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8. Methods

8.1. DCIM_SwitchConnectionService.
     ServerPortConnectionRefresh()

9. Use Cases

10. CIM Elements

11. Privilege and License Requirement
1. **Scope**

The Switch Connection Profile describes the properties of every physical network port in the system. And there is a configuration service used to refresh the network port.

2. **Normative References**

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

- DMTF DSP0131, Profile Registration Profile 1.0.0
- DMTF DSP0226, Web Services for Management (WS-Management) Specification 1.1.0
- DMTF DSP0227, WS-Management CIM Binding Specification 1.0.0
- Dell WSMAN Licenses and Privileges 1.0
- Unified Modeling Language (UML) from the Open Management Group (OMG), http://www.uml.org
- Related Managed Object Format (MOF) files:
  - DCIM_SwitchConnectionView.mof
  - DCIM_SwitchConnectionService.mof
  Dell Tech Center MOF Library: http://www.delltechcenter.com/page/DCIM.Library.MOF.

3. **Terms and Definitions**

For the purposes of this document, the following terms and definitions apply.

**Conditional** – Indicates requirements to be followed strictly in order to conform to the document when the specified conditions are met.

**Mandatory** – Indicates requirements to be followed strictly in order to conform to the document and from which no deviation is permitted.

**May**
Indicates a course of action permissible within the limits of the document.

**Optional**
Indicates a course of action permissible within the limits of the document.

**Can**
Used for statements of possibility and capability, whether material, physical, or causal.

**Cannot**
Used for statements of possibility and capability, whether material, physical, or causal.

**Need not**
Indicates a course of action permissible within the limits of the document.
3.6. Referencing profile
Indicates a profile that owns the definition of this class and can include a reference to this profile in its "Related Profiles" table.

3.7. Shall
Indicates requirements to be followed strictly in order to conform to the document and from which no deviation is permitted.

3.8. Shall not
Indicates requirements to be followed strictly in order to conform to the document and from which no deviation is permitted.

3.9. Should
Indicates that among several possibilities, one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required.

3.10. Should not
Indicates that a certain possibility or course of action is deprecated but not prohibited.

3.11. FQDD
Fully Qualified Device Descriptor is used to identify a particular component in a system.

3.12. Interop Namespace root/interop
Interop Namespace is where instrumentation instantiates classes to advertise its capabilities for client discovery.

3.13. Implementation Namespace: root/dcim
Implementation Namespace is where instrumentation instantiates classes relevant to executing core management tasks.

3.14. ENUMERATE
Refers to WS-MAN ENUMERATE operation as described in Section 8.2 of DSP0226_V1.1 and Section 9.1 of DSP0227_V1.0.

3.15. GET
Refers to WS-MAN GET operation as defined in Section 7.3 of DSP00226_V1.1 and Section 7.1 of DSP0227_V1.0.

3.16. Cachecade
The cachecade feature makes use of high-performing solid state disks (SSDs) as a secondary tier of cache to provide faster reads to maximize transactional I/O performance.

4. Symbols and Abbreviated Terms
4.1. CIM
Common Information Model
4.2. iDRAC
Integrated Dell Remote Access Controller – management controller for blades and monolithic servers

4.3. CMC
Chassis Management Controller – management controller for the modular chassis

4.4. EMM
Enclosure Management Module

5. Synopsis
Profile Name: SwitchConnection Profile
Version: 4.0.0.
Organization: Dell
CIM Schema Version: 2.41Final
Central Class: DCIM_SwitchConnectionView
Scoping Class: CIM_ComputerSystem

The Dell Switch Connection Profile is component profile that contains the Dell specific implementation and requirements of switch connection view.

Table 1 identifies profiles that are related to this profile.

<table>
<thead>
<tr>
<th>Profile Name</th>
<th>Organization</th>
<th>Version</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile Registration</td>
<td>DCIM</td>
<td>1.0</td>
<td>Reference</td>
</tr>
</tbody>
</table>
6. Description

The Dell Switch Connection profile describes the physical switch connection port information is represented by an instance of DCIM_SwitchConnectionView.

![Class Diagram](image)

Figure 1. SwitchConnection Profile: Class Diagram

7. Implementation Description

This section describes the requirements and guidelines for implementing Switch Connection profile. Table 2 shows the instances of CIM Elements for this profile. Instances of the CIM Elements shall be implemented as described in Table 2.

<table>
<thead>
<tr>
<th>Element Name</th>
<th>Requirement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DCIM_SwitchConnectionService</td>
<td>Mandatory</td>
<td>See section 7.3</td>
</tr>
<tr>
<td>DCIM_SwitchConnectionView</td>
<td>Mandatory</td>
<td>See section 7.1.1</td>
</tr>
<tr>
<td>Indications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None defined in this profile</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7.1. View Classes

This section describes the implementation for the DCIM_SwitchConnectionView class. This class shall be instantiated in the Implementation Namespace: root/dcim.

7.1.1. Resource URIs for WinRM®

The class Resource URI shall be "http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_SwitchConnectionView?__cimnamespace=root/dcim"

The key property shall be the InstanceID.
The instance Resource URI for DCIM_SwitchConnectionView instance shall be:
"http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_SwitchConnectionView?__cimnamespace=root/dcim+InstanceID=<FQDD>"

7.1.2. Operations
The following table lists the implemented operations on DCIM_SwitchConnectionView.

<table>
<thead>
<tr>
<th>Operation Name</th>
<th>Requirements</th>
<th>Required Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get</td>
<td>Mandatory</td>
<td>Instance URI</td>
</tr>
<tr>
<td>Enumerate</td>
<td>Mandatory</td>
<td>Class URI</td>
</tr>
</tbody>
</table>

7.1.3. Class Properties
The following table lists the implemented properties for DCIM_SwitchConnectionView instance representing the every physical port in a system. The “Requirements” column shall denote whether the property is implemented (for requirement definitions, see section 3). The “Additional Requirements” column shall denote either possible values for the property, or requirements on the value formulation.

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Requirement</th>
<th>Type</th>
<th>Additional Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>InstanceID</td>
<td>Mandatory</td>
<td>string</td>
<td>The property shall have the value of the FQDD.</td>
</tr>
<tr>
<td>FQDD</td>
<td>Mandatory</td>
<td>string</td>
<td>The property shall represent Fully Qualified Device Description (FQDD.)</td>
</tr>
<tr>
<td>SwitchConnectionID</td>
<td>Mandatory</td>
<td>string</td>
<td>SwitchConnectionID is the Chassis ID information extracted from the switch LLDP packet</td>
</tr>
<tr>
<td>SwitchPortConnectionID</td>
<td>Mandatory</td>
<td>string</td>
<td>SwitchPortConnectionID gives the Port description</td>
</tr>
<tr>
<td>StaleData</td>
<td>Mandatory</td>
<td>Uint16</td>
<td>Indicating whether the information in this instance is stale or not</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• 0 – Not stale.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• 1 – Stale.</td>
</tr>
</tbody>
</table>

7.2. DCIM_SwitchConnectionService
This section describes the implementation for the DCIM_SwitchConnectionService class.
This class shall be instantiated in the Implementation Namespace: root/dcim.

7.2.1. Resource URIs for WinRM®
The class Resource URI shall be "http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_SwitchConnectionService?__cimnamespace=root/dcim"
The key properties shall be the SystemCreationClassName, CreationClassName, SystemName, and Name.
The instance Resource URI for DCIM_SwitchConnectionService instance shall be:
"http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_SwitchConnectionService?__cimnamespace=root/dcim+SystemCreationClassName=DCIM_ComputerSystem+CreationClassName=DCIM_SwitchConnectionService+SystemName=DCIM:ComputerSystem+Name=DCIM: SwitchConnectionService"

7.2.2. Operations
The following table de lists tails the implemented operations on DCIM_SwitchConnectionService.
Table 5. **DCIM_SwitchConnectionService – Operations**

<table>
<thead>
<tr>
<th>Operation Name</th>
<th>Requirements</th>
<th>Required Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get</td>
<td>Mandatory</td>
<td>Instance URI</td>
</tr>
<tr>
<td>Enumerate</td>
<td>Mandatory</td>
<td>Class URI</td>
</tr>
<tr>
<td>Invoke</td>
<td>Mandatory</td>
<td>Instance URI</td>
</tr>
</tbody>
</table>

7.2.3. **Class Properties**

The following table lists the implemented properties for DCIM_SwitchConnectionService instance representing a storage service in a system. The “Requirements” column shall denote whether the property is implemented (for requirement definitions, see section 3). The “Additional Requirements” column shall denote either possible values for the property, or requirements on the value formulation.

**Table 6. Class: DCIM_SwitchConnectionService**

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Requirement</th>
<th>Type</th>
<th>Additional Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>SystemCreationClassName</td>
<td>Mandatory</td>
<td>string</td>
<td>The property value shall be “DCIM_ComputerSystem”.</td>
</tr>
<tr>
<td>CreationClassName</td>
<td>Mandatory</td>
<td>string</td>
<td>The property value shall be “DCIM_SwitchConnectionService”.</td>
</tr>
<tr>
<td>SystemName</td>
<td>Mandatory</td>
<td>string</td>
<td>The property value shall be “DCIM:ComputerSystem”.</td>
</tr>
<tr>
<td>Name</td>
<td>Mandatory</td>
<td>string</td>
<td>The property value shall be “DCIM:SwitchConnectionService”.</td>
</tr>
<tr>
<td>ElementName</td>
<td>Mandatory</td>
<td>string</td>
<td>The property value shall be “DRAC Service”.</td>
</tr>
</tbody>
</table>

8. **Methods**

This section details the requirements for supporting intrinsic operations and extrinsic methods for the CIM elements defined by this profile.

8.1. **DCIM_SwitchConnectionService.**

**ServerPortConnectionRefresh()**

The ServerPortConnectionRefresh() method is used to refresh the network data.

**Table 7. ServerPortConnectionRefresh Method: Return Code Values**

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Request was successfully executed.</td>
</tr>
<tr>
<td>2</td>
<td>Error occurred</td>
</tr>
</tbody>
</table>

**Table 8. ServerPortConnectionRefresh Method: Standard Messages**

<table>
<thead>
<tr>
<th>MessageID (OUT parameter)</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAC089</td>
<td>The refresh operation of switch connection and switch port connection information of all network ports is completed successfully.</td>
</tr>
<tr>
<td>RAC090</td>
<td>Unable to complete the switch connection and switch port connection data refresh operation because of internal error.</td>
</tr>
</tbody>
</table>

**Table 9. ServerPortConnectionRefresh Method: Parameters**

<table>
<thead>
<tr>
<th>Qualifiers</th>
<th>Name</th>
<th>Type</th>
<th>Description/Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUT</td>
<td>MessageID</td>
<td>String</td>
<td>Error MessageID is returned If the method fails to execute.</td>
</tr>
<tr>
<td>OUT</td>
<td>Message</td>
<td>String</td>
<td>Error Message in English corresponding to MessageID is returned If the method fails to execute.</td>
</tr>
<tr>
<td>Qualifiers</td>
<td>Name</td>
<td>Type</td>
<td>Description/Values</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------</td>
<td>------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>OUT</td>
<td>MessageArguments[]</td>
<td>string</td>
<td>Substitution variables for dynamic error messages</td>
</tr>
</tbody>
</table>

9.  Use Cases
See Lifecycle Controller (LC) Integration Best Practices Guide.

10.  CIM Elements
No additional details specified.

11.  Privilege and License Requirement
The following table lists the privilege and license requirements for the listed operations. For the detailed explanation of the privileges and licenses, refer to the Dell WSMAN Licenses and Privileges specification.

**Table 10.  Privilege and License Requirements**

<table>
<thead>
<tr>
<th>Class and Method</th>
<th>Operation</th>
<th>User Privilege Required</th>
<th>License Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCIM_SwitchConnectionView</td>
<td>ENUMERATE, GET</td>
<td>Login</td>
<td>None</td>
</tr>
<tr>
<td>DCIM_SwitchConnectionService.ServerPortConnectionRefresh()</td>
<td>INVOKE</td>
<td>Login, System Control</td>
<td>LM_REMOTE_CONFIGURATION</td>
</tr>
</tbody>
</table>