;charset=UTF-8 Accept: text/plain; charset=UTF-8

Request Data	Required for the email option:
	`<report>`
	`  <email>`
	`  <sendto>email address</sendto>`
	`  . . .`
	`  </email>`
	`</report>`

Response Codes	200 OK 400 Bad Request 500 Internal Server
Response Header	Content-Type :application/bin [?action=download] Content-Type: application/xml;charset=UTF-8 [default or Accept :application/xml] Content-Type :text/plain ; charset=UTF-8 [Accept :text/plain]
Response Data	See Section Configuration Record Report

10.25.10 **POST /ScalarLTFS/reports/media**

Description: Retrieve a Media Report in XML or CSV format. The data is returned in the response message body, unless the optional download query string is appended to the URI.

The report is created the same as the GET /reports request, with additional options to provide for emailing the report and/or creating the report with a subset of columns in a specific order. If the optional <column_list> is included in the request message data, the report will return only the columns listed and in the order they occur. The <column> nodes listed in the column_list element must be a valid column for the type of report (i.e. Barcode is valid for media.)

The report format is determined by the request message Accept header. The report defaults to XML if an accept type is not specified

URI	***/ScalarLTFS/ reports/media[?action=download|email] [&filter={filter_name}]***
Method	POST
User Role Access	Admin, Service, User
Parameters	Optional query parameter: action=download, downloads the report as a file action=email, emails the report to the specified recipients filter = filtername:owner will apply a previously created media filter to the result set. The owner is optional and is the user id that created the filter. If an owner is not given, the owner defaults to the current user. If the filter exists, but is not owned by the current user and is not a public filter, a permissions error will be returned. If the filter does not exist, an error is returned. See GET /ScalarLTFS/filters for additional details.
Request Header	Content-Type : application/xml;charset=UTF-8 [required for email option] Accept: application/xml;charset=UTF-8 Accept: text/plain; charset=UTF-8

Request Data	Optional:
	`<report>`
	`  <email> <!–Required for the email option-->`
	`  <sendto>email address</sendto>`
	`  . . .`
	`  </email>`
	`  <column_list>`
	`  <column>column name</column>`
	`  <column>colum name</column>`
	`  . . .`
	`  </column_list>`
	`</report>`

URI	***/ScalarLTFS/ reports/media[?action=download|email] [&filter={filter_name}]***
Response Codes	200 OK 400 Bad Request 403 Forbidden 406 Not Acceptable 500 Internal Server
Response Header	Content-Type: application/bin [?action=download] Content-Type: application/xml;charset=UTF-8 [default or Accept :application/xml] Content-Type: text/csv ; charset=UTF-8 [Accept :text/csv]
Response Data	See Section 14.4 Media

10.25.11 **POST /ScalarLTFS/reports/media_count**

URI	***/ScalarLTFS/ reports/media_count[?action=download|email]***
Method	POST
User Role Access	Admin, Service, User
Parameters	Optional query parameter: action=download, downloads the report as a file action=email, emails the report to the specified recipients
Request Header	Content-Type : application/xml;charset=UTF-8 [required for email option] Accept: application/xml;charset=UTF-8 Accept: text/csv; charset=UTF-8

Request Data	Required for the email option:
	`<report>`
	`  <email>`
	`  <sendto>email address</sendto>`
	`  . . .`
	`  </email>`
	`</report>`

Response Codes	200 OK 400 Bad Request 500 Internal Server
Response Header	Content-Type :application/bin [?action=download] Content-Type: application/xml;charset=UTF-8 [default or Accept :application/xml] Content-Type :text/csv ; charset=UTF-8 [Accept :text/plain]
Response Data	See Section 14.5 Media Count

10.25.12 **POST /ScalarLTFS/reports/messages**

Description: Retrieve a Message Summary report in XML or CSV format. The data is returned in the response message body, unless the optional download query string is appended to the URI. If no messages are found, an empty report is returned.

The report is created the same as the GET /reports request, with the additional option for emailing the report. The content type header is required with XML request data for the email option.

The report format is determined by the request message Accept header. The report defaults to XML if an accept type is not specified.

URI	***/ScalarLTFS/ reports/messages[?action=download|email]***
Method	POST
User Role Access	Admin, Service, User
Parameters	Optional query parameter: action=download, downloads the report as a file action=email, emails the report to the specified recipients
Request Header	Content-Type : application/xml;charset=UTF-8 [required for email option] Accept: application/xml;charset=UTF-8 Accept: text/csv; charset=UTF-8

Request Data	Required for the email option:
	`<report>`
	`  <email>`
	`  <sendto>email address</sendto>`
	`  . . .`
	`  </email>`
	`</report>`

Response Codes	200 OK 400 Bad Request 403 Forbidden 406 Not Acceptable 500 Internal Server
Response Header	Content-Type :application/bin [?action=download] Content-Type: application/xml;charset=UTF-8 [default or Accept :application/xml] Content-Type :text/csv ; charset=UTF-8 [Accept :text/plain]
Response Data	See section 14.6 Message Summary

10.25.13 **POST /ScalarLTFS/reports/tickets**

Description: Retrieve a Diagnostic Ticket Report in XML or CSV format. The data is returned in the response message body, unless the optional download query string is appended to the URI.

The report is created the same as the GET /reports request, with additional options to provide for emailing the report and/or creating the report with a subset of columns in a specific order. If the optional <column_list> is included in the request message data, the report will return only the columns listed and in the order they occur. The <column> nodes listed in the column_list element must be a valid column for the type of report.

The report format is determined by the request message Accept header. The report defaults to XML if an accept type is not specified

URIs	***/ScalarLTFS/ reports/tickets[?action=download|email] [&filter={filter_name}]***
Method	POST
User Role Access	Admin, Service
Parameters	Optional query parameter: action=download, downloads the report as a file ▪ action=email, emails the report to the specified recipients ▪ filter = filtername:owner will apply a previously created media filter to the result set. The owner is optional and is the user id that created the filter. If an owner is not given, the owner defaults to the current user. If the filter exists, but is not owned by the current user and is not a public filter, a permissions error will be returned. If the filter does not exist, an error is returned. See GET /ScalarLTFS/filters for additional details.
Request Header	Content-Type : application/xml;charset=UTF-8 [required for email option] Accept: application/xml;charset=UTF-8 Accept: text/plain; charset=UTF-8

Request Data	Optional:
	`<report>`
	`  <email> <!–Required for the email option-->`
	`  <sendto>email address</sendto>`
	`  . . .`
	`  </email>`
	`  <column_list>`
	`  <column>column name</column>`
	`  <column>colum name</column>`
	`  . . .`
	`  </column_list>`
	`</report>`

URIs	***/ScalarLTFS/ reports/tickets[?action=download|email] [&filter={filter_name}]***
Response Codes	200 OK 400 Bad Request 403 Forbidden 406 Not Acceptable 500 Internal Server
Response Header	Content-Type :application/bin [?action=download] Content-Type: application/xml;charset=UTF-8 [default or Accept :application/xml] Content-Type :text/csv ; charset=UTF-8 [Accept :text/csv]
Response Data	See Appendix C 14.3 Diagnostic Tickets

10.25.14 **POST /ScalarLTFS/reports/volume_groups**

Description: Retrieve a Volume Group Capacity Report in XML or CSV format. The data is returned in the response message body, unless the optional download query string is appended to the URI. If no tickets are found, an empty report is returned.

The report is created the same as the GET /reports request, with the additional option for emailing the report. The content type header is required with XML request data for the email option.

The report format is determined by the request message Accept header. The report defaults to XML if an accept type is not specified

URI	***/ScalarLTFS/ reports/volume_groups[?action=download|email]***
Method	POST
User Role Access	Admin, Service, User
Parameters	Optional query parameter: action=download, downloads the report as a file action=email, emails the report to the specified recipients
Request Header	Content-Type : application/xml;charset=UTF-8 [required for email option] Accept: application/xml;charset=UTF-8 Accept: text/csv; charset=UTF-8

Request Data	Required for the email option:
	`<report>`
	`  <email>`
	`  <sendto>email address</sendto>`
	`  . . .`
	`  </email>`
	`</report>`

Response Codes	200 OK 400 Bad Request 500 Internal Server
Response Header	Content-Type :application/bin [?action=download] Content-Type: application/xml;charset=UTF-8 [default or Accept :application/xml] Content-Type :text/csv ; charset=UTF-8 [Accept :text/csv]
Response Data	See section 14.7 Volume Group Capacity Report

10.26 Session

10.26.1 GET /ScalarLTFS/session

Description: Retrieve all the current session data. The session_id is a url-encoded cookie value. Current_user is the user id of the current session.

URI	***/ScalarLTFS/session***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	SeeFigure 64 session

10.26.2 GET /ScalarLTFS/session/{session_parameter}

Descripton: Retrieve a singe session parameter.

URI	***/ScalarLTFS/session/{session_parameter}***
Description	Retrievea current session parameter. Valid values for parameter are url, session_id, gui_version, current_user and current_role.
Method	GET
User Role Access	Admin, Service, User
Parameters	URI parameters are: url, session_id, gui_version, current_user and current_role.
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found
Response Header	Content-Type: text/plain;charset=UTF-8
Response Data	text value

10.27 Status

10.27.1 GET /ScalarLTFS/status/io

Description: Retrieve the current I/O status. Returns a text string with the status of the filesystem.

URI	***ScalarLTFS/status/io***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	text value: 'Idle', 'Busy', or 'Suspended'

10.27.2 GET /ScalarLTFS/status/hw

Descripton: Retrieve and return the status for each of the hardware components. An empty element is returned if the data is not available for the appliance.

This data is also available as a Component Information Report (see GET /ScalarLTFS/reports/compinfo).

A 404 Not Found response is returned only if no component log files are found.

URI	***ScalarLTFS/status/hw***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 22 hwstatus

10.27.3 **GET /ScalarLTFS/status/hw/{hw_parameter}**

Description: Retrieve and return the status for one of the hardware components.

404 Not Found response is returned if the component log file is not found.

500 Internal Server Error is returned if Invalid XML is found in the file.

URI	***ScalarLTFS/status/hw/{hw_parameter}***
Description	Retrieve and return the status for one of the components. Valid parameters are: motherboard_group, nic_group, cluster_raid, node_status, hba_fc_port and wwnames. 404 Not Found response is returned if the component log file is not found. 500 Internal Server Error is returned if Invalid XML is found in the file.
Method	GET
User Role Access	Admin, Service, User
Parameters	URI parameters:motherboard_group, nic_group, cluster_raid, node_status, hba_fc_port or wwnames
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
	400 Bad Request: WS 210 Invalid Number of Parameters WS 212 Invalid Parameter
	404 Not Found
	500 Internal Server Error WS 353 Web Services Processing Error (Unexpected Script Output)
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Object dependent on URI parameter: Figure 40 motherboard_group Figure 42 nic_group Figure 5 cluster_raid Figure 43 node_status Figure 19 hba_fc_port Figure 86 wwnames

10.27.4 **GET /ScalarLTFS/status/ie_slots**

Description: Retrieve the number of ie slots available to they system and to each partition in the system. For ie slots shared among partitions, there will be multiple partitions listed under partition_ie_slots.

URI	*ScalarLTFS/status/ie_slots*
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 72 system_ie_slots

10.27.5 GET /ScalarLTFS/status/system

Description: Retrieve system status, which includes the number and severity of open tickets, number of open messages and the current server time.

URI	*ScalarLTFS/status/system*
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 73 system_status

10.28 Storage Slots

10.28.1 GET /ScalarLTFS/storage_slots

Description: Retrieve a list of storage slots.

URI	***/ScalarLTFS/storage_slots***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 71 storage_slots

10.29 System Operations

Execute Scalar LTFS server level functions including:

- Download firmware, clear to ship, reset factory defaults, reset hosts, reboot and shutdown.
- Retrieve the configuration record.
- Create and download or email snapshots, extended snapshots and dell collect.
- Save and restore configuration files.
- Retrieve and update the system settings table.
- Reset security hosts.

10.29.1 GET /ScalarLTFS/system/fwupgrade

Description: Retrieve the base version number if a firmware update has been performed. The value is returned as text.

A 404 Not found is returned if an upgrade has not been done.

A 500 Internal Server Error (ws_error code 250) is returned if the version number in the file is the same as the current version number. This indicates that the system was either upgraded to the same version number or the firmware update failed.

URI	***/ScalarLTFS/system/fwupgrade***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	Text value; Base version number

10.29.2 GET /ScalarLTFS/system/settings

Description: Retrieve a list of the system settings.

URI	***/ScalarLTFS/system/settings***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 65 settings

10.29.3 GET /ScalarLTFS/system/settings/{settingname}

Description: Retrieve a single system setting specified by the setting name on the URI. The setting name is case indifferent.

For example:

```
/system_settings/readAheadEnable
/system_settings/readaheadenable
```

URI	***/ScalarLTFS/system/settings/{settingname}***
Method	GET
User Role Access	Admin, Service, User
Parameters	URI Parameters- any system setting name. See Figure 65 settings
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	text value

10.29.4 **PUT /ScalarLTFS/system/settings**

Description: Update one or more system settings. If one update fails, none of the settings will be updated.

Settings that may be updated:

- uitime24: UI setting format Values: true/false
- Sltfsserviceuser: Lock out service user. Values: ‘enabled|’disabled’
- SetupWizard: Values : ‘true’|’false’,
- UILogoutTime: user session time values: integer
- MessagesEnabled: enable system messages values: 1|0
- MaxFileSystemFiles: integer
- DetachGraceInterval: integer, less than 2049840000
- IdleVolUnmountTimeout:integer, 1800-2049840000

The setting node tag is case insensitive. i.e. either <OfflineVolumeVisibility> or <offlineVolumevisibility> are acceptable.

URI	***/ScalarLTFS/system/settings***
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<settings>`
	`  <settingName>value</settingName>`
	`  < settingName > value </ settingName >`
	`  < settingName > value </ settingName >`
	`  . . .`
	`</settings>`

Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	On successful update, returns the request message data

10.29.5 **PUT /ScalarLTFS/system/settings/{settingname}**

Description: Update the setting specified by settingname on the URI. The setting name is case insensitive.

URI	***/ScalarLTFS/system/settings/{settingname}***
Method	PUT
User Role Access	Admin, Service
Request Header	Content-Type: text/plain; charset=UTF-8
Parameters	URI parameters (case insensitive): uitime24,Sltfsserviceuser, SetupWizard, UILogoutTime, MessagesEnabled, MaxFileSystemFiles, DetachGraceInterval,IdleVolUnmountTimeout
Request Header	N/A
Request Data	text value
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	On successful update, returns the request data

10.29.6 **POST /ScalarLTFS/system/configfile**

Description: Download the system save-restore image. The optional query string parameters allow the image to be downloaded as a file and to provide a file name. If a filename is not given, the default file name is configfileddmmyy.qtm.

The save restore image may be used to restore the configuration by uploading with 133 POST /ScalarLTFS/system/configfile?action=restore (Section POST /ScalarLTFS/system/configfile?action=restore 0)

The request will return a 200 OK if all the volumes have been included in the image. If there were too many volumes to fit in the image, a 201 Created will be returned. In this case, if this save-restore image restored at a later date, some of the volumes will have to be manually attached to gain access the data.

[Internal] GUI Only: if a 201 is returned, the status is saved so that it can be retrieved with a /errors request. See /errors.

URI	***/ScalarLTFS/system/configfile?action=download[&filename={name}]***
Method	POST
User Role Access	Admin, Service
Parameters	Optional query parameters: action=download , download as a file filename={name}, file name to use on download
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 201 Created 400 Bad Request 403 Forbidden 412 Precondition Failed 500 Internal Server
Response Headers	Content-Type: application/bin Content-Disposition: attachment; filename='filename' [action=download]
Response Data	Save-restore image

10.29.7 **POST /ScalarLTFS/system/configfile?action=restore**

Description: Upload and restore the system configuration. The request message must include a valid save-restore image. It may be in the message body or in a multi-part message upload file. If using a multi-part message, the filename must be 'Filedata'.

500 Internal Server errors:

- WS 215 Script Error (Configuration Restore error)
- WS 352 File Upload Error

URI	***/ScalarLTFS/system/configfile?action=restore***
Description	Restore the system configuration. The request message must include a valid save-restore image. It may be in the message body or in a multi-part message upload file. If using a multi-part message, the filename must be 'Filedata'.
Method	POST
User Role Access	Admin, Service
Parameters	Query parameter: action=restore
Request Header	N/A
Request Header	Content-Type: application/bin Content-Type:multipart/form-data
Request Data	Save-restore image
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server
Response Data	N/A

10.29.8 **POST /ScalarLTFS/system/configfile?action=email**

Description: Create a system configuration save-restore image and email it to one or multiple recipients. If a filename is not given, the file name is configfileddmmyy. The configuration file is an attachment to the email. Host and sender must be set in the email_config table.

500 Internal Server Errors:

- WS 215 Script Error (Email)
- WS 215 Script Error (save configuration)
- WS 357 Filesize Exceed Max

URI	*/ScalarLTFS/system/configfile?action=email[&filename={name}]*
Method	POST
User Role Access	Admin, Service
Parameters	Query Parameters: action=email filename=name (optional), emails the file with this filename
Request Header	N/A

Request Data	`<email>`
	`  <sendto>email address</sendto>`
	`  <sendto>email address</sendto>`
	`  . . .`
	`</email>`

Response Codes	200 OK 400 Bad Request 403 Forbidden 412 Precondition Failed 500 Internal Server
Response Headers	N/A
Response Data	N/A

10.29.9 POST /ScalarLTFS/system/configrecord [deprecated]

Description: Create a configuration record and return it as file.txt. If a filename is not given, the file name is configrecorddddmmyy.txt.

Note: Deprecated. Use GET /ScalarLTFS/reports/configrecord

URI	*/ScalarLTFS/system/configrecord?action=download[&filename=file]*
Method	POST
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request
Response Headers	Content-Type: application/bin Content-Disposition: attachment; filename="file.txt"
Response Data	Configuration Record

10.29.10 **POST /ScalarLTFS/system/configrecord?action=email [deprecated]**

Description: Create a configuration record and email it to one or multiple recipients. If a filename is not given, the file name is configrecorddddmmyy. The configuration file is an attachment to the email. Host and sender must be set in the email_config table. If the username and password are both set in the email_config table, the email is sent authorized.

Note: Deprecated. Use POST /ScalarLTFS/reports/configrecord

URI	***/ScalarLTFS/system/configrecord?action=email[&filename=file]***
Method	POST
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A

Request Data	`<email>`
	`  <sendto>email address</sendto>`
	`  <sendto>email address</sendto>`
	`  . . .`
	`</email>`

Response Codes	200 OK 403 Forbidden 500 Internal Server
Response Headers	N/A
Response Data	N/A

10.29.11 **POST /ScalarLTFS/system?action=downloadfw**

Description: Receive a firmware image and perform an upgrade. The file request data may be in the request message body or sent as a multi-part message. If sent as a multi-part message, the upload file name must be ‘Filedata’.

412 Precondition Failed:

- S 253 I/O ongoing

500 Internal Server errors:

- WS 215 Script Error (altfs install)
- WS 352 File Upload Error

URI	***/ScalarLTFS/system?action=downloadfw***
Description	Receive firmware and perform an upgrade. The file request data may be in the request message body or sent as a multi-part message. If sent as a multi-part message, the upload file name must be ‘Filedata’. If i/o is ongoing, an error is returned.
Method	POST
User Role Access	Admin, Service
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/bin
Request Data	Firmware image
Response Codes	200 OK 403 Forbidden 412 Precondition Failed 500 Internal Server
Response Data	N/A

10.29.12 **POST /ScalarLTFS/system/dellcollect?action=download**

Description: Download a dellcollect .tgz file.

URI	***/ScalarLTFS/system/dellcollect?action=download[&filename={file}]***
Method	POST
User Role Access	Admin, Service, User
Parameters	Query Parameters: ▪ action=download ▪ filename=name (optional), emails the file with this filename
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server
Response Headers	Content-Disposition: attachment; filename="filename.tgz”
Response Data	Dell collect .tgz file

10.29.13 **POST /ScalarLTFS/system/snapshot**

Description: Download a snapshot file. The optional query string will download the file as a .tgz file. Without the query string, the file is returned in the message body .

URI	***/ScalarLTFS/system/snapshot?[action=download[&filename={file}]]***
Method	POST
User Role Access	Admin, Service
Parameters	Query Parameters: ▪ action=download ▪ filename=name (optional), emails the file with this filename
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server
Response Headers	Content-Type: application/bin Content-Disposition: attachment; filename="file.tgz" [with action=download]
Response Data	snapshot

10.29.14 **POST /ScalarLTFS/system/ext_snapshot**

Description: Two-step extended snapshot process. Create an extended snapshot and get the filename. The extended snapshot file is saved on the server and may be downloaded with a GET /ScalarLTFS/files/ext_snapshot/{filename} GET /ScalarLTFS/files/ext_snapshot/{filename}

Note: After 60 minutes, an extended snapshot file may be deleted by the system.

To download an extended snapshot in one step, use POST /ScalarLTFS/system/ext_snapshot?action=download

URI	***/ScalarLTFS/system/ext_snapshot***
Method	POST
User Role Access	Admin, Service
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server
Response Headers	Content-Type: application/xml;charset=UTF-8

Response Data	`<?xml version="1.0"?>`
	`<file>`
	`  <name>filename.zip</name>`
	`  <size>n</size>`
	`</file>`

10.29.15 **POST /ScalarLTFS/system/ext_snapshot?action=download**

Description: Create and download an extended snapshot file. Returned as a .tgz file. File is an optional filename and is user defined . If filename is included on the URI, the downloaded file will be file.tgz. The extended snapshot fiile name is returned in the Content-Disposition header.

URI	***/ScalarLTFS/system/ext_snapshot?action=download[&filename={file}]***
Method	POST
User Role Access	Admin, Service
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server
Response Headers	Content-Type: application/bin Content-Disposition: attachment; filename="file.tgz”
Response Data	Extended snapshot

10.29.16 **POST /ScalarLTFS/system?action=factorydefaults**

Description: Restore the system to factory defaults. The system is rebooted after the reset to factory defaults.

If I/O is ongoing, a 412 Precondition Failed (ws error 253) will be returned.

URI	***/ScalarLTFS/system?action=factorydefaults***
Method	POST
User Role Access	Service
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	202 Accepted 403 Forbidden 412 Precondition Failed 500 Internal Server
Response Data	N/A

10.29.17 **POST /ScalarLTFS/system?action=cleartoship**

Description: Restore the system to factory defaults. The system is rebooted after the reset to factory defaults.

If I/O is ongoing, a 412 Precondition Failed (ws error 253) will be returned.

URI	***/ScalarLTFS/system?action=cleartoship***
Method	POST
User Role Access	Service
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	202 Accepted 403 Forbidden 412 Precondition Failed 500 Internal Server
Response Data	N/A

10.29.18 **POST /ScalarLTFS/system?action=reset_hosts**

Description: Reset the IP security allowed host list and restart NFS and SMB.

If I/O is ongoing, a 412 Precondition Failed (ws error 253) will be returned.

URI	***/ScalarLTFS/system?action=reset_hosts***
Method	POST
User Role Access	Service
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 403 Forbidden 412 Precondition Failed 500 Internal Server
Response Data	N/A

10.29.19 **POST /ScalarLTFS/system?action=shutdown**

Description: Reboot the server.

If I/O is ongoing, the system cannot be shutdown and a 412 Precondition Failed (ws error code 253) is returned.

URI	***/ScalarLTFS/system?action=shutdown***
Method	POST
User Role Access	Admin, Service
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	202 Accepted 400 Bad Request 403 Forbidden 412 Precondition Failed 500 Internal Server
Response Data	N/A

10.29.20 **POST /ScalarLTFS/system?action=reboot**

Description: Reboot the server.

If I/O is ongoing, the system cannot be rebooted. A 412 Precondition Failed (ws error code 253) is returned.

URI	***/ScalarLTFS/system?action=reboot***
Method	POST
User Role Access	Admin, Service
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	202 Accepted 400 Bad Request 403 Forbidden 412 Precondition Failed 500 Internal Server
Response Data	N/A

10.30 Users

10.30.1 DELETE /ScalarLTFS/users/{username}

Description: Delete the user specified by the userid on the URI from the system. If the user has created any filters, the filters are deleted.

URI	***/ScalarLTFS/users/{username]***
Method	DELETE
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 403 Forbidden 404 Not Found 500 Internal Server
Response Data	N/A

10.30.2 GET /ScalarLTFS/users

Description: Retrieve a list of all users. The password will not be returned with the user data.

URI	***/ScalarLTFS/users***
Method	GET
User Role Access	Admin, Service
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 403 Forbidden
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 80 users

10.30.3 **GET /ScalarLTFS/users/{username}**

Description: Retrieve the user object for the user specified by the user name on the URI.

URI	***/ScalarLTFS/users/{username}***
Method	GET
User Role Access	Admin, Service, User; User may only get his own
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response code	200 OK 403 Forbidden 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 79 user

10.30.4 **POST /ScalarLTFS/users/{username}**

Description: Add a user to the system as specified by the username on the URI. The password and role are required. Role may be an integer index or text (‘user’,’ admin’). See 102 GET /ScalarLTFS/roles for role values.

GET /ScalarLTFS/rolesIf a request message is HTTP, the password must be Base64 encrypted.

URI	***/ScalarLTFS/users/{username}***
Method	POST
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8
Request Data	<user> <password>data</password> <role>index value or text</role> </user>
Response Codes	201 Created 400 Bad Request 403 Forbidden 500 Internal Server
Response Header	N/A
Response Data	N/A

10.30.5 **PUT /ScalarLTFS/users/{username}/password**

Description: Update a user's password. A user may only reset his own password. <password> in the request data object is the new password. The current password is required for verification. If the current password fails verification, the update fails.

The service user may only update the default admin password. The current_password node is required to be included in the request data, but the value will not be verified.

URI	***/ScalarLTFS/users/{username}/password***
Method	PUT
User Role Access	Admin, Service, User Any user may only update his own password Service may only update the default ‘admin’ user account password
Parameters	N/A
Request Header	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<user>`
	`  <password>data</password>`
	`  <current_password>data</current_password>`
	`</user>`

Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	On successful update, returns request data.

10.30.6 PUT /ScalarLTFS/users/{username}/role

Description: Update a user's role. The data may be a role integer index or text (user | admin);

URI	*/ScalarLTFS/users/{username}/role*
Method	PUT
User Role Access	Admin
Parameters	N/A
Request Header	Content-Type: text/plain; charset=UTF-8
Request Data	Data value
Response Codes	200 OK 400 Bad Request 403 Forbidden 500 Internal Server
Response Header	Content-Type: text/plain; charset=UTF-8
Response Data	On successful update, returns request data.

10.31 Volume Groups

10.31.1 DELETE /ScalarLTFS/volume_groups/{name}

Description: Delete the volume group specified by the name on the URI. Only empty volume groups may be deleted.

URI	*/ScalarLTFS/volume_groups/{name}*
Method	DELETE
User Role Access	Admin
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 403 Forbidden 404 Not Found 500 Internal Server
Response Data	N/A

10.31.2 **GET /ScalarLTFS/volume_groups**

Description: Retrieve a list of volume groups. An optional query string may be appended to the URI to filter the list.

URI	***/ScalarLTFS/volume_groups[?type=value][{attribute}=value]***
Method	GET
User Role Access	Admin, Service, User
Parameters	Optional quer string parameters: ▪ type=operations , returns non-system, non-empty volume groups with a state of ready or unavailable ▪ type=exportable: returns non-system, non-empty volume groups with no offline media and all media are attached ▪ type may not be combined with any other query variable ▪ attribute = value, Any valid volume_group attribute, (<volume_group> element) may be used as a query variable. Multiple parameters are acceptable. For example, ▪ /volume_groups? online=0&low_free_threshold=80 returns all online volume groups with a low free threshold of 80
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 400 Bad Request 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 85 volume_groups

10.31.3 **GET /ScalarLTFS/volume_groups/{name}**

Description: Retrieve a single volume group identified by the volume group name on the URI.

If the volume group is not found, a 404 Not Found is returned.

URI	***/ScalarLTFS/volume_groups/{name}***
Method	GET
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	N/A
Request Data	N/A
Response Codes	200 OK 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	See Figure 84 volume_group

10.31.4 **POST /ScalarLTFS/volume_groups/{name}**

Description: Create an empty volume group, with the volume group name specified on the URI. A volume group name must be less than 255 characters and may not include the following characters: ‘ @ # & * : ? " < > / \ | ‘.

The following attributes may be configured on the request:

- scratch_enabled: 1/0/true/false
- low_free_threshold:0-100
- online:1/0/true/false
- comment: up to 128 characters

The request data is optional and if a value is not given, the volume group is created with the following default attributes:

- scratch_enabled
- low_free_threshold: 80
- online

URI	***/ScalarLTFS/volume_groups/{name}***
Method	POST
Parameters	N/A
User Role Access	Admin
Request Header	[Content-Type: application/xml;charset=UTF-8] optional

Request Data	Optional:
	`[<volume_group>`
	`  [<online>false</online>]`
	`  [<comment>newcomment</comment>]`
	`  [<low_free_threshold>80</low_free_threshold>]`
	`  [<scratch_enabled>true</scratch_enabled>]`
	`</volume_group>]`

Response Codes	201 Created 400 Bad Request 500 Internal Server
Response Header	N/A
Response Data	N/A

10.31.5 **PUT /ScalarLTFS/volume_groups**

Description: Update multiple volume_groups. The attribute is required on the volume group node. If one update fails, none of the updates are performed. The volume group objects should be repeated for each volume to be updated.

Only values to be updated should be included in the request message. The volume group values that may be updated are:

- online: 1/0/true/false
- comment: up to 128 characters
- location: up to 128 characters
- scratch_enabled: 1/0/true/false
- low_free_threshold:0-100

URI	***/ScalarLTFS/volume_groups***
Method	PUT
User Role Access	Admin, Service,User
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8
Request Data	<volume_groups> <volume_group name=”vgname”> [<online>0</online>] [<scratch_enabled>0</scratch_enabled>] [<location>text</location>] [<comment>text</comment>] </volume_group> <volume_group name=”vgname”> . . . </volume_group> . . . </volume_groups>
Response Codes	200 OK 400 Bad Request 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns request data on successful update

10.31.6 **PUT /ScalarLTFS/volume_groups/{name}**

Description: Update the volume group identified by the name on the URI.

Only the values to be updated should be included in the volume group object. The volume group values that may be updated are:

- online: 1/0/true/false
- comment: up to 128 characters
- location: up to 128 characters
- scratch_enabled: 1/0/true/false
- low_free_threshold:0-100

URI	***/ScalarLTFS/volume_groups/{name}***
Method	PUT
User Role Access	Admin, Service, User
Parameters	N/A
Request Header	Content-Type: application/xml;charset=UTF-8

Request Data	`<volume_group >`
	`[<online>0</online>]`
	`[<scratch_enabled>0</scratch_enabled>]`
	`[<location>text</location>]`
	`[<comment>text</comment>]`
	`</volume_group>`

Response Codes	200 OK 400 Bad Request 404 Not Found 500 Internal Server
Response Header	Content-Type: application/xml;charset=UTF-8
Response Data	Returns the request data on successful update.

11 Appendix A: Resource Objects

The following figures list the supported resource objects available for the web services interfaces.

Figure 1 assign

```
<assign>
   <volgroup_name>source</volgroup_name>
   <volume_list>
      <barcode> <!—list of barcode elements-->
   </volume_list>
   <dest_volgroup_name>destination</dest_volgroup_name>
</assign>
```

Figure 2 certificate

```
<certificate>
   <name>ca_cert.pem</name>
   <start_date>Apr 13, 2015 08:38:10 GMT</start_date>
   <end_date>Apr 12, 2016 08:38:10 GMT</end_date>
   <issuer>/CN=TurnKey OpenLDAP</issuer>
   <subject>issuer= /CN=TurnKey OpenLDAP</subject>
</certificate>
```

Figure 3 certificate_list

```
<certificate_list>
   <certificate/> <!—a list of certificate objects, see Figure 2 certificate-->
</certificate_list>
```

Figure 4 configfile_status

```
<configfile_status>
   <file>filename</file>
   <type>configfile</type>
   <response_status>201</response_status>
</configfile_status>"
```

Figure 5 cluster_raid

```
<cluster_raid>
   <FormatVersion>6</FormatVersion>
   <OverallSeverity>Normal</OverallSeverity>
   <OverallStatus>Normal</OverallStatus>
   <StorageArrayCount>1</StorageArrayCount>
   <StorageArrays>
      <StorageArray>
         <StorageType>DellPERC</StorageType>
         <Name>PERC H310 Mini (Embedded)</Name>
         <Location>PERC H310 Mini (Embedded)</Location>
         <Enable>true</Enable>
         <Id>0</Id>
         <Status>Normal</Status>
         <Severity>Normal</Severity>
         <TrayCount>1</TrayCount>
```

```
<TrayOverallStatus>Normal</TrayOverallStatus>
<TrayOverallSeverity>Normal</TrayOverallSeverity>
<ControllerCount>1</ControllerCount>
<ControllerOverallStatus>Normal</ControllerOverallStatus>
<ControllerOverallSeverity>Normal</ControllerOverallSeverity>
<VolumeCount>1</VolumeCount>
<VolumeOverallStatus>Normal</VolumeOverallStatus>
<VolumeOverallSeverity>Normal</VolumeOverallSeverity>
<DriveCount>2</DriveCount>
<DriveOverallStatus>Normal</DriveOverallStatus>
<DriveOverallSeverity>Normal</DriveOverallSeverity>
<FanCount>0</FanCount>
<FanOverallStatus>Unknown</FanOverallStatus>
<FanOverallSeverity>Normal</FanOverallSeverity>
<BatteryCount>0</BatteryCount>
<BatteryOverallStatus>Unknown</BatteryOverallStatus>
<BatteryOverallSeverity>Normal</BatteryOverallSeverity>
<PowerSupplyCount>0</PowerSupplyCount>
<PowerSupplyOverallStatus>Unknown</PowerSupplyOverallStatus>
<PowerSupplyOverallSeverity>Normal</PowerSupplyOverallSeverity>
<ThermalSensorCount>0</ThermalSensorCount>
<ThermalSensorOverallStatus>NA</ThermalSensorOverallStatus>
<ThermalSensorOverallSeverity>NA</ThermalSensorOverallSeverity>
<SFPCount>0</SFPCount>
<SFPOverallStatus>NA</SFPOverallStatus>
<SFPOverallSeverity>NA</SFPOverallSeverity>
<SupportCRUCount>0</SupportCRUCount>
<SupportCRUOverallStatus>NA</SupportCRUOverallStatus>
<SupportCRUOverallSeverity>NA</SupportCRUOverallSeverity>
<AlarmCount>0</AlarmCount>
<AlarmOverallStatus>Unknown</AlarmOverallStatus>
<AlarmOverallSeverity>Normal</AlarmOverallSeverity>
<Trays> <!--list of objects-->
   <Tray>
   <Name>Backplane</Name>
   <Enable>1</Enable>
   <TrayId>0</TrayId>
   <Value>NA</Value>
   <ControllerSlotCount>0</ControllerSlotCount>
   <DriveSlotCount>0</DriveSlotCount>
   <VendorName>NA</VendorName>
   <PartNumber>NA</PartNumber>
   <SerialNumber>NA</SerialNumber>
   <FruType>NA</FruType>
   <Status>Normal</Status>
   <Severity>Normal</Severity>
   <FruParent>SL_FRU_RAID_CHASSIS</FruParent>
   <FruParentInstance>PERC_H310_MINI_(EMBEDDED)</FruParentInstance>
   <Fru>SL_FRU_RAID_TRAY</Fru>
   <FruInstance>BACKPLANE</FruInstance>
   <FruEvent>SL_EVT_OK</FruEvent>
```

```
   </Tray>
</Trays>
<Controllers>
<Controller>
   <Name>PERC H310 Mini</Name>
   <Enable>true</Enable>
   <Location>PERC H310 Mini (Embedded)</Location>
   <Value/>
   <SlotLetter>NA</SlotLetter>
   <Status>Ready</Status>
   <Severity>Normal</Severity>
   <Active>NA</Active>
   <VolumeCount>1</VolumeCount>
   <AppVersion>NA</AppVersion>
   <BootVersion>NA</BootVersion>
   <SerialNumber>NA</SerialNumber>
   <FruParent>SL_FRU_RAID_CHASSIS</FruParent>
   <FruParentInstance>PERC_H310_MINI_(EMBEDDED)</FruParentInstance>
   <Fru>SL_FRU_RAID_CTRL</Fru>
   <FruInstance>PERC_H310_MINI</FruInstance>
   <FruEvent>SL_EVT_OK</FruEvent>
</Controller>
</Controllers>
<Volumes> <!--list of objects-->
   <Volume>
   <Name>Not Named 0</Name>
   <Enable>true</Enable>
   <Location>PERC H310 Mini (Embedded)</Location>
   <Value/>
   <Controller>NA</Controller>
   <CapacityGB>1,862.50</CapacityGB>
   <Status>Ready</Status>
   <Severity>Normal</Severity>
   <FruParent>SL_FRU_RAID_CHASSIS</FruParent>
   <FruParentInstance>PERC_H310_MINI_(EMBEDDED)</FruParentInstance>
   <Fru>SL_FRU_RAID_VOL</Fru>
   <FruInstance>NOT_NAMED_0</FruInstance>
   <FruEvent>SL_EVT_OK</FruEvent>
   </Volume>
</Volumes>
<Drives> <!--list of objects-->
   <Drive>
   <Name>Physical Disk 0:1:0</Name>
   <Enable>true</Enable>
   <Location>PERC H310 Mini (Embedded)</Location>
   <Value/>
   <Tray>0</Tray>
   <Slot>0</Slot>
   <CapacityGB>1,862.50</CapacityGB>
   <Status>Online</Status>
   <Severity>Normal</Severity>
```

```
            <FruParent>SL_FRU_RAID_CHASSIS</FruParent>
            <FruParentInstance>PERC_H310_MINI_(EMBEDDED)</FruParentInstance>
            <Fru>SL_FRU_RAID_DRV</Fru>
            <FruInstance>PHYSICAL_DISK_0:1:0</FruInstance>
            <FruEvent>SL_EVT_OK</FruEvent>
            </Drive>
         </Drives>
         <Fans/>
         <Batteries/>
         <PowerSupplies/>
         <ThermalSensors/>
         <SFPs/>
         <SupportCRUs/>
         <Alarms/>
      </StorageArray>
      </StorageArrays>
   </cluster_raid>
```

Figure 6 contact

```
<?xml version="1.0"?>
<contact>
   <first_name>First name</first_name>
   <last_name>last name</last_name>
   <phone>contact phone number</phone>
   <email>contact email address</email>
   <company>company name</company>
   <description>description of the system</description>
</contact>
```

Figure 7 credentials

```
<credentials>
   <user>userid</user>
   <password>password</password>
   <clientinfo>clienttype</clientinfo>
   <ldap>true|false</ldap> <!—optional, defaults to false -->
</credentials>
```

Figure 8 datetime

```
<?xml version="1.0"?>
<datetime>
   <date>mmddyyyy</date>
   <time>hhmm</time>
   <timezone>tmz</timezone>
   <datetm>hhmm mmddyyyy</datetm>
   <itime>n</itime> <!—time in seconds since epoch -->
   <datetm2>hh:mm am/pm day Mth dd yyyy</datetm2> <!-- 12:10 am Wed May 05 2010
-->
</datetime>
```

Figure 9 drive

```
<?xml version="1.0"?>
<drive>
   <cur_state>data</cur_state>
   <rdy_state>data</rdy_state>
   <drive_sn>data</drive_sn>
   <scsi_pid>data</scsi_pid>
   <scsi_vid>data</scsi_vid>
   <barcode>data</barcode>
   <scsi_asc>data</scsi_asc>
   <scsi_ascq>data</scsi_ascq>
   <partition_sn>data</partition_sn>
   <partition_name>data</partition_name>
</drive>
```

Figure 10 drives

```
<?xml version="1.0"?>
<drives>
   </drive> A list of drive objects, See Figure 9 drive
</drives>
```

Figure 11 element

```
<element>
   <partition_index>n</partition_index>
   <element_addr>data</element_addr>
   <excimpacc>data</excimpacc>
   <scsi_asc>data</scsi_asc>
   <scsi_ascq>data</scsi_ascq>
   <svalinvrsv>data</svalinvrsv>
   <barcode>data</barcode>
   <scsi_vid>data</scsi_vid>
   <scsi_pid>data</scsi_pid>
   <drive_sn>data</drive_sn>
</element>
```

Figure 12 elements

```
<?xml version="1.0"?>
<elements>
   </element>> <!--A list of element objects, See Figure 11 element -->
</elements>
```

Figure 13 emailconfig

```
<?xml version="1.0"?>
<emailconfig>
   <host>server</host>
   <sender> sender email address</sender><!—sender email address -->
   <username>data </username> <!—optional for authenticated accounts -->
   <password>password</password> <!—optional, only used for
   authenticated accounts -->
 </emailconfig>
```

Figure 14 fault

```
<fault>
   <response_status></response_status>
   <error></error>
   <ws_error></ws_error>
</fault>
```

Figure 15 file

```
<file>
   <name>filename</name>
   <c_time>mm/dd/yy hh:mm:ss</c_time> <!—file create time -->
   <size>74919434</size>
</file>
```

Figure 16 file_list

```
<?xml version="1.0"?>
<file_list [ type="ext_snapshot"]>
   </file><!—list file objects see Figure 15 file-->
</file_list>
```

Figure 17 filter

```
<filter>
   <type>media | tickets</type>
   <filter_name>data</filter_name>
   <user_name>data</user_name>
   <public>0|1</public>
   <negate_search>0|1</negate_search>
   <search_list/> <!—search criteria see Figure 63 search_list -->
   <sort_list/> <!— see Error! Reference source not found.-->
</filter>
```

Figure 18 filters

```
<?xml version="1.0"?>
<filters>
   <media_filter_list/> <!—See Figure 37 media_filter_list-->
   <ticket_filter_list/> <!—See Figure 75 ticket_filter_list-->
</filters>
```

Figure 19 hba_fc_port

```
<hba_fc_port>
   <FileInformation>
      <Type>DeviceStatusLog</Type>
      <Version>1.3</Version>
      <Content>HBAGroup</Content>
   </FileInformation>
   <HBAGroup>
      <OverallSeverity>Normal</OverallSeverity>
      <OverallStatus>Normal</OverallStatus>
      <HBAUnit> <!--list of objects-->
         <HBA>
            <Enable>1</Enable>
```

```
            <Type>FiberChannel</Type>
            <Vendor>QLogic Corp.</Vendor>
            <Model>QLE2562</Model>
            <Version>5.07.00 (8080)</Version>
            <SerialNumber>BFD1232D51568</SerialNumber>
            <OverallSeverity>Normal</OverallSeverity>
            <OverallStatus>Normal</OverallStatus>
            <Severity>Normal</Severity>
            <Status>Normal</Status>
            <Name>Fibre Channel Controller 1</Name>
            <Location>PCI Slot: 1, Bus: PCIE, Location: 0c:00.0</Location>
            <FruParent>SL_FRU_IO_SERVER</FruParent>
            <FruParentInstance>1</FruParentInstance>
            <Fru>SL_FRU_IOS_FC_HBA</Fru>
            <FruInstance>1</FruInstance>
            <FruEvent>SL_EVT_OK</FruEvent>
         </HBA>
         <PortGroup>
            <Port><!--list of objects-->
            <Enable>0</Enable>
            <Type>FiberChannel</Type>
            <Severity>Normal</Severity>
            <Status>running</Status>
            <Value>NA</Value>
            <Role>NA</Role>
            <Name>FC Port 0</Name>
            <FruParent>SL_FRU_IO_SERVER</FruParent>
            <FruParentInstance>1</FruParentInstance>
            <Fru>SL_FRU_IOS_FC_HBA</Fru>
            <FruInstance>FCPORT0</FruInstance>
            <FruEvent>SL_EVT_LINK_FAIL</FruEvent>
            </Port>
         </PortGroup>
      </HBAUnit>
   </HBAGroup>
</hba_fc_port>
```

Figure 20 host

```
<host>
   <ip>n.n.n.n</ip>
   <smb>1</smb>
   <smb_readonly>1</smb_readonly>
   <nfs>1</nfs>
   <nfs_readonly>1</nfs_readonly>
</host>
```

Figure 21 hosts_allowed

```
<hosts_allowed>
   <host/><!—a list of host objects, See Figure 20 host -->
</hosts_allowed>
```

Figure 22 hwstatus

```
<hwstatus>
   <cluster_raid/><!-- See Figure 5 cluster_raid -->
   <motherboard_group/><!-- See Figure 40 motherboard_group-->
   <nic_group/><!-- See Figure 42 nic_group-->
   <node_status/><!-- See Figure 43 node_status
   <hba_fc_port/><!-- See Figure 19 hba_fc_port-->
   <wwnames/>
</hwstatus>
```

Figure 23 interface

```
<interface>
   <devname>eth1</devname>
   <netmask>255.255.240.0</netmask>
   <ipaddr>10.60.166.140</ipaddr>
   <gateway>10.60.160.1</gateway>
   <portspeed>1Gb</portspeed>
</interface>
```

Figure 24 ipmi

```
<ipmi>
   <bmcinfo>
      <DeviceID> 32</DeviceID>
      <DeviceRevision> 0</DeviceRevision>
      <FirmwareRevision> 1.85</FirmwareRevision>
      <IPMIVersion> 2.0</IPMIVersion>
      <ManufacturerID> 674</ManufacturerID>
      <ManufacturerName> DELL Inc</ManufacturerName>
      <ProductID> 256 (0x0100)</ProductID>
      <ProductName> Unknown (0x100)</ProductName>
      <DeviceAvailable> yes</DeviceAvailable>
      <ProvidesDeviceSDRs> yes</ProvidesDeviceSDRs>
   </bmcinfo>
   <network>
      <IPAddressSource> Static Address</IPAddressSource>
      <IPAddress> 10.60.166.151</IPAddress>
      <SubnetMask> 255.255.240.0</SubnetMask>
      <MACAddress> d4</MACAddress>
      <IPHeader> TTL=0x40 Flags=0x40 Precedence=0x00 TOS=0x10</IPHeader>
      <DefaultGatewayIP> 10.60.160.1</DefaultGatewayIP>
      <DefaultGatewayMAC> 00</DefaultGatewayMAC>
   </network>
</ipmi>
```

Figure 25 job

```
<job>
   <id>42</id>
   <event>replicate</event>
   <source>001347</source>
   <job_state>complete</job_state>
   <destination>rep_jd_test</destination>
   <parameters></parameters>
   <submitted_by>admin</submitted_by>
   <submit_time>2015-10-10 19:35:51</submit_time>
   <end_time>2015-10-10 19:39:15</end_time>
   <job_error>none</job_error>
   <progress>0</progress>
   <repl_media>3</repl_media>
   <repl_media_complete>3</repl_media_complete>
   <job_volumes>
   <job_volume/> <!—a list of job_volume objects see Figure 25 job-->
   </job_volumes>
</job>
```

Figure 26 joberror

```
<joberror>
   <index>1</index>
   <value>invalid volume state</value>
</joberror>
```

Figure 27 joberrors

```
<joberrors>
   <joberror/> /> <!—a list of joberror objects see Figure 26 joberror->
<joberrors>
```

Figure 28 jobs

```
<jobs>
   <job/> <!—a list of job objects see Figure 25 job-->
</jobs>
```

Figure 29 jobstates

```
<jobstates>
   <state/><!—a list of state objects see Figure 68 state Figure 25 job-->
</jobstates>
```

Figure 30 job_volume

```
<job_volume>
   <barcode>000004</barcode>
   <start_time>2015-10-10 19:37:25.12</start_time>
   <end_time>2015-10-10 19:38:41.41</end_time>
   <job_state>11</job_state>
   <progress>0</progress>
   <job_error>none</job_error>
</job_volume>
```

Figure 31 ldap_configuration

```
<ldap_configuration>
   <server></server>
   <server_port></server_port>
   <alt_server></alt_server>
   <principal_user></principal_user>
   <password></password>
   <user_dn></user_dn>
   <group_dn></group_dn>
   <user_group_name></user_group_name>
   <admin_group_name></admin_group_name>
   <ldap_connection>none</ldap_connection> <!—none/startTLS/LDAP -->
   <enabled>0</enabled>
   <acl_enabled>0</acl_enabled>
</ldap_configuration>
```

Figure 32 license

```
<license>
   <feature>Tape Library Drives</feature>
   <feature_id>13</feature_id>
   <date>yyyy-mm-dd </date>
   <quantity>data</quantity>
</license>
```

Figure 33 licenses

```
<licenses>
   <license/><!—a list of license objects see Figure 2 certificate-->
</licenses>
```

Figure 34 ldap_test

```
<ldap_test>
   <username>darryl</username>
   <password>password</password>
   <ldap_configuration/> <!—see Figure 31 ldap_configuration-->
</ldap_test>
```

Figure 35 media

```
<media>
   <volume/> <!—a list of volume objects, see Figure 83 volume -->
</media
```

Figure 36 media_counts

```
<media_counts>
   <partition> < !—a list of objects, one for each partition -->
      <partition_sn>data</partition_sn>
      <media_count>data</media_count>
   <partition>
</media_counts>
```

Figure 37 media_filter_list

```
<media_filter_list>
   <filter/><!– a list of filter objects, see Figure 17 filter -->
</media_filter_list>
```

Figure 38 message

```
<message>
   <id>1</id>
   <msg_config_type>M105</msg_config_type>
   <reference>ADICA0C0186103_LLB</reference>
   <text>message text</text>
   <open_time>yyyy-mm-dd hh:mm</open_time>
   <opened_by>text</opened_by>
   <closed_by>text</closed_by>
   <duplicates>n</duplicates>
   <last_update>yyyy-mm-dd hh:mm</last_update>
   <closed_time>yyyyy-mm-dd hh:mm</closed_time>
   <closed>0|1</closed>
</message>
```

Figure 39 messages

```
<messages>
   <message/> <!–a list of message objects, see Figure 38 message-->
</message>
```

Figure 40 motherboard_group

```
<motherboard_group>
   <OverallSeverity>Normal</OverallSeverity>
   <OverallStatus>Normal</OverallStatus>
   <NodeUnit>
      <OverallSeverity>Normal</OverallSeverity>
      <OverallStatus>Normal</OverallStatus>
      <SensorGroup> <!--list of objects-->
         <Sensor>
            <Enable>1</Enable>
            <Type>IPMI</Type>
            <Severity>Normal</Severity>
            <Status>Normal</Status>
            <Value>NA</Value>
            <Name>IPMI</Name>
            <FruParent>SL_FRU_IPMI</FruParent>
            <FruParentInstance>1</FruParentInstance>
            <Fru>SL_FRU_IPMI</Fru>
            <FruInstance>IPMI</FruInstance>
            <FruEvent>SL_EVT_OK</FruEvent>
         </Sensor>
      </SensorGroup>
      <FanGroup> <!--list of objects-->
         <Fan>
            <Enable>1</Enable>
```

```
            <Severity>Normal</Severity>
            <Status>Normal</Status>
            <Value>1920 RPM</Value>
            <Name>Fan 1 RPM</Name>
            <FruParent>SL_FRU_IO_SERVER</FruParent>
            <FruParentInstance>1</FruParentInstance>
            <Fru>SL_FRU_IOS_FAN</Fru>
            <FruInstance>FAN_1_RPM </FruInstance>
            <FruEvent>SL_EVT_OK</FruEvent>
            </Fan>
         </FanGroup>
         <PowerSupplyGroup> <!--list of objects-->
         <PowerSupplyUnit>
            <PowerSupply>
                  <Enable>1</Enable>
                  <Severity>Normal</Severity>
                  <Status>Normal</Status>
                  <Name>PS 1 Status</Name>
                  <FruParent>SL_FRU_IO_SERVER</FruParent>
                  <FruParentInstance>1</FruParentInstance>
                  <Fru>SL_FRU_IOS_PWR</Fru>
                  <FruInstance>PS_1_STATUS</FruInstance>
                  <FruEvent>SL_EVT_OK</FruEvent>
                  </PowerSupply>
            </PowerSupplyUnit>
         </PowerSupplyGroup>
      </NodeUnit>
   </motherboard_group>
```

Figure 41 network

```
<network>
   <interface/><!—list of interface objects, see Figure 41 network-->
   <hostname>text</hostname>
   <gateway>n.n.n.n</gateway>
   <domainname>text </domainname>
   <dns_ip>n.n.n.n</dns_ip>
</network>
```

Figure 42 nic_group

```
<nic_group>
   <OverallSeverity>Normal</OverallSeverity>
   <OverallStatus>Normal</OverallStatus>
   <NICUnit>
      <NIC>
         <Enable>1</Enable>
         <Type>Ethernet</Type>
         <Vendor>NA</Vendor>
         <Model>NA</Model>
         <Version>NA</Version>
         <SerialNumber>NA</SerialNumber>
         <OverallSeverity>Normal</OverallSeverity>
         <OverallStatus>Normal</OverallStatus>
         <Severity>Normal</Severity>
         <Status>Normal</Status>
         <Name>Network Ports</Name>
         <Location>SystemBoard</Location>
         <FruParent>SL_FRU_IO_SERVER</FruParent>
         <FruParentInstance>1</FruParentInstance>
         <Fru>SL_FRU_IOS_ETHER_PORT</Fru>
         <FruInstance>NIC</FruInstance>
         <FruEvent>SL_EVT_OK</FruEvent>
      </NIC>
      <PortGroup> <!--list of objects -->
         <Port>
            <Enable>0</Enable>
            <Type>Ethernet</Type>
            <Severity>Normal</Severity>
            <Status>Up</Status>
            <Value>1000 Mb/s</Value>
            <Name>eth1</Name>
            <FruParent>SL_FRU_IO_SERVER</FruParent>
            <FruParentInstance>1</FruParentInstance>
            <Fru>SL_FRU_IOS_ETHER_PORT</Fru>
            <FruInstance>1</FruInstance>
            <FruEvent>SL_EVT_OK</FruEvent>
         </Port>
      </PortGroup>
   </NICUnit>
</nic_group>
```

Figure 43 node_status

```
<node_status>
   <NodeUnit>
      <Node>
         <Enable>1</Enable>
         <Unit>1</Unit>
         <SerialNumber>CC95FX1</SerialNumber>
         <Severity>Normal</Severity>
         <Status>Normal</Status>
         <Name>Node 1</Name>
         <Value>Primary</Value>
         <FruParent>SL_FRU_IO_SERVER</FruParent>
         <FruParentInstance>1</FruParentInstance>
         <Fru>SL_FRU_IO_SERVER</Fru>
         <FruInstance>1</FruInstance>
         <FruEvent>SL_EVT_OK</FruEvent>
      </Node>
   </NodeUnit>
</node_status>
```

Figure 44 ntp

```
<?xml version="1.0"?>
<ntp>
   <status>enabled|disabled</status>
   <daemon_status>running|stopped</daemon_status
   <ntpservers/> <!—see Figure 45 ntpservers -->
</ntp>
```

Figure 45 ntpservers

```
<ntpservers>
   <server>n.n.n.n</server> <!—list of server elements-->
</ntpservers>
```

Figure 46 opstates

```
<opstates>
   <state/><!—list of state objects, see Figure 68 state-->
</opstates>
```

Figure 47 partition

```
<partition>
   <partition_sn>ADICA0C0186103_LLB</partition_sn>
   <name>unknown</name>
   <scsi_barc>1</scsi_barc>
   <scsi_mmedia>0</scsi_mmedia>
   <scsi_vid>ADIC</scsi_vid>
   <scsi_pid>Scalar i500</scsi_pid>
   <scsi_rev>660G</scsi_rev>
   <rdy_state>online</rdy_state>
   <con_state>online</con_state>
   <cur_state>attached</cur_state>
   <hsh_state>0</hsh_state>
   <type>scsi</type>
   <transport_count>1</transport_count>
   <importexport_count>12</importexport_count>
   <storage_count>43</storage_count>
   <datatransfer_count>2</datatransfer_count>
   <transport_start>1</transport_start>
   <importexport_start>16</importexport_start>
   <storage_start>4096</storage_start>
   <datatransfer_start>256</datatransfer_start>
   <drive_seq_count>0</drive_seq_count>
   <media_seq_count>0</media_seq_count>
   <config_index>0</config_index>
   <config_name>default</config_name>
   <media_count>27</media_count>
</partition>
```

Figure 48 partitionconfig

```
<partitionconfig>
   <configuration>
      <index>0</index>
      <name>default</name>
      <auto_attach_slot>0</auto_attach_slot>
      <auto_attach_ie>0</auto_attach_ie>
   </configuration>
</partitionconfig>
```

Figure 49 partitions

```
<partitions>
   <partition/> <!—a list of partition objects, see Figure 47 partition-->
</partitions>
```

Figure 50 pmd_configuration

```
<?xml version="1.0"?>
<pmd_configuration> <!—list of partition objects, with drives and media -->
<partition partition_sn="ADICA0C0186103_LLA">
   <name>unknown</name>
   <rdy_state>online</rdy_state>
```

```
   <con_state>online</con_state>
   <cur_state>attached</cur_state>
   <hsh_state>0</hsh_state>
   <scsi_barc>1</scsi_barc>
   <scsi_mmedia>0</scsi_mmedia>
   <scsi_vid>ADIC</scsi_vid>
   <scsi_pid>Scalar i500</scsi_pid>
   <scsi_rev>660G</scsi_rev>
   <type>scsi</type>
   <transport_count>1</transport_count>
   <importexport_count>12</importexport_count>
   <storage_count>157</storage_count>
   <datatransfer_count>6</datatransfer_count>
   <transport_start>1</transport_start>
   <importexport_start>16</importexport_start>
   <storage_start>4096</storage_start>
   <datatransfer_start>256</datatransfer_start>
   <drive_seq_count>0</drive_seq_count>
   <media_seq_count>0</media_seq_count>
   <media> <!—list of objects -->
   <volume barcode="000402">
      <tape_type/>
      <a_state>auto-attachable</a_state>
      <physical_state>available</physical_state>
      <import_time>2015-10-09 16:57:27.45</import_time>
      <attach_time/>
      <export_time/>
      <a_reason>none</a_reason>
      <f_blocksused>0</f_blocksused>
      <f_blocksfree>0</f_blocksfree>
      <f_blocksize>0</f_blocksize>
      <f_filecount>0</f_filecount>
   </media>
   <drives> <!—list of objects-->
      <drive drive_sn="F097DEE090">
         <cur_state>attached</cur_state>
         <rdy_state>online</rdy_state>
         <scsi_pid>Ultrium 5-SCSI</scsi_pid>
         <scsi_vid>HP</scsi_vid>
         <barcode/>
         <scsi_asc>0</scsi_asc>
         <scsi_ascq>0</scsi_ascq>
      </drive>
   </drives>
   </partition>
</pmd_configuration>
```

Figure 51 prepare_export

```
<prepare_export>
   <volgroup_list>
      <volgroup_name> <!—list of volgroup_name elements-->
   </volgroup_list>
</prepare_export>
```

Figure 52 product

```
<product>
   <baseversion>2.4.0_GAA.12639</baseversion>
   <appversion>2.4.0.0_ENG.12640</appversion>
   <ltfsversion>2.4.0</ltfsversion>
   <ltfs_format_version>2.2.0</ltfs_format_version>
   <pkgversion>2.4.0</pkgversion>
   <vendor>Quantum</vendor>
   <serialnumber>H4V6WW1</serialnumber>
   <model>Scalar LTFS - 10GbE SAS</model>
   <url>10.60.166.140</url>
</product>
```

Figure 53 rascontacts

```
<rascontacts>
   <contact> <!—a list of contact objects-->
      <contact_ref>data</contact_ref>
      <name>data</name>
      <email_address>data</email_address>
      <phone1>data</phone1>
      <notification_level>data</notification_level>
      <enabled>0|1</enabled>
      <msgs_enabled>0|1</msgs_enabled>
   </contact>
</rascontacts>
```

Figure 54 rastickets

```
<rastickets>
   <ticket/><!—list of ticket objects, see Figure 74 ticket
</rastickets>
```

Figure 55 reason

```
<reason>
   <index>0</index>
   <value>none</value>
</reason>
```

Figure 56 reasons

```
<reasons>
   <reason/><!—list of reason objects, see Figure 55 reason-->
</reasons>
```

Figure 57 repair

```
<repair>
   <volgroup_name</volgroup_name>
</repair>
```

Figure 58 replicate

```
<replicate>
   <volgroup_name>000008</volgroup_name>
   <dest_volgroup_name>newVG</dest_volgroup_name>
   [<verify>true</verify>]
</replicate>
```

Figure 59 role

```
<role>
   <id>0</id>
   <value>user</value>
</role>
```

Figure 60 roles

```
<roles>
   <role/><!—a list of role objects, see Figure 59 role
</roles>
```

Figure 61 safe_repair

```
<safe_repair>
   <volgroup_name>name</volgroup_name>
   <dest_volgroup_name>new volume group</dest_volgroup>
<safe_repair>
```

Figure 62 search

```
<search>
   <column>data</column>
   <operator>data</operator>
   <value>data</value>
   <bit_operator>AND | OR</bit_operator>
</search>
```

Figure 63 search_list

```
<search_list/>
   <search./> <!—a list of search objects Figure 62 search -->
</search_list>
```

Figure 64 session

```
<session>
   <url>data</url>
   <session_id>text</session_id>
   <gui_version>text</gui_version>
   <current_user>user name</current_user>
   <current_role>role</current_role>
</session>
```

Figure 65 settings

```
<settings>
   <abandonedfilecloseinterval>1800</abandonedfilecloseinterval>
   <altfsconfigdir>/var/quantum/altfs/config</altfsconfigdir>
   <altfsdatadir>/scratch/quantum/altfs/attached</altfsdatadir>
   <altfsdmask>0777</altfsdmask>
   <altfsetoddir>/var/quantum/altfs/emulated</altfsetoddir>
   <altfsfeatureflags>0</altfsfeatureflags>
   <altfsfmask>0666</altfsfmask>
   <altfsgid>0</altfsgid>
   <altfsinterestflags>0</altfsinterestflags>
   <altfslogfilepath>/var/quantum/altfs/log/altfs_ltfs.log</altfslogfilepath>
   <altfsloglevel>3</altfsloglevel>
   <altfsmaxfiles>1000000</altfsmaxfiles>
   <altfsmountpoint>/ScalarLTFS</altfsmountpoint>
   <altfsregistrydir>/var/quantum/altfs/sltfs.registry</altfsregistrydir>
   <altfsuid>0</altfsuid>
   <altfsumask>0666</altfsumask>
   <altfsworkingdir>/scratch</altfsworkingdir>
   <autorepair>0</autorepair>
   <cachedfilehandleevictinterval>60</cachedfilehandleevictinterval>
   <datamoverbuffersize>0x80000</datamoverbuffersize>
   <defltopluginlocation>libdriver-ltotape.so</defltopluginlocation>
   <defragmentationthreshold>0</defragmentationthreshold>
   <detachgraceinterval>31536000</detachgraceinterval>
   <driverpluginlocation>libdriver-file.so</driverpluginlocation>
   <earlywarningzone>0x140000000</earlywarningzone>
   <getcapacityinterval>30</getcapacityinterval>
   <ibmltopluginlocation>libdriver-ibmtape.so</ibmltopluginlocation>
   <idlemountdelta>120</idlemountdelta>
   <idlevolunmounttimeout>1800</idlevolunmounttimeout>
   <idlevolunmounttimeoutrushed>300</idlevolunmounttimeoutrushed>
   <indexdisksynchronizationdelay>30</indexdisksynchronizationdelay>
   <indextapesynchronizationdelay>60</indextapesynchronizationdelay>
   <iofcfspluginlocation>libiosched-fcfs.so</iofcfspluginlocation>
   <iounifiedpluginlocation>libiosched-unified.so</iounifiedpluginlocation>
   <jobretention>90</jobretention>
   <librarynotreadyinterval>600</librarynotreadyinterval>
   <maxcommandthreads>24</maxcommandthreads>
   <maxfilesystemfiles>1000000</maxfilesystemfiles>
   <maxindexcache>16</maxindexcache>
   <maxindexcachesize>15</maxindexcachesize>
   <maxindexinodes>50000000</maxindexinodes>
   <maxjobid>99500</maxjobid>
   <maxvolumespervg>5000</maxvolumespervg>
   <messageretention>90</messageretention>
   <messagesenabled>1</messagesenabled>
   <readaheadbuffersize>2097152</readaheadbuffersize>
   <readaheadcriticalsize>2048</readaheadcriticalsize>
   <readaheadenable>1</readaheadenable>
```

```
   <readaheadmaxcachesize>16777216</readaheadmaxcachesize>
   <readaheadmincachesize>4194304</readaheadmincachesize>
   <reclamationthreshold>0</reclamationthreshold>
   <schemaversion>38</schemaversion>
   <scsiscandelay>300</scsiscandelay>
   <setupwizard>false</setupwizard>
   <sltfsserviceuser>disabled</sltfsserviceuser>
   <stalemediadelta>480</stalemediadelta>
   <uilogouttime>480</uilogouttime>
   <uitime24>false</uitime24>
   <volumemanagementloopinterval>30</volumemanagementloopinterval>
   <volumesynchronizationdelay>60</volumesynchronizationdelay>
   <wsloglevel>0</wsloglevel>
</settings>
```

Figure 66 sort

```
<sort>
   <column>data</column>
   <ascending>0|1</ascending>
</sort>
```

Figure 67 sort_list

```
<sort_list>
   <sort/> <!– a list of sort objects, see Figure 66 sort-->
</sort_list>
```

Figure 68 state

```
<state>
   <index>0</index>
   <value>idle</value>
   <display_value>new</display_value>
</state>
```

Figure 69 states

```
<states>
   <state/><!–list of state objects, see Figure 68 state-->
</states
```

Figure 70 slot

```
<slot>
   <partition_index>data</partition_index>
   <element_addr>data</element_addr>
   <cur_state>data</cur_state>
   <rdy_state>data</rdy_state>
</slot>
```

Figure 71 storage_slots

```
<storage_slots>
   <slot/> <!–list of slot objects, see Figure 71 storage_slots-->
</storage_slots>
```

Figure 72 system_ie_slots

```
<system_ie_slots>
   <total_ie_slots>12</total_ie_slots>
   <open_ie_slots>12</open_ie_slots>
   <partition_ie_slots>
      <total>12</total>
      <open>12</open>
      <partition> <!—list of objects -->
         <serial_number>ADICA0C0186103_LLA</serial_number>
         <name>unknown</name>
      </partition>
   </partition_ie_slots>
</system_ie_slots>
```

Figure 73 system_status

```
<system_status>
   <open_tickets>
      <severity_1>0</severity_1>
      <severity_2>0</severity_2>
      <severity_3>0</severity_3>
   </open_tickets>
   <open_messages>0</open_messages>
   <datetime>
      <datetm2>06:00 am Sun Aug 30 2015</datetm2>
      <datetm24>06:00 Sun Aug 30 2015</datetm24>
      <timezone>America/Los_Angeles</timezone>
   </datetime>
</system_status>
```

Figure 74 ticket

```
<ticket>
   <ticket_ref>n</ticket_ref>
   <request_id>data</request_id>
   <violator_fru_text>data</violator_fru_text>
   <violator_fru_ref>data</violator_fru_ref>
   <conclusion>text </conclusion>
   <open_at>yyyy-mm-dd hh:mm:ss</open_at>
   <closed_at> yyyy-mm-dd hh:mm:ss </closed_at>
   <closed_by>data </closed_by>
   <status_text>open|closed</status_text>
   <status_ref>data</status_ref>
   <alert_text>Severity 1|Severity 2|Severity 3</alert_text>
   <alert_ref>text</alert_ref>
   <details_id>text<details_id>
   <reporter_fru_text>data</reporter_fru_text>
   <reporter_fru_ref>data</reporter_fru_ref>
   <reporter_instance>data </reporter_instance>
   <violator_instance>data</violator_instance>
   <violator_parent_instance>data </violator_parent_instance>
   <event_ref>data</event_ref>
   <recommendation> data</recommendation>
   <text>data</text>
   <time>yyyy-mm-dd hh:mm:ss</time>
   <summary> textsummary>
   <attachment>text</attachment>
</ticket>
```

Figure 75 ticket_filter_list

```
<ticket_filter_list>
   <ticket_filter><!—list of filter objects, see Figure 17 filter-->
</ticket_filter_list>
```

Figure 76 type

```
<type>
   <index>0</index>
   <value>none</value>
</type
```

Figure 77 types

```
<types>
   <type/><!—list of type objects Figure 76 type-->
</types
```

Figure 78 timezones

```
<?xml version="1.0"?>
<timezones>
   <timezone/> <!—a list of timezone elements -->
</timezones>
```

Figure 79 user

```
<user>
   <name>admin</name>
   <role>admin</role>
   <lastlogin_time>yyyy-mm-dd hh:mm:ss</lastlogin_time>
</user>
```

Figure 80 users

```
<users>
   <user/><!-- a list of user objects, seeFigure 79 user -->
</users>
```

Figure 81 vgreasons

```
<vgreasons>
   <reason/><!—list of reason objects, see Figure 55 reason-->
</vgreasons>
```

Figure 82 vgstates

```
<vgstates>
   <state/><!—list of state objects, see Figure 68 state-->
</vgstates
```

Figure 83 volume

```
<volume>
   <barcode>000199</barcode>
   <a_state>auto-attachable</a_state>
   <p_state>available</p_state>
   <import_time>2015-10-09 16:57:20.12</import_time>
   <attach_time></attach_time>
   <export_time></export_time>
   <a_reason>none</a_reason>
   <f_blocksused>0</f_blocksused>
   <f_blocksfree>0</f_blocksfree>
   <f_blockssystem>0</f_blockssystem>
   <f_blocksize>0</f_blocksize>
   <f_blockstotal>0</f_blockstotal>
   <f_filecount>0</f_filecount>
   <dircount>0</dircount>
   <symlinkcount>0</symlinkcount>
   <partition_sn>ADICA0C0186103_LLB</partition_sn>
   <partition_name>unknown</partition_name>
   <library_sn>A0C0186103</library_sn>
   <volgroup_name>[discovered media]</volgroup_name>
   <location></location>
   <mount_status>unmounted</mount_status>
   <tape_type></tape_type>
   <physical_state>available</physical_state>
   <comment></comment>
   <library_type>Scalar i500</library_type>
   <vg_state></vg_state>
   <frag_rating>0</frag_rating>
   <reclam_rating>0</reclam_rating>
</volume>
```

Figure 84 volume_group

```
<volume_group>
   <index>10</index>
   <name>000004</name>
   <online>1</online>
   <reason>none</reason>
   <vg_state>empty</vg_state>
   <idx_vg_state>1</idx_vg_state>
   <media_count>0</media_count>
   <mounted>0</mounted>
   <files/>
   <total_mb/>
   <free_mb/>
   <used_mb/>
   <location/>
   <comment/>
   <low_free_threshold>80</low_free_threshold>
   <scratch_enabled>1</scratch_enabled>
   <self_reclamation>0</self_reclamation>
   <self_repair>0</self_repair>
   <empty_media>0</empty_media>
   <sequestered_media>0</sequestered_media>
   <offline_media>0</offline_media>
   <temporary>0</temporary>
</volume_group>
```

Figure 85 volume_groups

```
<volume_groups>
   <volume_group/><!-- a list of user objects, see Figure 84 volume_group ->
</voume_groups>
```

Figure 86 wwnames

```
<wwnames>
   <host1>21000024ff5038d0</host1>
   <host2>21000024ff5038d1</host2>
   <host3>21000024ff47197c</host3>
   <host4>21000024ff47197d</host4>
</wwnames>
```

12 Appendix B: Web Services Error Codes

Error messages are returned in XML format in the response message body. All error messages contain a <requestURI> node, an <error> node and a <ws_error> node.

- requestURI: The URI received by the web services.
- error: A text message describing the error encountered.
- ws_error: The web services error code.

Additional data may be included in the rror message. A listing of the web services error codes and the XML data returned with each are listed in the tables.

12.1 100 Database Connection Error

Web Services Error Code: 100

Response Status Code: 500 Internal Server Error

The web service failed to connect to either the altfs or vdb database. The error message indicates the parameters used by the web services to connect to the database.

```
<fault>
   <host> </host>
   <user> </user>
   <database> </database>
   <error>Unable to connect to PostgresSql Server</error>
   <ws_error>100</ws_error>
</fault>
```

12.2 101 Invalid Attribute

WS Error Code: 101

Response Status Code: 406 Not Acceptable

The attribute in the request message either does not exist for the object or is not a user updateable field. The element being updated is optional in the message. For a multiple-item update, the message identifies the item that contains the invalid field.

```
<fault>
   [<element>user1</element>]
   <column>roles</column>
   <error>Invalid column for update: roles</error>
   <ws_error>101</ws_error>
</fault>
```

12.3 102 Update Error

Web Services Error Code: 102

Response Status Code: 400 Bad Request

The update failed The <error> node will contain the item the failed. Depending on the type of update, this could be the barcode, ticket number or serial number. The error node will describe the error:

Ticket ticket# has already been closed

Partition is not online and attached

Volume barcode is currently in a copy process and may not be updated

Unable to update drive serial number; a volume is loaded

Invalid cur_state value for drive, must be attached or sequestered

Partition serial number has drives mounted. Partitions may not be be detached while drives are mounted

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <value></value>
   <error>error text</error>
   <ws_error>102</ws_error>
</fault>
```

12.4 107 Database Query Error

Web Services Error Code: 107

Response Status Code: 400 Bad Request

A database query failed. The error message will contain the ODBC/db error message returned from the query. In a multi-item update, the element indicates the item that the update failed on. For a multi-item update, if one item fails to update, no updates are made.

```
<fault>
   <status>Database Query Failed</status>
   <error></error>
   <ws_error>107</ws_error>
</fault>
```

12.5 110 Invalid Value

Web Services Error Code: 110

Response Status Code: 406 Not Acceptable

A data value given in the request is an invalid value or in the wrong format.

```
<fault>
   <requestURI></requestURI.
   <field></field>
   <value></value>
   <error>The operation failed due to an invalid value</error>
   <ws_error>110</ws_error>
</fault>
```

12.6 111 Default RAS Contact

Web Services Error Code: 111

Response Status Code: 406 Not Acceptable

The email address value given on the URI is the default contact and may not be deleted.

```
<fault>
   <value></value>
   <error>Unable to delete tech support contact</error>
   <ws_error>111</ws_error>
</fault>
```

12.7 114 Pending State

Web Services Error Code: 114

Response Status Code: 412 Precondition Failed

The updated element (partition, drive, media) is in a pending state and may not be updated. The error text message gives the element number that failed and the state.

```
<fault>
   <requestURI>/ScalarLTFS/… </requestURI>
   <element></element>
   <state> </state>
   <error>Element is in a pending state: state</error>
   <ws_error>114</ws_error>
</fault>
```

12.8 116 Filter Permissions Error

Web Services Error Code: 116

Response Status Code: 403 Forbidden

The filter that has been specified is not a public filter. Only the owner of the filter (the user that created the filter) may view, modify or delete it. The filter name is returned in the value node.

```
<fault>
   <requestURI>/ScalarLTFS/… </requestURI>
   <value>filtername</value>
   <error>Filter filtername is not a public filter.</error>
   <ws_error>116</ws_error>
</fault>
```

12.9 118 Item Not Found

Web Services Error Code: 118

Response Status Code: 404 Not Found

In a multi-item update, an item was not found in the database. The item the update failed on is given in the value node. Type of item in the error node depends on the type of update (i.e. Volume barcode was not found).

```
<fault>
<requestURI>/ScalarLTFS/…. </requestURI>
   <value></value>
   <error> type of item was not found</error>
   <ws_error>118</ws_error>
</fault>
```

12.10 119 Query Failure – System Error

Web Services Error Code: 119

Response Status Code: 500 Internal Server Error

A query failed due to either a table or a view not found in the database or the query the web service executed was invalid. The text error message is the error returned from the database. The table that was accessed may be given in the value node.

```
<fault>
   <requestURI>/ScalarLTFS/…. </requestURI>
   <value></value>
   <error>Database error</error>
   <ws_error>119</ws_error>
</fault>
```

12.11 121 Duplicate Key

Web Services Error Code: 121

Response Status Code: 400 Bad Request

The update failed due to the element already existing in the system.

```
<fault>
<requestURI>/ScalarLTFS/…. </requestURI>
   <element>></element>
   <error>Duplicate key; element already exists in the system</error>
   <ws_error>121</ws_error>
</fault>
```

12.12 122 Missing LDAP Parameter

Web Services Error Code: 122

Response Status Code: 400 Bad Request

The LDAP configuration is missing a value. The missing parameter will be specified in the element node and in the error message.

```
<fault>
<requestURI>/ScalarLTFS/…. </requestURI>
   <element></element>
   <error>Invalid LDAP configuration: element required</error>
   <ws_error>122</ws_error>
</fault>
```

12.13 125 Empty Source Volume Group

Web Services Error Code: 125

Response Status Code: 400 Bad Request

The volume group vgname is empty and invalid for the operation.

```
<fault>
   <requestURI>/ScalarLTFS/…. </requestURI>
   <error>Unable to process empty volume group vgname</error>
   <ws_error>125</ws_error>
</fault>
```

12.14 126 Invalid Volume Group

Web Services Error Code: 126

Response Status Code: 400 Bad Request

One of the volume groups is invalid for the operation. The error text will will specify the error. For example: Destination volume group: must be ready or empty.

```
<fault>
   <requestURI>/ScalarLTFS/…. </requestURI>
   <error> volume group: error</error>
   <ws_error>126</ws_error>
</fault>
```

12.15 127 Empty Volume Group Required

Web Services Error Code: 127

Response Status Code: 400 Bad Request

The operation requires scratch to be enabled.

```
<fault>
   <requestURI>/ScalarLTFS/…. </requestURI>
   <error> Operation requires the volume group to have scratch pool
enabled.</error>
   <ws_error>127</ws_error>
</fault>
```

12.16 128 Invalid Volume Group State

Web Services Error Code: 128

Response Status Code: 400 Bad Request

The volume group is in an invalid state for the operation. The error will give details on the expected state.

```
<fault>
   <requestURI>/ScalarLTFS/…. </requestURI>
   <error> Invalid volume group state; error.</error>
   <ws_error>128</ws_error>
</fault>
```

12.17 129 Invalid Volume

Web Services Error Code: 129

Response Status Code: 400 Bad Request

One of the volumes to be assigned is invalid.

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <item>barcode</item>
   <error>Invalid volume for assignment; barcode.</error>
   <ws_error>129</ws_error>
</fault>
```

12.18 130 LDAP Primary Server Configuration Error

Web Services Error Code: 131

Response Status Code: 400 Bad Request

The primary server configuration is invalid. The error text provides the error encountered. Error in the error message will be one of the following:

- Failed to connect to the server. Verify the server and port are correct.
- An invalid DN was given. Verify the format of the principal user.
- Unable to locate the user DN. Verify the user DN is a valid distinguished name and the principal user is allowed to connect to the server and read all user and group data paths.
- Unable to locate the Group DN. Verify the group DN value is a valid distinguished name.
- Unable to locate the Admin Group.
- Unable to connect to the server with StartTLS. Verify a valid certificate has been installed.
- A DNS lookup failed to find a host name for the server (required for ACLs).
- Unknown Error

```
<fault>
   <response_status>400</response_status>
   <requestURI>/ScalarLTFS/ldap/configuration?action=test</requestURI>
   <error>The configuration test failed. Error </error>
   <ws_error>130</ws_error>
</fault>
```

12.19 131 LDAP Alternate Server Configuration Error

Web Services Error Code: 131

Response Status Code: 400 Bad Request

The primary server configuration is invalid. The error text provides the error encountered. Error int the error message will be one of the following:

- Failed to connect to the server. Verify the server and port are correct.
- An invalid DN was given. Verify the format of the principal user.
- Unable to locate the user DN. Verify the user DN is a valid distinguished name and the principal user is allowed to connect to the server and read all user and group data paths.
- Unable to locate the Group DN. Verify the group DN value is a valid distinguished name.
- Unable to locate the Admin Group.
- Unable to connect to the server with StartTLS. Verify a valid certificate has been installed.
- A DNS lookup failed to find a host name for the server (required for ACLs).
- Unknown Error

```
<fault>
   <requestURI>/ScalarLTFS/ldap/configuration?action=test</requestURI>
   <error>The alternate server configuration test failed. Error </error>
   <ws_error>131</ws_error>
</falut>
```

12.20 132 LDAP User Test Failed

Web Services Error Code: 132

Response Status Code: 400 Bad Request

The user test failed verification. If the test fails due to a configuration error with the ldap values, the Error in the message will specify:

- the server configuration failed and the user could not be verified. Fix the server configuration before trying again.

The LDAP configuration should pass verification before a user test is performed. Fix the configuration errors and test the configuration before attempting a user test.

If the configuration is correct and the user test failed, the Error will specify details about the failure: :

- the user's credentials could not be verified
- the user was not found in the User DN
- the user is not in the admin or user group

```
<fault>
   <requestURI>/ScalarLTFS/ldap/configuration?action=testuser</requestURI>
   <error>The user test failed: Error. </error>
   <ws_error>132</ws_error>
</fault>
```

12.21 133 Volume Group Assignment

Web Services Error Code: 133

Response Status Code: 400 Bad Request

Invalid volume group assignement, error will detail the problem.

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <error>VG assignment failed: error.</error>
   <ws_error>133</ws_error>
</fault>
```

12.22 134 LDAP Primary and Alternate Server Configuration Error

Web Services Error Code: 131

Response Status Code: 400 Bad Request

A primary and alternate server were tested and both servers failed verification. The error text will provide the error each server failed with. Error in the error message will be one of the following:

- Failed to connect to the server. Verify the server and port are correct.
- An invalid DN was given. Verify the format of the principal user.
- Unable to locate the user DN. Verify the user DN is a valid distinguished name and the principal user is allowed to connect to the server and read all user and group data paths.
- Unable to locate the Group DN. Verify the group DN value is a valid distinguished name.
- Unable to locate the Admin Group.
- Unable to connect to the server with StartTLS. Verify a valid certificate has been installed.
- A DNS lookup failed to find a host name for the server (required for ACLs).
- Unknown Error

```
<fault>
   <requestURI>/ScalarLTFS/ldap/configuration?action=test</requestURI
   <error> The configuration test failed for both primary and alternate servers. The
primary server:. Error. The alternate server: Error </error>
   <ws_error>134</ws_error>
</falut>
```

12.23 135 Invalid ACL Server

Web Services Error Code: 135

Response Status Code: 400 Bad Request

The LDAP configuration is not valid for ACLs. This error can occur when the LDAP configuration is valid for remote authentications used for logins, but be invalid for ACLs. The samba configuration is failing with this server.

```
<fault>
   <requestURI>/ScalarLTFS/ldap/configuration</requestURI>
   <error>Server error: ACLs not enabled.</error>
   <ws_error>135</ws_error>
</fault>
```

12.24 136 Invalid Certificate File

Web Services Error Code: 136

Response Status Code: 400 Bad Request

The upload of a certificate failed. Openssl does not recognize the file as a valid certificate.

```
<fault>
   <requestURI>/ScalarLTFS/ldap/certificates</requestURI>
   <error>The file is not a valid certificate and could not be installed.</error>
   <ws_error>136</ws_error>
</fault>
```

12.25 149 Destination Volume Group Exists

Web Services Error Code: 149

Response Status Code: 400 Bad Request

The destination volume group vgname exists in the system and should be a new volume group.

```
<fault>
   <requestURI>/ScalarLTFS/ldap/certificates</requestURI>
   <error>The volume group vgname already exists in the system. A non-existent volume
group is required.</error>
   <ws_error>149</ws_error>
</fault>
```

12.26 150 Invalid Volume Group Deletion

Web Services Error Code: 150

Response Status Code: 400 Bad Request

The volume group may not be deleted it is not empty.

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <error>Non-empty volume groups may not be deletederror>
   <ws_error>150</ws_error>
</fault>
```

12.27 151 Invalid Volume Group Name

Web Services Error Code: 151

Response Status Code: 400 Bad Request

The volume group name contains unacceptable characters.

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <error>Invalid volume group name: names may not contain these characters
'@&amp;amp;#:*|?"\/ or less than, greater than signs, and may not be blank.</error>
   <ws_error>151</ws_error>
</fault>
```

12.28 152 Invalid Job Cancel

Web Services Error Code: 152

Response Status Code: 400 Bad Request

The job is not in a state to be canceled. The job id and details on the state are in the error text.

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <error>Job id may not be canceled: error <error>
   <ws_error>152</ws_error>
</fault>
```

12.29 153 Volumes Offline

Web Services Error Code: 153

Response Status Code: 400 Bad Request

The operation requires the volume group to contain online media.

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <error>Volume group vgname contains one or more volumes that are offline.</error>
   <ws_error>153</ws_error>
</fault>
```

12.30 200 Invalid XML

Web Services Error Code: 200

Response Status Code: 400 Bad Request

The XML in the request message body is invalid. The format error(s) detected by the XML reader is returned. The <xmlerror> nodes may be repeated.

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <xmlerror></xmlerror>
   <error>Invalid XML</error>
   <ws_error>200</ws_error>
</fault>
```

12.31 201 Invalid Tag

Web Services Error Code: 201

Response Status Code: 400 Bad Request

The web services received an invalid or unexpected node in the request message XML. The error text message may provide additional details of the error.

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <value> invalid XML tag</value>
   <error>Invalid XML tag: invalid tag</error>
   <ws_error>201</ws_error>
</fault>
```

12.32 202 Invalid Nodes for Request

Web Services Error Code: 202

Response Status Code: 400 Bad Request

The web services received invalid nodes in the request message data for this request. The error text will describe the error.

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <value>invalid value </value>
   <error>Invalid XML error text</error>
   <ws_error>202</ws_error>
</fault>
```

12.33 203 Invalid Root Node

Web Services Error Code: 203

Response Status Code: 400 Bad Request

The root node given in the request data is invalid. The error message text lists the root node expected for this request.

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <value>invalid value </value>
   <error>Invalid root node: [invalid value] text </error>
   <ws_error>203</ws_error>
</fault>
```

12.34 204 Invalid Attribute

Web Services Error Code: 204

Response Status Code: 400 Bad Request

The attribute given in the request message XML data is invalid. The attribute expected is given in the attribute_required node.

```
<fault>
   <attribute_required></attribute_required>
   <error>Invalid tag attribute for request</error>
   <ws_error>204</ws_error>
</fault>
```

12.35 205 Invalid Data Value

Web Services Error Code: 205

Response Status Code: 400 Bad Request

Invalid data values in the request message update. Generally this is an invalid data object, something unexpected in the data object.

```
<fault>
   <field></field>
   [<data></data>]
   <error>Invalid data: error</error>
</fault>
```

12.36 206 Invalid Query String

Web Services Error Code: 206

Response Status Code: 400 Bad Request

The query string on the URI is invalid. The query variables and values may be valid, but are not a valid combination.

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <value>resource</value>
   <error>Invalid query string for /resource</error>
   <ws_error>206</ws_error>
</fault>
```

12.37 207 Invalid Query Variable

Web Services Error Code: 207

Response Status Code: 400 Bad Request

The query variable is invalid for this resource.

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <value>resource</value>
   <error>Invalid query variable [variable] for resource</error>
   <ws_error>207</ws_error>
</fault>
```

12.38 208 Invalid Query Value

Web Services Error Code: 208

Response Status Code: 400 Bad Request

An invalid value was given for a query variable. This could be caused by an invalid value for this particular resource or method. For instance an action=email would be invalid on a GET /reports request, but valid on a POST /reports request.

```
<fault>
   <requestURI>/ScalarLTFS/…</requestURI>
   <value>variable name</value>
   <error>Invalid query value [value] for variable variable name</error>
   <ws_error>208</ws_error>
</fault>
```

12.39 209 Query String Required

Web Services Error Code: 209

Response Status Code: 400 Bad Request

A query string is required for this request.

```
<fault>
   <method></method>
   <request></request>
   <error>Query string required for request and method.</error>
   <ws_error>209</ws_error>
</fault>
```

12.40 210 Invalid Number of Parameters

Web Services Error Code: 210

Response Status Code: 400 Bad Request

The URI is invalid. The path has an invalid number of parameters for this service request and method.

```
<fault>
   <method></method>
   <request></request>
   <error>Invalid number of parameters</error>
   <ws_error>210</ws_error>
</fault>
```

12.41 211 Invalid Content Type

Web Services Error Code: 211

Response Status Code: 400 Bad Request

The content type in the request message header is incorrect for this resource and method. The value node will either be the URI parameter or query value that is invalid for the method.

```
<fault>
   <requestURI></requestURI>
   <value></value>
   <error>Invalid content type for [method] request</error>
   <ws_error>211</ws_error>
</fault>
```

12.42 212 Invalid Parameter

Web Services Error Code: 212

Response Status Code: 400 Bad Request

An invalid parameter was given for this resource and method. The <value> node will contain the invalid parameter.

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <value></value>
   <error>Invalid parameter [parameter] for method /resource.</error>
   <ws_error>212</ws_error>
</fault>
```

12.43 214 Query String Not Allowed

Web Services Error Code: 214

Response Status Code: 400 Bad Request

A query string given on the URI is not allowed for this resource and method.

```
<fault>
   <request></request>
   <parameter></parameter>
   <error>Query string not allowed with parameter(s)</error>
   <ws_error>214</ws_error>
</fault>
```

12.44 215 Script Error

Web Services Error Code: 215

Response Status Code: 500 Internal Service Error

A script used by the web services resulted in an error condition. The error message returns any data returned by the script. Check the web service log for the script call that caused the error.

The return code from the script is returned in the <error_code> node. If the script returns a script error message, it is returned in a <script_err> node.

Configuration File Restore returns the following script error codes and script error text:

- Missing or invalid parameters
- Save/Restore filename does not exist
- Failed to dump database
- Checksum failed
- Restore version does not match installed version
- Restore serial number does not match installed serial number
- File version info does not exist
- File system-serialnumber does not exist
- Active database sessions did not release

```
<fault>
   <request></request>
   [<script_err><script_err>]
   <error_code></error_code>
   <error>Script Failed: [script name]</error>
   <ws_error>215</ws_error>
</fault>
```

12.45 216 Missing Parameter

Web Services Error Code: 216

Response Status Code: 400 Bad Request

This resource and method requires an additional parameter on the URI.

```
<fault>
   <method></method>
   <request></request>
   <required></required>
   <error>Additional parameter required on the URI</error>
   <ws_error>216</ws_error>
</fault>
```

12.46 219 Invalid Value

Web Services Error Code: 219

Response Status Code: 400 Bad Request

The values given in the XML are invalid for this request. The <error> node will give the error and the <value> node will contain the invalid data value.

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <value></value>
   <error>Invalid value:</error>
   <ws_error>219</ws_error>
</fault>
```

12.47 221 Missing Data

Web Services Error Code: 221

Response Status Code: 400 Bad Request

Data required for this resource was not found in the request. The value node and error text message will provide details on data that is expected (i.e.: Data required for emailing reports: XML email list).

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <value></value>
   <error>Data required for </error>
   <ws_error>221</ws_error>
</fault>
```

12.48 222 Invalid Method

Web Services Error Code: 222

Response Status Code: 405 Method Not Allowed

The method type of the request message is invalid for this request. Valid methods are given in the text error message.

```
<fault>
   <method></method>
   <request></request>
   <error>Allowable methods: GET PUT POST DELETE </error>
   <ws_error>222</ws_error>
</fault>
```

12.49 223 Invalid Request

Web Services Error Code: 223

Response Status Code: 400 Bad Request

The request message did not include a valid resource for the first parameter on the URI. (/ScalarLTFS/invalidResource)

```
<fault>
   <requestURI></requestURI>
   <error>Invalid request</error>
   <ws_error>223</ws_error>
</fault>
```

12.50 224 Filter Not Found

Web Services Error Code: 224

Response Status Code: 400 Bad Request

The filtername included on the URI was not found for the request type (media or diagnostic tickets) and owner. If the owner of the filter was not included, the owner defaults to the current user. Note: Some applications may need to have the ':' urlencrypted to the ASCII %3A on the URI.

```
<fault>
   <requestURI>/ScalarLTFS/ </requestURI>
   <value>filter name</value>
   <error>Filter filter name was not found for /type and owner [user id] </error>
   <ws_error>224</ws_error>
</fault>
```

12.51 225 Permissions Error

Web Services Error Code: 225

Response Status Code: 403 Forbidden

The user is not authorized for this request.

Restrictions include the following:

- Passwords: The service user may only update the default admin password. Any other user may only update his own password.
- Admin-roles: May not execute clear to ship or reset to factory defaults.
- User-roles: generally restricted to GET requests. May update his own password and media (restricted).
- Service user: Generally restricted to GET requests and /system POST requests. May update the default admin password and media (restricted).

```
<fault>
   <method></method>
   <request></request>
   <role></role>
   <error>User unauthorized for this request and method type.</error>
   <ws_error>225</ws_error>
</fault>
```

12.52 227 Invalid Filter

Web Services Error Code: 227

Response Status Code: 400 Bad Request

The filter data is invalid. Required data is missing or incorrect. The text error message will give additional details on the error.

```
<fault>
   <requestURI>/ScalarLTFS/…</requestURI>
   <value></value>
   <error>Invalid filter: error>
   <ws_error>227</ws_error>
</fault>
```

12.53 228 Invalid Search

Web Services Error Code: 228

Response Status Code: 400 Not Acceptable

The search criteria for the filter is incorrect. The error message will give the invalid value and what is expected. expected.

```
<fault>
   <requestURI>/ScalarLTFS/…</requestURI>
   <value></value>
   <error>Invalid search [value]; </ error>
   <ws_error>227</ws_error>
</fault>
```

12.54 229 Invalid NTP Date Time Update

Web Services Error Code: 229

Response Status Code: 400 Bad Request

The date and time may not be updated when NTPD is running. Only the timezone may be updated on a datetime request with NTPD running. The invalid parameter (date, time, datetm) is given in the error xml.

```
<fault>
   <request>datetime</request>
   <parameter></parameter>
   <error> Invalid Parameter with NTP running</error>
   <ws_error>229</ws_error>
</fault>
```

12.55 230 NTP Servers Required

Web Services Error Code: 230

Response Status Code: 400 Bad Request

The server list was empty. At least one NTP server is required.

```
<fault>
   <method></method>
   <request></request>
   <error>NTP Server is required.</error>
   <ws_error>230</ws_error>
</fault>
```

12.56 231 Missing Ethernet Value

Web Services Error Code: 231

Response Status Code: 400 Bad Request

An update of an Ethernet port requires IP address, gateway and netmask values. One of the values was missing in the request. If multiple Ethernet ports were given in the update, the <devname> node specifies the invalid port.

```
<fault>
   <method></method>
   [<devname></devname>]
   <required></required>
   <error>All ethernet values required on update.</error>
   <ws_error>231</ws_error>
</fault>
```

12.57 232 Unmatched Ethernet Device

Web Services Error Code: 232

Response Status Code: 400 Bad Request

The request message gave the Ethernet port on the URI and in the XML data. The ethn values do not match.

```
<fault>
   <request></request>
   <parameter></parameter>
   <devname></devname>
   <error>Parameter does not match devname in xml.</error>
   <ws_error>232</ws_error>
</fault>
```

12.58 233 Invalid Host Name

Web Services Error Code:

Response Status Code: 406 Not Acceptable

The host name may not be null. The host name is not required for a network configuration update. If the host name node is included in the request message data, it may not have a null value.

```
<fault>
   <method></method>
   <request></request>
   <error>Hostname must be set</error>
   <ws_error>233</ws_error>
</fault>
```

12.59 234 Invalid Ethernet Value

Web Services Error Code: 234

Response Status Code: 406 Not Acceptable

Invalid ethernet device. Valid values: eth1-eth5.

```
<fault>
   <devname></devname>
   <error>Invalid ethernet device.</error>
   <ws_error>234</ws_error>
</fault>
```

12.60 236 Invalid Network Value

Web Services Error Code: 236

Response Status Code: 400 Not Acceptable

Invalid value given for the IP address, gateway, or netmask field. Field node indicates the invalid value type. PUT /network requests return the device name (eth1-eth5) that failed.

```
<fault>
   [<devname></devname>]
   <field></field>
   <value></value>
   <error>Invalid network value.</error>
   <ws_error>236</ws_error>
</fault>
```

12.61 238 Duplicate IP Address

Web Services Error Code: 238

Response Status Code: 406 Not Acceptable

Duplicate IP addresses were given for Ethernet ports.

```
<fault>
   <devname> </devname>
   <value></value>
   <error>Duplicate IP Address: eth1 n.n.n.n </error>
   <ws_error>238</ws_error></fault>
</fault>
```

12.62 240 Password Verification Failed

Web Services Error Code: 240

Response Status Code: 406 Not Acceptable

The current password in the request message does not match the current password in the database for this user.

```
<fault>
   <error>Password not verified.</error>
   <ws_error>240</ws_error>
</fault>
```

12.63 241 Invalid Password Update

Web Services Error Code: 241

Response Status Code: 400 Bad Request

The password request message did not include password and current_password XML nodes.

```
<fault>
   <field>Required: password, current_password</field>
   <error>Invalid data for password update.</error>
   <ws_error>241</ws_error>
</fault>
```

12.64 245 Invalid Feature ID

Web Services Error Code: 245

Response Status Code: 406 Not Acceptable

Invalid feature id specified in the request message data.

```
<fault>
   <request></request>
   <feature_id></feature_id>
   <error>Invalid feature id.</error>
   <ws_error>245</ws_error>
</fault>
```

12.65 250 Firmware Upgrade

Web Services Error Code: 250

Response Status Code: 500 Internal Server

A firmware upgrade was executed and the firmware version number remained the same. This could be caused by an error in the upgrade or by the user upgrading to the same version number. The current firmware version number will be given in the <value> node.

```
<fault>
   <requestURI>/ScalarLTFS/…. </requestURI>
   <value>current firmware version</value>
   <error>Firmware version unchanged.</error>
   <ws_error>250</ws_error>
</fault>
```

12.66 252 Drive Mounted

Web Services Error Code: 252

Response Status Code: 412 Precondition Failed

The request could not be processed because one or more drives have a tape loaded. Unload the drives and try again. The <error> node will contain information about the error (i.e. the network configuration may not be updated).

```
<fault>
   <requestURI>/ScalarLTFS/…. </requestURI>
   <error>Drive mounted: error text.</error>
   <ws_error>252</ws_error>
</fault>
```

12.67 253 I/O Ongoing

Web Services Error Code: 253

Response Status Code: 412 Precondition Failed

The request could not be processed due to I/O ongoing in the system. Wait until I/O is complete and try again.

```
<fault>
   <requestURI>/ScalarLTFS/….</requestURI>
   <error>System I/O is ongoing </error>
   <ws_error>253</ws_error>
</fault>
```

12.68 254 Filesystem Error

Web Services Error Code: 254

Response Status Code: 500 Internal Server

The process failed due to a filesystem error.

```
<fault>
   <requestURI>/ScalarLTFS/…. </requestURI>
   <error>Process failed due to a filesystem error.</error>
   <ws_error>254</ws_error>
</fault>
```

12.69 255 Invalid Email Address

Web Services Error Code: 255

Response Status Code: 400 Not Acceptable

The email address given in the request message is invalid. The value node is the email address that failed.

```
<fault>
   <requestURI>/ScalarLTFS/…. </requestURI>
   <value>email address</value>
   <error>Invalid e-mail address: email address</error>
   <ws_error>255</ws_error>
</fault>
```

12.70 256 Invalid Email Configuration

Web Services Error Code: 256

Response Status Code: 406 Not Acceptable

Email was unable to be sent due to the host or sender not being set in the email configuration table. The field node and text error message will indicate ‘hostname’ or ‘sender’.

```
<fault>
   <request></request>
   <field></field>
   <error>E-mail failed due to e-mail configuration: hostname or
   sender</error>
   <ws_error>256</ws_error>
</fault>
```

12.71 259 FS Restart Failed

Web Services Error Code: 259

Response Status Code: 500 Internal Server Error

SMB and/or NFS restart failed. Response error message will indicate ‘smb’, ‘nfs’ or ‘smb, nfs’.

```
<fault>
   <request></request>
   <fs></fs>
   <error>Restart failed: smb, nfs</error>
   <ws_error>256</ws_error>
</fault>
```

12.72 300 Invalid Script XML

Web Services Error Code: 300

Response Status Code: 500 Internal Server Error

The web services is using XML from a script or a file and the XML is invalid. The error(s) returned from the XML reader are included in the error response data. Multiple <xmlerror> nodes may be returned. .

```
<fault>
   <xmlerror></xmlerror>
   <error>Invalid XML from script</error>
   <ws_error>300</ws_error>
</fault>
```

12.73 301 Invalid Tag (Script)

Web Services Error Code: 301

Response Status Code: 500 Internal Server Error

The web services is using XML from a script or a file and an XML node tag is invalid.

```
<fault>
   <tag></tag>
   <error>Invalid XML tag from script</error>
   <ws_error>301</ws_error>
</fault>
```

12.74 352 File Upload Error

Web Services Error Code: 352

Response Status Code: 500 Internal Server Error

PHP detected an error while uploading a file. The upload error node is the PHP error code and corresponds to the following text error messages:

- 1: The uploaded file exceeds the upload_max_filesize directive in php.ini.
- 2: The uploaded file exceeds the MAX_FILE_SIZE directive that was specified in the HTML form.
- 3: The uploaded file was only partially uploaded.
- 4: No file was uploaded.
- 6: Missing a temporary folder.
- 7: Failed to write file to disk.
- 8: A PHP extension stopped the file upload.

```
<fault>
   <requestURI>/ScalarLTFS/ldap/certificates</requestURI>
   <upload_error>1</upload_error>
   <error>The uploaded file exceeds the upload_max_filesize directive in php.ini.</error>
   <ws_error>352</ws_error>
</fault>
```

12.75 353 Web Services Processing Error

Web Services Error Code: 353

Response Status Code: 500 Internal Server Error

The web service encountered an error during processing. The error is indicated by the error code node. The value node will contain the file name or script that caused the error. The text error message corresponds to the following error code values:

- 1: Copy file failed.
- 2: Open file failed.
- 3: Unexpected script output.
- 4: File not found.

```
<fault>
   <error_code>n</error_code>
   [<value></value>]
   <error><error>
   <ws_error>353</ws_error>
</fault>
```

12.76 357 File Exceeds Max

Web Services Error Code: 357

Response Status Code: 500 Internal Server

The file requested to be downloaded exceeds the maximum size allowed (determined by php.ini value post_max_size). The file size and the max file size are returned in the error message.

```
<fault>
   <value>n</value>
   <error>File exceeds PHP max n<error>
   <ws_error>353</ws_error>
</fault>
```

13 Appendix C: Filters

The XML data for adding or updating a filter provides the details of the filter. The search elements provide the filtering criteria to be applied on the applicable media or diagnostic ticket columns. The sort elements determine the order the resulting data set will be returned. The search and sort elements are applied in the order they are listed in the request data. All elements under the root filter node are optional, but at least one search or sort is required.

13.1 XML Request Data:

- type: Optional, but if given it must agree with the value provided in the URI. Valid values: media or tickets.
- filter_name: Optional, but if given, it must agree with the value provided in the URI. Value must be a string less than 24 characters in length, restricted to alphanumerics, dashes(‘-‘) and underscores (_). The filter name must be unique for the type. (A media filter and a diagnostic ticket filter may have the same name.)
- user_name: Optional, but if given, must be the current user’s user id.
- public: optional. Defaults to private. Boolean values (0/1) If set, other users may view the filter and apply the filter. If not set, the filter is private.
- negate_search: Optional. Boolean values (0/1) If set, the entire search list criteria is negated.
- search_list: Optional. If a search_list is not given with at least one search element, then a sort is required. Multiple search elements are combined with the bit operator (AND/OR) to create a query.
- search: there is no limit to the number of search elements that may be included in the search list.
    - column: Required. String column the condition will be applied against. The column must be valid for the type of filter. See below for the valid media and ticket column values. The column will be a text, integer or date type.
    - operator: Required. Case sensitive string conditional that must be valid for the type of column.
    - Integer operators: 'greater than', 'less than', 'greater than or equal to', 'less than or equal to', 'is exactly', 'is not'
    - Text operators: 'contains', 'does not contain', 'match regular expression', 'is exactly', 'is not', 'not match regular expression'
    - Date operators: 'before', 'after', 'is exactly', 'is not'
- Value: Required. Restrictions are based on the column type and in some cases, also the condition provided in the operator node.
    - Integer: restricted to digits 0-9.
    - Text: may not contain the characters :<> ‘, empty nodes are not allowed with contains, does not contain, regular expression match, regular expression not match.
    - Date: format yyyy-mm-dd [hh:mm] the time is optional for ‘is_exactly’ and ‘is_not’. Only the date yyy-mm-dd is valid with ‘before’ and ‘after’.

- Bit_operator: In the first search element under <search>, this may be a null node or omitted. It is required in all other search elements. Valid values: ‘AND’ or ‘OR’. This joins the current search element to the previous element.
- sort_list: Optional. If a sort_list is not given with at least one sort element, then a search is required.
    - sort: If multiple sorts are given, the sorting is done in the order received. There is no limit to the number of sort elements that may be provided.
    - column: required. String column the condition will be applied against. The column must be valid for the type of filter. See below for the valid media and ticket column values.
    - ascending: required. Boolean values(0/1). If 1, the sort is ascending. If 0, the sort is descending.

13.2 Column Values

The column values coorespond to the GUI report column headers, but use the column (node) names returned by /media and /rastickets. The column values are case sensitive. The type (integer, text, date) determines which conditional operators may be used with the column.

- Media (integer): f_filecount, f_blocksfree, f_blocksused
- Media (text): a_reason, a_state, barcode, comment, mount_status, library_sn, library_type, physical_state, partition_name, partition_sn, tape_type, volgroup_name
- Media (date): attach_time, export_time, import_time, metadata_time
- Tickets (integer): ticket_ref
- Tickets (text): alert_text, closed_by, conclusion, reporter_fru_text, status_text, summary, violator_instance, violator_fru_text, text,
- Tickets (date): closed_at, open_at,

14 Appendix D: Reports

The Component Information and Configuration Record Report XML and text formats are listed in the following sections. The reports are available in multiple formats. The web services returns it in the format indicated by the Accept header in the request message.

Text Formatted Reports

In a .txt report, the XML node tags are either section headers or data labels. Underscores ('_') are replaced with spaces. If in the XML report, an element is repeated within a section, in the text report, the element is differentiated by an extra blank line. For instance:

```
<Fan>
   <Name>Fan 1 RPM</Name>
   <Enabled>true</Enabled>
   <Value>1800 RPM</Value>
   <Status>Normal</Status>
   <Severity>Normal</Severity>
</Fan>
<Fan>
   <Name>Fan 2 RPM</Name>
   <Enabled>true</Enabled>
   <Value>3000 RPM</Value>
   <Status>Normal</Status>
   <Severity>Normal</Severity>
</Fan>
```

Becomes:

```
   Fans
    ====
    Name:  Fan 1 RPM
    Enabled: true
    Value: 1800 RPM
    Status: Normal
    Severity: Normal

    Name:  Fan 2 RPM
    Enabled: true
    Value: 2880 RPM
    Status: Normal
    Severity: Normal
```

CSV Formatted Reports

In a .csv report, the XML node tags are used as column headers. Underscores ('_') are replaced with spaces. Data is presented in the order listed in the XML.

14.1 Component Information Report

Fabric Hardware is optional based on the appliance, if not applicable, it is not included in the report.

14.1.1 XML Format

```
<?xml version="1.0"?>
<Component_Information date="mm/dd/yy hh:mm">
   <Appliance_Information>
      <Name>text </Name>
      <Serial_Number>text</Serial_Number>
      <Unit>n</Unit>
      <Value>text</Value>
      <Status>text</Status>
      <Severity>text</Severity>
      <Board_Product> text</Board_Product>
      <RAID_Bus_Controller>text</RAID_Bus_Controller>
   </Appliance_Information>
   <Hardware_Status>
      <Raid_Format_Version>n</Raid_Format_Version>
      <Raid_Array_Count>1</Raid_Array_Count>
      <Raid_Status>tex</Raid_Status>
      <Raid_Severity>text</Raid_Severity>
      <Mother_Board_Status>text</Mother_Board_Status>
      <Mother_Board_Severity>text</Mother_Board_Severity>
      <Network_Status>text</Network_Status>
      <Network_Severity>text</Network_Severity>
   </Hardware_Status>
   <Cluster_Raid>
      <Drives>
         <Drive>
            <Name>text</Name>
            <Location>rextLocation>
            <Value></Value>
            <Tray>n</Tray>
            <Slot>n</Slot>
            <Capacity>text</Capacity>
            <Status>text</Status>
            <Severity>text</Severity>
            <Monitoring>true/false</Monitoring>
         </Drive>
      </Drives>
      <Volumes>
         <Volume>
            <Name/>
            <Location>textLocation>
            <Value> </Value>
            <Capacity>text</Capacity>
            <Status>text</Status>
            <Severity>text</Severity>
            <Monitoring>true/false</Monitoring>
         </Volume>
      </Volumes>
      <Trays>
         <Tray>
```

```
            <Name>text</Name>
            <Tray_ID>n</Tray_ID>
            <Controller_Slots>n</Controller_Slots>
            <Drive_Slots>n</Drive_Slots>
            <Status> text </Status>
            <Severity> text l</Severity>
            <Monitoring>true/false</Monitoring>
         </Tray>
      </Trays>
      <Controllers>
         <Controller>
            <Name> text </Name>
            <Location> text Location>
            <Value> text</Value
            <Volume_Count>b</Volume_Count>
            <Status> text </Status>
            <Severity> text l</Severity>
            <Monitoring>true/false</Monitoring>
         </Controller>
      </Controllers>
      <Alarms/>
      </Cluster_Raid>
   <Mother_Board>
      <Sensors>
         <Sensor>
            <Name> text </Name>
            <Type> text </Type>
            <Value> text </Value>
            <Status> text l</Status>
            <Severity> text </Severity>
            <Monitoring>true/false</Monitoring>
         </Sensor>
. . .
      </Sensors>
      <Fans>
         <Fan>
            <Name> text </Name>
            <Value> text </Value>
            <Status> text </Status>
            <Severity> text </Severity>
            <Monitoring>true/false</Monitoring>
         </Fan>
         . . .
      </Fans>
      <Power_Supplies>
         <Power_Supply>
            <Name>text</Name>
            <Status> text </Status>
            <Severity>text</Severity>
            <Monitoring>true/false</Monitoring>
```

```
         </Power_Supply>
         . . .
      </Power_Supplies>
   </Mother_Board>
   <Fabric_Hardware>**
      <HBAs>
         <HBA>
            <Name>text</Name>
            <Type> text </Type>
            <Enabled>true|false</Enabled>
            <Status> text </Status>
            <Severity> text </Severity>
         </HBA>
      </HBAs>
      <HBA_Ports>
         <HBA_Port>
            <Name>FC Port 0</Name>
            <Type>FiberChannel</Type>
            <HBA_Name>Fibre Channel Controller 1</HBA_Name>
            <WWNN>1</WWNN>
            <Status>Unknown</Status>
            <Severity>Normal</Severity>
            <Monitoring>true/false</Monitoring>
         </HBA_Port>
         . . .
      </HBA_Ports>
   </Fabric_Hardware>
   <Network>
      <Ports>
         <Port>
            <Name>text</Name>
            <Speed>text</Speed>
            <Status>text</Status>
            <Severity>text</Severity>
         </Port>
         . . .
      </Ports>
   </Network>
</Component_Information>
```

14.1.2 **Text Format**

```
==========================================
Component Information mm/dd/yy mm:hh
==========================================

=========================
Appliance Information
=========================

Name:
Serial Number:
Unit:
Value:
Status:
Severity:
Monitoring:


=========================
Hardware Status
=========================

Raid Format Version:
Raid Array Count:
Raid Status:
Raid Severity:
Mother Board Status:
Mother Board Severity:
Network Status:
Network Severity:


=========================
Cluster Raid
=========================

Drives
======
Name:

Location:
Value:
Tray:
Slot:
Capacity:
Status:
Severity:
Monitoring:
```

```
Volumes
=======
Name:

Location:
Value:
Capacity:
Status:
Severity
Monitoring

Trays
=====
Name:

Tray_ID:
Controller_Slots:
Drive_Slots:
Status:
Severity:
Monitoring:

Controllers
===========
Name:
:
Location:
Value:
Volume_Count:
Status:
Severity:
Monitoring:

Alarms
======


=========================
Mother Board
=========================

Sensors
=======
Name:
Type:

Value:
Status:
Severity:
```

```
Monitoring:


Fans
====
Name:

Value:
Status:
Severity:
Monitoring:



Power Supplies
==============
Name:
Status:
Severity:
Monitoring:


=========================
Network
=========================

Ports
=====
Name:
Speed:
Status:
Severity:
```

14.2 Configuration Record Report

14.2.1 XML Format

```
<?xml version="1.0"?>
<Configuration_Record date="mm/dd/yy hh:mm">
   <Host_Information>
      <Product_Model>text</Product_Model>
      <Base_OS_Version>text</Base_OS_Version>
      <Serial_Number>text</Serial_Number>
      <Host_Name>text</Host_Name>
      <Gateway_Address>text</Gateway_Address>
      <Domain_Name> text Domain_Name>
      <DNS_Address> text </DNS_Address>
   </Host_Information>
   <Contact_Information>
      <First_Name> text </First_Name>
      <Last_Name> text </Last_Name>
      <Phone_Number> text </Phone_Number>
      <Email_Address> text </Email_Address>
      <Company_Name> text</Company_Name>
      <System_Description> text</System_Description>
   </Contact_Information>
   <Email_Configuration>
      <SMTP_Server>text</SMTP_Server>
      <Senders_Email>text</Senders_Email>
      <Login_Account_Name/>
   </Email_Configuration>
   <Remote_Authentication>
      <Login_Enabled>True/False</Login_Enabled>
      <ACLs_Enabled>True/False</ACLs_Enabled>
   </Remote_Authentication>
   <Partitions>
      <Partition>
         <Partition_SN>text</Partition_SN>
         <Name>text</Name>
         <Vendor>text</Vendor>
         <Product_ID>text</Product_ID>
         <Firmware_Revision>text</Firmware_Revision>
         <Hash_State>n</Hash_State>
         <Ready_State>online|offline</Ready_State>
         <Connection_State>online|offline</Connection_State>
         <Current_State>text</Current_State>
         <Import_Slots>n</Import_Slots>
         <Storage_Slots>n</Storage_Slots>
         <Drive_Count>n</Drive_Count>
   <Drives>
      <Drive>
         <Product_ID>text</Product_ID>
         <Vendor>text</Vendor>
         <Product_SN>ext</Product_SN>
```

```
      <Barcode>text</Barcode>
      <Current_State>text</Current_State>
      <ASC>n</ASC>
      <ASCQ>n</ASCQ>
   </Drive>
   . . .
</Drives>
   </Partition>
   . . .
</Partitions>
<Volumes>
   <Volume>
      <Barcode>text</Barcode>
      <Volume_Group>name</Volume_Group>
      <Type>LTO-5|LTO-6</Type>
      <Attached_State>text</Attached_State>
      <Physical_State>text</Physical_State>
      <VG_State>text<VG_State>
      <Import_Time> yyyy-mm-dd hh:ss </Import_Time>
      <Attach_Time>yyyy-mm-dd hh:ss</Attach_Time>
      <Export_Time/>
   </Volume>
   . . .
</Volumes>
<Volume_Groups>
   <Volume_Group>
      <Volume_Group>name</Volume_Group>
      <State>text</State>
      <Low_Free_Threshold>n%</Low_Free_Threshold>
      <Scratch_Enabled>true/false</Scratch_Enabled>
      <Location>text</Location>
      <Media_Count>n</Media_Count>
   </Volume_Group>
   …..
</Volume_Groups>
<License_Information>
   <Licenses>
      <License>
         <License_Key>text</License_Key>
         <Date>yyyy-mm-dd</Date>
         <Feature>text</Feature>
         <Quantity>n</Quantity>
      </License>
      . . .
   </Licenses>
   <License_Usage_Counts>
      <Feature>text</Feature>
      <Feature_ID>n</Feature_ID>
      <Max>n</Max>
      <Used>n</Used>
```

```
         <Free>n</Free>
      </License_Usage_Counts>
   </License_Information>
   <Users>
      <User>
         <Name>text</Name>
         <Role>admin|user</Role>
         <Last_Login>yyyy-mm-dd hh:mm</Last_Login>
      </User>
      . . .
   </Users>
   <Network>
      <Interface>
         <Interface>eth1</Interface>
         <IP_Address>n.n.n.n</IP_Address>
         <Netmask>n.n.n.n</Netmask>
         <Gateway>n.n.n.n</Gateway>
      </Interface>
      . . .
   </Network>
   <Notifications>
      <Notification>
         <Email_Address>text</Email_Address>
         <Name>text</Name>
         <Phone_Number>text</Phone_Number>
         <Notification_Level>Severity n</Notification_Level>
         <Diagnostic_Tickets_Enabled>true|false</Diagnostic_Tickets_Enabled>
         <Messages_Enabled>true|false</Messages_Enabled>
      </Notification>
      . . .
   </Notifications>

</Configuration_Record>
```

14.2.2 **Text Format**

```
==========================================
Configuration Record mm/dd/yy hh:mm
==========================================

========================
Host Information
========================

Product Model:
Base OS Version:
Serial Number:
Host Name:
Gateway Address:
Domain Name:
DNS Address:


========================
Contact Information
========================

First Name:
Last Name:
Phone Number:
Email Address:
Company Name:
System Description:


========================
Email Configuration
========================

SMTP Server:
Senders Email:
Login Account Name:

========================
Remote Authentication
========================

Login Enabled True/False
ACLs Enabled:True/False
Partitions
========================

Partition SN:
```

```
Name:
Vendor:
Product ID:
Firmware Revision:
Hash State:
Ready State:
Connection State:
Current State:
Import Slots:
Storage Slots:
Drive Count:


Drives
======
Product ID:
Vendor:
Product SN:
Barcode:
Current State:
ASC:
ASCQ:



=========================
Volumes
=========================

Barcode:
Volume Group
Type:
Attached State:
Physical State:
VG State
Import Time:
Attach Time:
Export Time:


=========================
Volume Groups
=========================

Volume Group:
State:
Low Free Threshold:
Scratch Enabled:
Location:
Media Count:
```

```
=========================
License Information
=========================

Licenses
========
License Key:
Date:
Feature:
Quantity:

License Usage Counts
====================
Feature:
Feature ID:
Max:
Used:
Free:


=========================
Users
=========================

Name:
Role:
Last Login:


=========================
Network
=========================

Interface:
IP Address:
Netmask:
Gateway:


=========================
Notifications
=========================

Email Address:
Name:
Phone Number:
Notification Level:
Diagnostic Tickets Enabled:
Messages Enabled:
```

14.3 Diagnostic Tickets

If columns were limited or re-ordered in the request message, only the columns requested would be returned and in the requested order. The following sections detail the default Diagnostic Ticket Report.

14.3.1 XML Format

```
<?xml version="1.0"?>
<Diagnostic_Ticket_Report date="mm/dd/yy hh:mm:ss TMZ">
   <rpt_ticket>
      <Ticket>n</Ticket>
      <State>open|closed</State>
      <Opened>yyyy-mm-dd hh:mm:ss</Opened>
      <Closed>2013-10-11 16:32:18</Closed>
      <Severity>Severity 1 | Severity 2 | Severity 3</Severity>
      <Summary>data</Summary>
      <Reporter_Component>data</Reporter_Component>
      <Component>data</Component>
      <Component_Instance>data</Component_Instance>
      <Closed_By>data</Closed_By>
      <Details>data</Details>
      <Comment>data</Comment>
   </rpt_ticket>
   <rpt_ticket>
   . . .
   <rpt_ticket>>
   . . .
</Diagnostic_Ticket_Report>
```

14.3.2 CSV Format

A header line followed by lines of comma delineated data. A line of data is included for each diagnostic ticket. The default (all columns included) header is as follows:

```
Ticket,State,Opened,Closed,Severity,Summary,Reporter
Component,Component,Component Instance,Closed By,CommentMedia
```

14.4 Media

If columns were limited or re-ordered in the request message, only the columns requested would be returned and in the requested order. The following sections detail the default Media Report.

14.4.1 XML Format

```
<?xml version="1.0"?>
<Media_Report date="mm/dd/yy hh:mm:ss TMZ">
   <rpt_volume>
      <Barcode>data</Barcode>
      <Volume_Group>name</VolumeGroup>
      <Status>mounted|unmounted</Status>
      <State>data</State>
      <Physical_State>available|offline|vaulted</Physical_State>
      <VG_State>text</VG_State>
      <Reason>data</Reason>
      <Partition_SN>data</Partition_SN>
      <Partition_Name></Partition_Name>
      <Comment>data</Comment>
      <Location>text</Location>
      <Type>LTO-5| LTO-6</Type>
      <Library>data</Library>
      <Library_SN>data</Library_SN>
      <Reclamation_Rating>n</Reclamation_Rating>
      <Fragmentation_Rating>n</Fragmentation_Rating>
      <Imported>yyyy-mm-dd hh:mm</Imported>
      <Attached>yyyy-mm-dd hh:mm</Attached>
      <Exported>yyyy-mm-dd hh:mm</Exported>
      <Metadata_Expiration> yyyy-mm-dd hh:mm</Metadata_Expiration>
      <Files>n</Files>
      <Used>data</Used>
      <Free>data</Free>
   </rpt_volume>
   <rpt_volume>
   . . .
   </rpt_volume>
   . . .
</Media_Report>
```

14.4.2 CSV Format

A header line followed by lines of comma delineated data. A line of data is included for each volume. The default (all columns included) header is as follows:

```
Barcode,Volume Group ,Status,State,VG State,Physica State,Reason,
Partition SN, Partition Name, Comment, Location,Type,Library,Library
SN, Reclamation Rating, Fragmentation
Rating,Imported,Attached,Exported,Metadata
Expiration,Fiiles,Used,Free
```

14.5 Media Count

The following sections detail the Media Count Report.

14.5.1 XML Format

```
<?xml version="1.0"?>
<Media_Count_Report date="10/12/15 15:11">
   <media_count>
      <Volume_State>Attached</Volume_State>
      <Total_Media>n</Total_Media>
      <Media_with_Data>n</Media_with_Data>
      <Empty_Media>n</Empty_Media>
      <Unknown_Media>n</Unknown_Media>
   </media_count>
   <media_count>
      <Volume_State> Auto_Attachable</Volume_State>
      <Total_Media>n</Total_Media>
      <Media_with_Data>n</Media_with_Data>
      <Empty_Media>n</Empty_Media>
      <Unknown_Media>n</Unknown_Media>
   </media_count>
   <media_count>
      <Volume_State> Sequestered </Volume_State>
      <Total_Media>n</Total_Media>
      <Media_with_Data>n</Media_with_Data>
      <Empty_Media>n</Empty_Media>
      <Unknown_Media>n</Unknown_Media>
   </media_count>
   <media_count>
      <Volume_State>Vaulted</Volume_State>
      <Total_Media>n</Total_Media>
      <Media_with_Data>n</Media_with_Data>
      <Empty_Media>n</Empty_Media>
      <Unknown_Media>n</Unknown_Media>
   </media_count>
</Media_Count_Report
```

14.5.2 CSV Format

Summarized the volumes by state. A summary record is included for attached, auto-attachable, sequestered and vaulted media.

```
   Volume State, Total Media,Media with Data,Empty Media,Unknown Media
```

14.6 Message Summary

The following sections detail the Message Summary Report.

14.6.1 XML Format

```
<?xml version="1.0"?>
<Message_Summary_Report date="mm/dd/yy hh:mm">
   <message_summary>
      <Message_ID>M105</Message_ID>
      <Description>summary description</Description>
      <Count>n</Count>
      <Last_Occurrence>yyyyy-mm-dd hh:mm</Last_Occurrence>
   </message_summary>
   …
</Message_Summary_Report>
. . .
```

14.6.2 CSV Format

A header line followed by records of comma delineated data. A record is included for each message type . The default (all columns included) header is as follows:

```
Message ID,Summary,Count,Last Occurrence
```

14.7 Volume Group Capacity Report

The following sections detail the Volume Group Capacity Report.

14.7.1 XML Format

```
<?xml version=”1.0”?>
<Volume_Group_Capacity_Report date="mm/dd/yy hh:mm:ss TMZ">
   <VG_Capacity>
      <vg_name>name</vg_name>
      <media>n</media>
      <total_mb>n</total_mb>
      <used_mb>n<used_mb>
      <free_mb>n</free_mb>
   </VG_Capacity>
   ….
</Volume_Group_Capacity_Report>
```

14.7.2 CSV Format

A header line followed by lines of comma delineated data. A record is included for each volume group.. The header is as follows:

```
Volume Group Name,Media,Total Capacity(MB),Used(MB),Available(MB)
```