

System Info Profile

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System Info Profile

1 Scope

The DCIM System Info Profile describes the properties and interfaces for executing system management tasks related to the management of the host system. The profile standardizes and aggregates the description for the platform's basic properties into a system view representation and provides static methodology for the clients to query the system views without substantial traversal of the model.

158

2 Normative References

Refer to the following documents for more information.

NOTE: For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

- DMTF DSP1033, *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 Lifecycle Controller Best Practices Guide v1.0*, <link TBD>
- *Dell WSMAN Licenses and Privileges 1.0*
- *Dell LC XML Schema Guide*
- Dell Tech Center MOF Library:

<http://www.delltechcenter.com/page/DCIM.Library.MOF>

- Related Managed Object Format (MOF) files:
 - DCIM_SystemView.mof
 - DCIM_SystemAttribute.mof
 - DCIM_SystemEnumeration.mof
 - DCIM_SystemInteger.mof
 - DCIM_SystemString.mof
 - DCIM_SystemManagementService.mof
 - DCIM_LCElementConformsToProfile.mof
 - DCIM_LCRegisteredProfile.mof

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3 Terms and Definitions

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

3.1

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

3.2

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

3.3

may - Indicates a course of action permissible within the limits of the document.

3.4

optional– Indicates a course of action permissible within the limits of the document.

3.5

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.

3.6

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

3.7

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

3.8

Interop Namespace: root/interop

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

3.9

Implementation Namespace: root/dcim

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

3.10

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

3.11

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

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 Manager Controller – management controller for the modular chassis

4.4

WBEM - Web-Based Enterprise Management

4.5

PFC - Power Factor Corrector – controls the power drawn from the power supply.

5 Synopsis

Profile Name: System Info

Version: 1.4.0

Organization: Dell

CIM Schema Version: 2.26 Experimental

Dell Schema Version: 1.0.0

Interop Namespace: root/interop: root/interop

Implementation Namespace: root/dcim: root/dcim

Central Class: DCIM_SystemView

Scoping Class: DCIM_ComputerSystem

The Dell System Info Profile is a component profile that contains the Dell specific implementation requirements for system view.

DCIM_SystemView shall be the Central Class.

Table 1 identifies profiles that are related to this profile.

Table 1 – Related Profiles

Profile Name	Organization	Version	Relationship
Profile Registration Profile	DMTF	1.0	References

6 Description

The Dell System Info Profile describes platform's basic properties. The host system's information is represented by an instance of DCIM_SystemView class.

Figure 1 details the class diagram of the Dell System Info Profile.

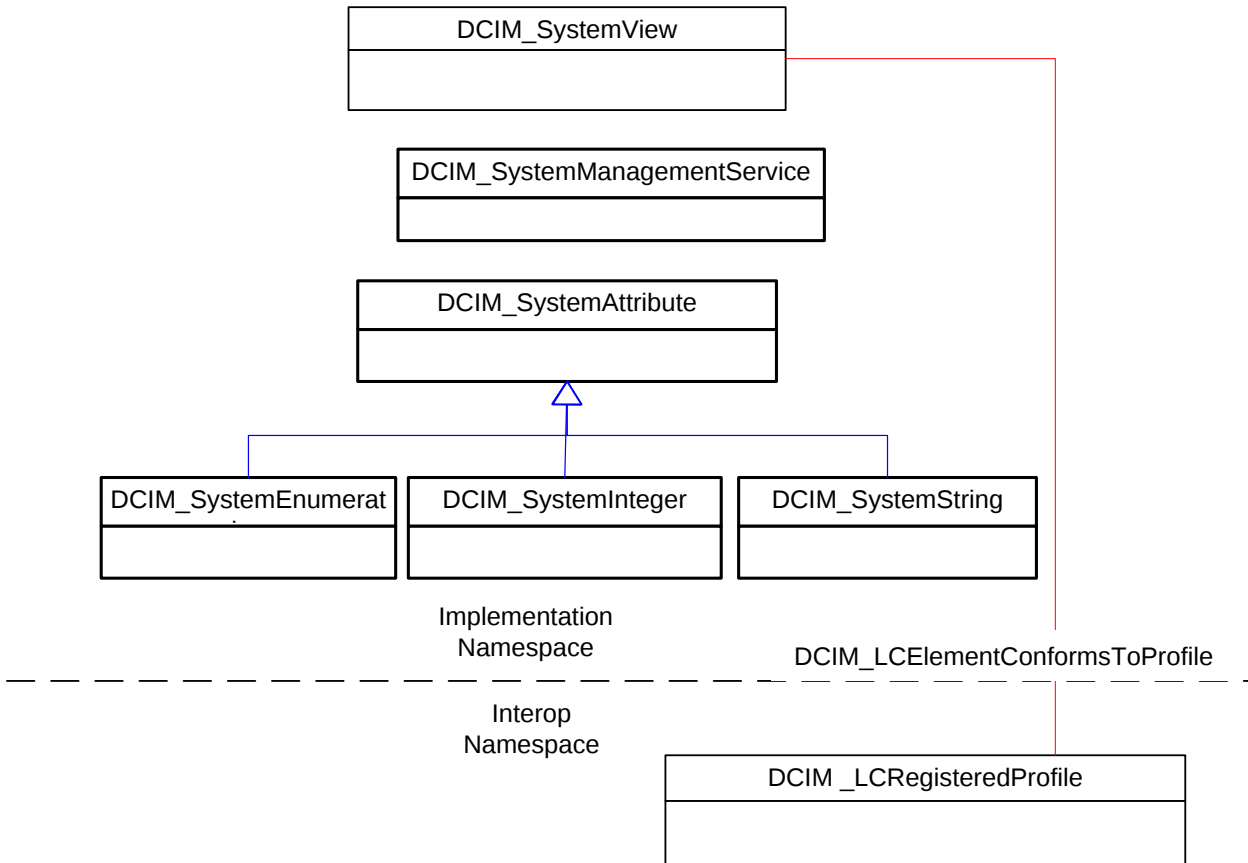


Figure 1 – Class Diagram

Figure 2 details typical Dell System Info Profile implementation for a platform. In order for client to discover the instrumentation's support of this profile, SystemInfoProfile is instantiated in the Interop Namespace: root/interop. SystemInfoProfile instance describes the information about the implemented profile: most importantly, the name and version of the profile and the organization name that produced the profile.

Systemview1 is the system views representing the platform's basic properties in the Implementation Namespace: root/dcim. It is associated to the Interop namespace's SystemInfoProfile instance.

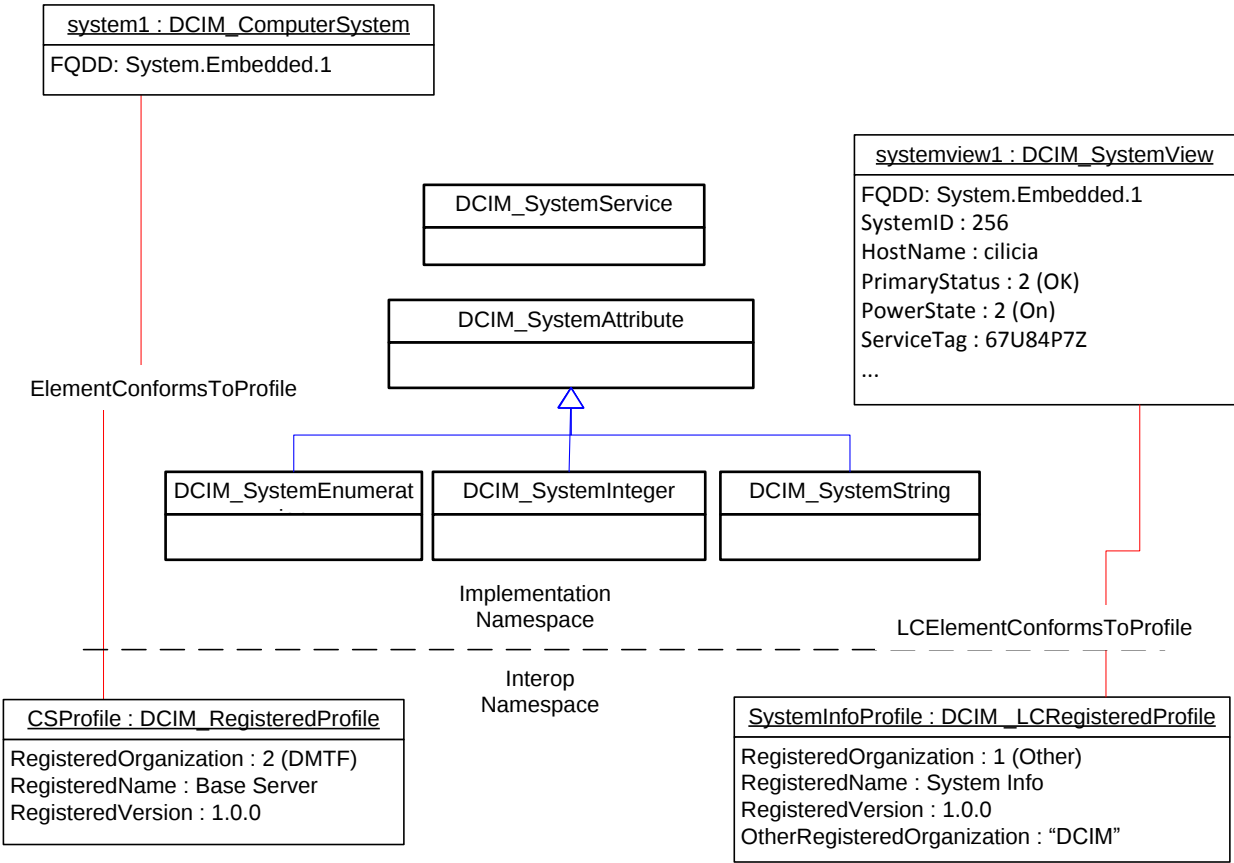


Figure 2 – System Info Profile Implementation

7 Implementation Description

This section describes the requirements and guidelines for implementing Dell System Info Profile.

Table 2 – Class Requirements: System Info Profile

Element Name	Requirement	Description
Classes		
DCIM_SystemView	Mandatory	The class shall be implemented in the <i>Implementation Namespace: root/dcim</i> . See section 7.1.
DCIM_HostNetworkInterfaceView	Mandatory	The class shall be implemented in the <i>Implementation Namespace: root/dcim</i> . See section 7.2.
DCIM_SystemEnumeration	Mandatory	The class shall be implemented in the <i>Implementation Namespace: root/dcim</i> . See section 7.3
DCIM_SystemString	Mandatory	The class shall be implemented in the <i>Implementation Namespace: root/dcim</i> . See section 7.4
DCIM_SystemInteger	Mandatory	The class shall be implemented in the <i>Implementation Namespace: root/dcim</i> . See section 7.5
DCIM_SystemManagementService	Mandatory	The class shall be implemented in the <i>Implementation Namespace: root/dcim</i> . See section 7.7.
DCIM_LCElementConformsToProfile	Mandatory	The class shall be implemented in both the <i>Interop Namespace: root/interop</i> and <i>Implementation Namespace: root/dcims</i> . See sections 7.1 and 7.8
DCIM_LCRegisteredProfile	Mandatory	The class shall be implemented in the <i>Interop Namespace: root/interop</i> . See section 7.8
Indications		
None defined in this profile		

7.1 DCIM_SystemView – System View

This section describes the implementation for the DCIM_SystemView class.

This class shall be instantiated in the Implementation Namespace: root/dcim.

The DCIM_LCElementConformsToProfile association(s) shall reference the DCIM_SystemView instance(s).

7.1.1 Resource URIs for WinRM®

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

The key property shall be the InstanceID.

276 The instance Resource URI for DCIM_SystemView instance shall be:
 277 "http://schemas.dell.com/wbem/wscim/1/cim-
 278 schema/2/DCIM_SystemView?__cimnamespace=root/dcim+InstanceID=System.Embedded.1"

279 7.1.2 Operations

280 The following table lists the operations implemented on DCIM_SystemView.

281 **Table 3 – DCIM_SystemView – Operations**

Operation Name	Requirements	Required Input
Get	Mandatory	Instance URI
Enumerate	Mandatory	Class URI

282

283 7.1.3 Properties

284 The following table details the implemented properties for DCIM_SystemView instance that represents
 285 the host system. The "Requirements" column shall denote whether the property is implemented (for
 286 requirement definitions, see section 3). The "Additional Requirements" column shall denote either
 287 possible values for the property, or requirements on the value formulation.

288 **Table 4 – DCIM_SystemView – Properties**

Property Name	Requirements	Type	Requirement and Description
InstanceID	Mandatory	string	The property shall be "System.Embedded.1"
FQDD	Mandatory	string	The property shall be "System.Embedded.1"
DeviceDescription	Mandatory	string	A string containing the friendly Fully Qualified Device Description, a property that describes the device and its location
AssetTag	Mandatory	string	Asset tag of the system.
BaseBoardChassisSlot	Optional	String	The property represents the modular chassis slot numbers that the server blade occupies in the modular enclosure. This property shall be represented for modular server blades.
BatteryRollupStatus	Mandatory	uint32	The property shall contain the battery rollup status of all the system components and shall contain one of the following values: • 0(Unknown) • 1(OK) • 2(Degraded) • 3(Error). This field will be shown as null if the corresponding sensor is not supported BatteryRollupStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status.
BIOSReleaseDate	Mandatory	String	String number of the BIOS release date. The date string, if supplied, is in mm/dd/yyyy format.
BIOSVersionString	Mandatory	String	System BIOS version.

Property Name	Requirements	Type	Requirement and Description
BladeGeometry	Optional	uint16	The property shall represent the geometric dimension of the server blade enclosure in modular enclosure described. The property defines value maps for the geometry description in slot height and width. This property shall be represented for modular server blades. 0-singleWidthHalfHeight 1-dualWidthHalfHeight 2-singleWidthFullHeight 3-dualWidthFullHeight 4-singleWidthQuarterHeight 5-1UHalfWidth 6-1UQuarterWidth 7-1UFullWidth
BoardPartNumber	Mandatory	String	The property shall represent the motherboard part number.
BoardSerialNumber	Mandatory	String	The property shall represent the motherboard serial number.
EstimatedSystemAirflow	Mandatory	uint16	The property shall represent estimated airflow over the chassis in Cubic Feet per Minute. A value of 255 would indicate that the value is Not Applicable.
EstimatedExhaustTemperature	Mandatory	uint16	Calculated, not measure, exhaust temperature in Degree Celcius. A value of 255 would indicate that the value is Not Applicable.
ChassisName	Mandatory	String	The property shall be "Main System Chassis" for monolithic and "Server Blade" for modular's server blades.
ChassisServiceTag	Optional	String	This property represents the service tag for the modular enclosure chassis. This property shall be represented for modular server blades.
ChassisModel	Optional	String	This property represents the chassis model for the modular enclosure chassis.
ChassisSystemHeight	Mandatory	uint16	The property shall be in U of rack space units. The property shall be applicable only for monolithic server.
CMCIP	Optional	String	This property represents the IP address for the modular enclosure chassis management controller (CMC). This property shall be represented for modular server blades.
CPLDVersion	Mandatory	String	The property shall represent the CPLD version.
CPURollupStatus	Mandatory	uint32	The property shall contain the rollup status of all the CPUs and shall contain one of the following values: 0(Unknown) 1(OK) 2(Degraded) 3(Error). This property will be shown as null if the corresponding sensor is not supported. CPURollupStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status.

Property Name	Requirements	Type	Requirement and Description
ExpressServiceCode	Mandatory	String	ExpressServiceCode of the system.
FanRollupStatus	Mandatory	uint32	The property shall contain the fan rollup status of all the system components and shall contain one of the following values: 0(Unknown) 1(OK) 2(Degraded) 3(Error). This property will be shown as null if the corresponding sensor is not supported. FanRollupStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status.
HostName	Mandatory	String	System name string in ASCII.
LicensingRollupStatus	Mandatory	uint32	The property shall contain the licensing rollup status of all the system components and shall contain one of the following values: 0(Unknown) 1(OK) 2(Degraded) 3(Error). LicensingRollupStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status.
LifecycleControllerVersion	Mandatory	String	The property shall represent the overall product release version for the Lifecycle Controller (LC). The property format shall be M + "." + N + "." + U where: M - the major version (in numeric form); N - the minor version (in numeric form); and U - the update version (in numeric form). NOTE: The property does not represent a particular firmware version that LC consists of but rather the overall LC product version.
Manufacturer	Mandatory	String	System Manufacturer string. For example: DELL Inc.
MaxCPUSockets	Mandatory	uint32	Maximum CPU sockets in the system.
MaxDIMMSlots	Mandatory	uint32	The number of slots or sockets available for memory devices in the system memory array.
MaxPCleSlots	Mandatory	uint32	Maximum PCIe slots in the system.
MemoryOperationMode	Mandatory	String	System memory operation mode. Denotes the mode of operation for system memory such as mirrored, advanced ECC, or optimized mode. <i>Note: "Memory Operation mode is shown as Unknown for UDIMM since its not supported".</i>
Model	Mandatory	String	Model of the system. For example: PowerEdge R720.
PlatformGUID	Mandatory	String	System GUID uniquely identifies the system. The property is also known as BIOS GUID. This GUID matches in value with the representation of the GUID surfaced through OS based GUI and SNMP.
PopulatedCPUSockets	Mandatory	uint32	Populated CPU sockets in the system.
PopulatedDIMMSlots	Mandatory	uint32	System memory sockets current capacity.

Property Name	Requirements	Type	Requirement and Description
PopulatedPCle Slots	Mandatory	uint32	Populated PCIe slots in the system.
PowerCap	Mandatory	uint32	The current power cap (in Watts) of the associated managed system element.
PowerCapEnabledState	Mandatory	uint16	Whether the cap on the power consumption is enabled.
PowerState	Mandatory	uint16	The current power state of the system.
PrimaryStatus (Misc RollupStatus)	Mandatory	uint32	The property shall contain current information on the system health state excluding storage sub-systems. PrimaryStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status. The property shall contain the rollup status of the system components BIOS sensors Storage Cables: SAS cable, Signal cables and power cables Riser card miss match Mezz card miss match Mezz card missing Riser missing Internal Drive sensor events and shall contain one of the following values: • 1(OK) • 2(Degraded) • 3(Error) On clearing the SEL, the property will return value 1(OK) This property will be shown as null if the corresponding sensor is not supported
PSRollupStatus	Mandatory	uint32	The property shall contain the power supply rollup status of all the system components and shall contain one of the following values: • 0(Unknown) • 1(OK) • 2(Degraded) • 3(Error) This property will be shown as null if the corresponding sensor is not supported. PSRollupStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status.

Property Name	Requirements	Type	Requirement and Description
RollupStatus	Mandatory	uint32	The property shall contain the rollup status of all the system components and shall contain one of the following values: • 0(Unknown) • 1(OK) • 2(Degraded) • 3(Error) This property will be shown as null if the corresponding sensor is not supported. RollupStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status.
ServerAllocation	Optional	uint32	The property shall represent the power allocated by Chassis Manager to the blade server in Watt. This property shall be represented for modular server blades.
ServiceTag	Mandatory	String	Service tag of the system.
smbiosGUID	Mandatory	String	System GUID uniquely identifies the system. The property is also known as BIOS GUID. The smbiosGUID value matches exactly the SMBIOS representation of the GUID.
StorageRollupStatus	Mandatory	uint32	The property shall contain the storage rollup status of all the system components and shall contain one of the following values: • 0(Unknown) • 1(OK) • 2(Degraded) • 3(Error). StorageRollupStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status.
SysMemErrorMethodology	Mandatory	uint16	The primary hardware error correction or detection method supported by the system's memory array.
SysMemFailOverState	Mandatory	String	System memory fail over state.
SysMemLocation	Mandatory	uint16	The physical location of the memory array, whether on the system board or an add-in board.
SysMemPrimaryStatus	Mandatory	uint32	SystemMemoryPrimaryStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status for the system memory.
SysMemTotalSize	Mandatory	uint32	The property shall be in Mbytes. The maximum memory capacity in MB.
SysMemMaxCapacitySize	Mandatory	uint64	The property shall be in Mbytes. The maximum memory capacity in MB that could be installed on the platform. Note that this property represents the sum of totals for the possible memory that could be installed in each slot regardless of currently installed memory capacity.
SystemID	Mandatory	uint32	System ID describes the model of the system in integer value. The SystemID property is usually used to identify the compatibility of the updateable software/firmware.
SystemRevision	Mandatory	uint16	System Revision describes whether the platform was the first or second revision of the corresponding model. The revisions are usually correlated with an upgrade of the CPU model in the same platform model.

Property Name	Requirements	Type	Requirement and Description
TempRollupStatus	Mandatory	uint32	The property shall contain the temperature rollup status of all the system components and shall contain one of the following values: • 0(Unknown) • 1(OK) • 2(Degraded) • 3(Error) This property will be shown as null if the corresponding sensor is not supported. TempRollupStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status.
UUID	Mandatory	String	UUID uniquely identifies the system. The property is also known as BIOS GUID. The UUID value matches the WMI® representation of the UUID/GUID.
VoltRollupStatus	Mandatory	uint32	The property shall contain the voltage rollup status of all the system components and shall contain one of the following values: • 0(Unknown) • 1(OK) • 2(Degraded) • 3(Error). This property will be shown as null if the corresponding sensor is not supported. VoltRollupStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status.
LastSystemInventoryTime	Mandatory	String	This property provides the last time \'System \'Inventory Collection On Reboot(CSIOR)\' was performed. The value is represented as yyyyymmddHHMMSS.
LastUpdateTime	Mandatory	String	This property provides the last time the data was updated. The value is represented as yyyyymmddHHMMSS
IDSDMRollupStatus	Mandatory	Uint32	IDSDMRollupStatus provides the live status of IDSDM (Internal Dual SD Mode) sensors • 0(Unknown) • 1(OK) • 2(Degraded) • 3(Error). This property will be shown as null if the corresponding sensor is not present
IntrusionRollupStatus	Mandatory	Uint32	IntrusionRollupStatus provides the live status of chassis intrusion sensors • 0(Unknown) • 1(OK) • 2(Degraded) • 3(Error) This property will be shown as null if the corresponding sensor is not supported

Property Name	Requirements	Type	Requirement and Description
CurrentRollup Status	Mandatory	uint32	The property shall contain the current rollup status of all the system components and shall contain one of the following values: • 0(Unknown) • 1(OK) • 2(Degraded) • 3(Error). This property will be shown as null if the corresponding sensor is not supported. CurrentRollupStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status.
MemoryRollup Status	Mandatory	uint32	The property shall contain the memory rollup status of all the system components and shall contain one of the following values: • 0(Unknown) • 1(OK) • 2(Degraded) • 3(Error). This property will be shown as null if the corresponding sensor is not supported. MemoryRollupStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status.
SDCardRollup Status	Mandatory	uint32	The property shall contain the sd card rollup status of all the system components and shall contain one of the following values: • 0(Unknown) • 1(OK) • 2(Degraded) • 3(Error). This property will be shown as null if the corresponding sensor is not supported. SDCardRollupStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status.
TempStatistics RollupStatus	Mandatory	uint32	The property shall contain temperature statistics rollup status of all the system components and shall contain one of the following values: • 0(Unknown) • 1(OK) • 2(Degraded) • 3(Error). This property will be shown as null if the corresponding sensor is not supported. TempStatisticsRollupStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status.

7.2 DCIM_HostNetworkInterfaceView – NetworkInterface View

This section describes the implementation for the DCIM_HostNetworkInterfaceView 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.dmtf.org/wbem/wscim/1/cim-schema/2/DCIM_HostNetworkInterfaceView?__cimnamespace=root/dcim”

The key property shall be the InstanceID.

The instance Resource URI for DCIM_SystemView instance shall be:
“http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/DCIM_HostNetworkInterfaceView?__cimnamespace=root/dcim+InstanceID=System.Embedded.1”

7.2.2 Operations

The following table lists the operations implemented on DCIM_HostNetworkInterfaceView.

Table 5 – DCIM_HostNetworkInterfaceView – Operations

Operation Name	Requirements	Required Input
Get	Mandatory	Instance URI
Enumerate	Mandatory	Class URI

7.2.3 Properties

The following table details the implemented properties for DCIM_HostNetworkInterfaceView instance that represents the host 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.

Property Name	Requirements	Type	Requirement and Description
InstanceID	Mandatory	String	Unique value representing one IP address.
DeviceFQDD	Optional	String[]	List of Fully Qualified Device Description for the Network Device
DeviceDescription	Mandatory	String	Interface description
Status	Mandatory	UInt8	Status of the Interface 0- Up 1- down 2- Testing 3- Unknown 4- Dormant 5- Not Present 6- Lower layer down

Property Name	Requirements	Type	Requirement and Description
Type	Mandatory	UInt8	Type of Interface 0- Other 1- Ethernet 2- Tokenring 3- Point-To-Point 4- Loopback 5- ATM 6- IEEE80211 Wireless 7- Tunnel 8- IEEE1394 Fireware
Name	Mandatory	string	Name of the Interface
DHCPEnabled	Mandatory	Boolean	This property states whether DHCP is enabled or not 0- NO 1- Yes
MACAddress	Mandatory	String	A string containing the MAC address.
IPv4DNSServer	Optional	String[]	List of IPv4 DNS Servers present
IPv4Gateway	Optional	String[]	Array of IPv4 Gateway addresses
IPv4DHCPServer	Optional	String	DHCP Server for IPv4 addressing
IPv4Address	Optional	String[]	Host IPv4 Address
IPv4SubnetMask	Optional	String[]	Host Network's Mask. Only valid for IPv4 addresses.
IPv6Address	Optional	String[]	Host IPv6 Address
IPv6Gateway	Optional	String[]	Array of IPv6 Gateway addresses
IPv6DHCPServer	Optional	String	DHCP Server for IPv6 addressing
IPv6PrefixLength	Optional	uint8	IPv6 Link Local Prefix Length. Only valid for IPv6 addresses.
IPv6AddrScope	Optional	UInt32	Array of IPv6 address scope (Per IPv6 address)
IPv6DNSServer	Optional	String[]	List of IPv6 DNS Servers present

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7.3 DCIM_SystemEnumeration – System Enumeration Attributes

This section describes the implementation for the DCIM_SystemEnumeration class.

Each DCIM_SystemEnumeration instance is logically associated to a DCIM_SystemView instance, where the DCIM_SystemEnumeration.FQDD property is equal to the FQDD property on the DCIM_SystemView instance.

This class shall be instantiated in the Implementation Namespace: root/dcim.

7.3.1 Resource URIs for WinRM®

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

The key property shall be the InstanceID.

The instance Resource URI for DCIM_SystemEnumeration instance shall be:
“http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_SystemEnumeration?__cimnamespace=root/dcim+InstanceID=<FQDD>:<AttributeName>”

7.3.2 Operations

The following table lists the operations implemented on DCIM_SystemEnumeration.

Table 6 – DCIM_SystemEnumeration – Operations

Operation Name	Requirements	Required Input
Get	Mandatory	Instance URI
Enumerate	Mandatory	Class URI
DCIM_SystemManagementService.SetAttribute()	Mandatory	See section 8.1
DCIM_SystemManagementService.SetAttributes()	Mandatory	See section 8.2

7.3.3 Class Properties

The following table lists the implemented properties for DCIM_SystemEnumeration instance representing a system attribute. 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 7 – Class: DCIM_SystemEnumeration

Properties	Requirements	Type	Additional Requirements
InstanceID	Mandatory	String	The property value shall be formed as follows: "System.Embedded.1:<AttributeName property value>".
AttributeName	Mandatory	String	The property value shall be from the "AttributeName" column in Table 12 and Table 17.
AttributeDisplayName	Mandatory	String	The property value shall be from the "AttributeDisplayName" column in Table 12 and Table 17.
GroupID	Mandatory	String	See section 7.6.1, 7.6.2, 7.6.3 and 7.6.4.
GroupDisplayName	Mandatory	String	See section 7.6.1, 7.6.2, 7.6.3 and 7.6.4.
CurrentValue[]	Mandatory	String	The property value shall be one of the values in the "PossibleValues" column at the corresponding row in Table 12 and Table 17..
DefaultValue[]	Mandatory	String	The property value shall be one of the values in the "PossibleValues" column at the corresponding row in Table 12 and Table 17..
PendingValue[]	Mandatory	String	The property value shall be one of the values in the "PossibleValues" column at the corresponding row in Table 12 and Table 17.
IsReadOnly	Mandatory	Boolean	The property value shall be from the "IsReadOnly" column in Table 12 and Table 17.
FQDD	Mandatory	String	The property shall be set to "System.Embedded.1".
DisplayOrder	Optional	uint16	The property shall represent the sequence number denoting the preferred placement of the attribute in the list of all system attributes.
Dependency	Optional	String	The property shall be NULL.
PossibleValues[]	Mandatory	String	The property value shall be equal to the array of the values in "PossibleValues" column at the corresponding row in Table 12 and Table 17.

342 **7.4 DCIM_SystemString – System String Attributes**

343 This section describes the implementation for the DCIM_SystemString class that represents a string type
 344 System attribute.

345 This class shall be instantiated in the Implementation Namespace: root/dcim.

346 **7.4.1 Resource URIs for WinRM®**

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

349 The key property shall be the InstanceID.

350 The instance Resource URI for DCIM_SystemString instance shall be:
 351 http://schemas.dell.com/wbem/wscim/1/cim-
 352 schema/2/DCIM_SystemString?__cimnamespace=root/dcim+InstanceID=
 353 System.Embedded.1:<AttributeName> (AttributeName comes from Table 5)

7.4.2 Operations

The following table lists the operations implemented on DCIM_SystemString.

Table 8 – DCIM_SystemString - Operations

Operation Name	Requirements	Required Input
Get	Mandatory	Instance URI
Enumerate	Mandatory	Class URI
DCIM_SystemManagementService.SetAttribute()	Mandatory	See section 8.1
DCIM_SystemManagementService.SetAttributes()	Mandatory	See section 8.2

7.4.3 Class Properties

The following table lists the implemented properties for DCIM_SystemString instance representing a system string attribute. 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 9 – Class: DCIM_SystemString

Properties	Requirements	Type	Additional Requirements
InstanceID	Mandatory	String	The property value shall be formed as follows: System.Embedded.1:<AttributeName property value>”.
AttributeName	Mandatory	String	The property value shall be from the “AttributeName” column in Table 13, and Table 15.
AttributeDisplayName	Mandatory	String	The property value shall be from the “AttributeDisplayName” column in Table 13, and Table 15.
GroupID	Mandatory	String	See section 7.6.1, 7.6.2, 7.6.3 and 7.6.4.
GroupDisplayName	Mandatory	String	See section 7.6.1, 7.6.2, 7.6.3 and 7.6.4.
CurrentValue[]	Mandatory	String	The property value shall represent the current value of the attribute.
DefaultValue[]	Mandatory	String	The property value shall represent the default value of the attribute.
PendingValue[]	Mandatory	String	The property value shall represent the pending value of the attribute. If the property value is NULL, then the attribute has no pending value.
IsReadOnly	Mandatory	Boolean	The property value shall be the value in the “IsReadOnly” column at the corresponding row in Table 13, and Table 15.
FQDD	Mandatory	String	The property shall be set to “System.Embedded.1”.
DisplayOrder	Optional	uint16	The property shall represent the sequence number denoting the preferred placement of the attribute in the list of all system attributes.
Dependency	Optional	String	The property shall be NULL.
MinLength	Mandatory	uint64	The property value shall be the value in the “MinLength” column at the corresponding row in Table 13, and Table 15.
MaxLength	Mandatory	uint64	The property value shall be the value in the “MaxLength” column at the corresponding row in Table 13, and Table 15.

364 **7.5 DCIM_SystemInteger – System Integer Attributes**

365 This section describes the implementation for the DCIM_SystemInteger class.

366 Each DCIM_SystemInteger instance is logically associated to a DCIM_SystemView instance, where the
 367 DCIM_SystemInteger.FQDD property is equal to the FQDD property on the DCIM_SystemView instance.

368 This class shall be instantiated in the Implementation Namespace: root/dcim.

369 **7.5.1 Resource URIs for WinRM®**

370 The class Resource URI shall be “http://schemas.dell.com/wbem/wscim/1/cim-
 371 schema/2/DCIM_SystemInteger?__cimnamespace=root/dcim”

372 The key property shall be the InstanceID.

373 The instance Resource URI for DCIM_SystemInteger instance shall be:
374 "http://schemas.dell.com/wbem/wscim/1/cim-
375 schema/2/DCIM_SystemInteger?__cimnamespace=root/dcim+InstanceID= <FQDD>:<AttributeName>"

376 7.5.2 Operations

377 The following table lists the operations implemented on DCIM_SystemInteger.

378 **Table 10 – DCIM_SystemInteger - Operations**

Operation Name	Requirements	Required Input
Get	Mandatory	Instance URI
Enumerate	Mandatory	Class URI
DCIM_SystemManagementService.SetAttribute()	Mandatory	See section 8.1
DCIM_SystemManagementService.SetAttributes()	Mandatory	See section 8.2

379

380 7.5.3 Class Properties

381 The following table lists the implemented properties for DCIM_SystemInteger instance representing a
382 system attribute. The "Requirements" column shall denote whether the property is implemented (for
383 requirement definitions, see section 3). The "Additional Requirements" column shall denote either
384 possible values for the property, or requirements on the value formulation

Table 11 – Class: DCIM_SystemInteger

Properties	Requirement	Type	Additional Requirements
InstanceID	Mandatory	String	The property value shall be formed as follows: "System.Embedded.1:<AttributeName property value>".
AttributeName	Mandatory	String	The property value shall be from the "AttributeName" column in Table 14, Table 16, and Table 20.
AttributeDisplayName	Mandatory	String	The property value shall be from the "AttributeDisplayName" column in Table 14, Table 16, and Table 20.
GroupID	Mandatory	String	See section 7.6.1, 7.6.2, 7.6.3 and 7.6.4.
GroupDisplayName	Mandatory	String	See section 7.6.1, 7.6.2, 7.6.3 and 7.6.4.
CurrentValue[]	Mandatory	String	The property value shall represent the current value of the attribute.
DefaultValue[]	Mandatory	String	The property value shall represent the default value of the attribute.
PendingValue[]	Mandatory	String	The property value shall represent the pending value of the attribute. If the property value is NULL, then the attribute has no pending value.
IsReadOnly	Mandatory	Boolean	The property value shall be from the "IsReadOnly" column in Table 14, Table 16, and Table 20.
FQDD	Mandatory	String	The property shall be set to "System.Embedded.1".
DisplayOrder	Optional	uint16	The property shall represent the sequence number denoting the preferred placement of the attribute in the list of all system attributes.
Dependency	Optional	String	The property shall be NULL.
LowerBound	Mandatory	uint64	The property value shall be from the "LowerBound" column in Table 14, Table 16, and Table 20.
UpperBound	Mandatory	uint64	The property value shall be from the "UpperBound" column in Table 14, Table 16, and Table 20.

386 7.6 System Attributes

387 This section lists and describes the attributes and their logical grouping.

388 7.6.1 Server Power Attributes

389 This section describes the attributes for managing system's power. The attributes are used to set power
390 cap and thresholds , manage power allocation, and redundancy settings.

391 The GroupID property for the DCIM_SystemEnumeration, DCIM_SystemString, and
392 DCIM_SystemInteger shall be "ServerPwr.1".

393 The GroupDisplayName property for the DCIM_SystemEnumeration, DCIM_SystemString, and
394 DCIM_SystemInteger shall be "Server Power".

395 The following table lists the values for the DCIM_SystemEnumeration of this group. Each of the column
396 headings correspond to a property name on the DCIM_SystemEnumeration class. The Description
397 column contains the description for each of the attribute. Each row contain the values for the properties
398 listed in the column headings. The PossibleValues property is an array property represented in the table
399 as comma delimited list.

400

Table 12 – DCIM_SystemEnumeration Server Power Attributes

AttributeName	AttributeDisplayName	IsReadOnly	PossibleValues	Description
PowerCapSetting	Power Cap Setting	FALSE	"Disabled", "Enabled"	Enable or disable the cap on the system power consumption.
PSRedPolicy	Power Supply Redundancy Policy	FALSE	"N/A", "Not Redundant", "AC/Input", "Redundant", "PSU Redundant"	Enables monitoring of the power supply redundancy. NOTE: Power Supply Profile describes the power supply redundancy status based on this attribute value.
PSPFCEnabled	Power Supply PFC Enable	FALSE	"Disabled", "Enabled"	Enable or Disable the Power Supply Power Factor Corrector on the system.
PSRapidOn	PSRapidOn	FALSE	"Disabled", "Enabled"	Enable or Disable the Power Supply RapidOn
RapidOnPrimaryPSU	Rapid on Primary PSU	FALSE	"PSU1", "PSU2", "PSU1", "PSU3", "PSU2", "PSU4"	Enable or Disable the RapidOnPrimary Power Supply Unit.

401 The following table lists the values for the DCIM_SystemString of this group. Each column heading
 402 corresponds to a property name on the DCIM_SystemString class. The Value Expression column
 403 contains constraints on string value formulation. Each row contains the values for the properties listed in
 404 the column headings.

405

Table 13 – DCIM_SystemString Server Power Attributes

AttributeName	Attribute Description	IsReadOnly	MinLength	MaxLength	Value Expression
ActivePolicyName	Active Power Cap Policy Name	TRUE	0	128	

406 The following table lists the values for the DCIM_SystemInteger of this group. Each column heading
 407 correspond to a property name on the DCIM_SystemInteger class. Each row contains the values for the
 408 properties listed in the column headings.
 409

410

411

Table 14 – DCIM_SystemInteger Server Power Attributes

AttributeName	AttributeDisplayName	IsReadOnly	LowerBound	UpperBound
PowerCapValue ¹	Power Cap Value	FALSE		
PowerCapMaxThres ¹	Power Cap Max Threshold	TRUE		
PowerCapMinThres ¹	Power Cap Min Threshold	TRUE		
pciePowerAllocation ¹	PCIe Power Power Allocation	FALSE		
ActivePowerCapVal ¹	Active Power Cap Value	TRUE	0	65535
ActivePowerCapValBTUhr	Active Power Cap Value in BTU/hr	TRUE	0	65535
RapidOnPrimSecPSUMask	Rapid on Primary Sec PSU Mask	TRUE		
RapidOnPrimaryPSU	Rapid on Primary PSU	FALSE		

412

NOTE: 1 – The attributes PendingValue, CurrentValue and DefaultValue are in Watt units.

413

7.6.2 Server Topology Attributes

414

This section describes the attributes for managing system's topology. The attributes are used to manage location and physical configuration settings.

415

416

The GroupID property for the DCIM_SystemEnumeration, DCIM_SystemString, and

417

DCIM_SystemInteger shall be "ServerTopology.1".

418

The GroupDisplayName property for the DCIM_SystemEnumeration, DCIM_SystemString, and

419

DCIM_SystemInteger shall be "Server Topology".

420

The following table lists the values for the DCIM_SystemString of this group. Each column heading

421

corresponds to a property name on the DCIM_SystemString class. The Value Expression column

422

contains constraints on string value formulation. Each row contains the values for the properties listed in

423

the column headings.

424

Table 15 – DCIM_SystemString Server Topology Attributes

AttributeName	Attribute Description	IsReadOnly	MinLength	MaxLength	Value Expression
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AttributeName	Attribute Description	IsReadOnly	MinLength	MaxLength	Value Expression
DataCenterName	Data Center Name	FALSE	0	128	
AisleName	Aisle Name	FALSE	0	128	
RackName	Rack Name	FALSE	0	128	
ChassisName	Chassis Name(Modular Only)	TRUE	0	64	
BladeSlotNumInChassis	Blade Slot Num In Chassis(Modular Only)	TRUE	0	64	
RoomName	Room Name	TRUE	0	128	RoomName

The following table lists the values for the DCIM_SystemInteger of this group. Each column heading corresponds to a property name on the DCIM_SystemInteger class. Each row contains the values for the properties listed in the column headings.

Table 16 – DCIM_SystemInteger Server Topology Attributes

AttributeName	AttributeDisplayName	IsReadOnly	LowerBound	UpperBound
RackSlot	Rack Slot	FALSE	1	255
SizeOfManagedSystemInU	Size of Managed System in U	TRUE		

7.6.3 LCD Attributes

This section describes the attributes for managing system's power. The attributes are used to set the system LCD settings.

The GroupID property for the DCIM_SystemEnumeration and DCIM_SystemString shall be "LCD.1".

The GroupDisplayName property for the DCIM_SystemEnumeration and DCIM_SystemString shall be "LCD".

The following table lists the values for the DCIM_SystemEnumeration of this group. Each column heading corresponds to a property name on the DCIM_SystemEnumeration class. The Description column contains the description for each of the attribute. Each row contains the values for the properties listed in the column headings. The PossibleValues property is an array property represented in the table as comma delimited list.

Table 17 – DCIM_SystemEnumeration LCD Attributes

AttributeName	AttributeDisplayName	IsReadOnly	PossibleValues
---------------	----------------------	------------	----------------

AttributeName	AttributeDisplayName	IsReadOnly	PossibleValues
Configuration	LCD Configuration	FALSE	“User Defined”, “Model Name”, “None”, “iDRAC IPv4 Address”, “iDRAC MAC Address”, “OS System Name”, “Service Tag”, “IPv6 Address”, “Ambient Temperature”, “System Watts”, “Asset Tag”, “OEM PM LCD Override”
vConsoleIndication	vConsole Indication	FALSE	“Enabled”, “Disabled”
QualifierTemp	Ambient Temperature Qualifier	FALSE	“C”, “F”
QualifierWatt	System Watt Qualifier	FALSE	“Watts”, “BTU/hr”

The following table lists the values for the DCIM_SystemString of this group. Each column heading corresponds to a property name on the DCIM_SystemString class. The Value Expression column contains constraints on string value formulation. Each row contains the values for the properties listed in the column headings.

Table 18 – DCIM_SystemString LCD Attributes

AttributeName	Attribute Description	IsReadOnly	MinLength	MaxLength	Value Expression
CurrentDisplay	Current LCD Display String	TRUE	0	62	
UserDefinedString	User Defined String for LCD	FALSE	0	62	

7.6.4 Thermal Configuration Attributes

This section describes the attributes for managing system’s power. The attributes are used to set the system thermal configuration.

The GroupID property for the DCIM_SystemEnumeration and DCIM_SystemInteger shall be “ThermalConfig.1”.

The GroupDisplayName property for the DCIM_SystemEnumeration and DCIM_SystemInteger “ shall be “Thermal Configuration”.

The following table lists the values for the DCIM_SystemEnumeration of this group. Each column heading corresponds to a property name on the DCIM_SystemEnumeration class. The Description column contains the description for each of the attribute. Each row contains the values for the properties listed in the column headings. The PossibleValues property is an array property represented in the table as comma delimited list.

Table 19 – DCIM_SystemEnumeration Thermal Configuration Attributes

AttributeName	AttributeDisplayName	IsReadOnly	PossibleValues
---------------	----------------------	------------	----------------

AttributeName	AttributeDisplayName	IsReadOnly	PossibleValues
FreshAirCompliantConfiguration	Fresh Air Compliant Configuration	TRUE	"Not Applicable", "Yes", "No"

The following table lists the values for the DCIM_SystemInteger of this group. Each column heading corresponds to a property name on the DCIM_SystemInteger class. Each row contains the values for the properties listed in the column headings.

Table 20 – DCIM_SystemInteger Thermal Configuration Attributes

AttributeName	AttributeDisplayName	IsReadOnly	LowerBound	UpperBound
EventGenerationInterval	Event Generation Interval	FALSE	0 (disables event generation)	365
CriticalEventGenerationInterval	Critical Event Generation Interval	FALSE	0	365

7.6.5 Server OS Attributes

This section describes the attributes for managing system's operating system. The attributes are used to manage server OS name, OS version and host name.

The GroupID property for the DCIM_SystemEnumeration, DCIM_SystemString shall be "ServerOS.1".

The GroupDisplayName property for the DCIM_SystemEnumeration, DCIM_SystemString, and DCIM_SystemInteger shall be "Server Operating System".

The following table lists the values for the DCIM_SystemString of this group. Each column heading corresponds to a property name on the DCIM_SystemString class. The Value Expression column contains constraints on string value formulation. Each row contains the values for the properties listed in the column headings.

Table 21 – DCIM_SystemString Server OS Attributes

AttributeName	Attribute Description	IsReadOnly	MinLength	MaxLength	Value Expression
HostName	Host Name	FALSE	0	62	
OSName	Operating Sytem Name	FALSE	0	62	
OSVersion	Operating Sytem Version	TRUE	0	62	

The following table lists the values for the DCIM_SystemInteger of this group. Each column heading corresponds to a property name on the DCIM_SystemInteger class. Each row contains the values for the properties listed in the column headings.

Table 22 – DCIM_SystemInteger Server OS Attributes

AttributeName	Attribute Description	IsReadOnly	LowerBound	UpperBound
ServerPoweredOnTime	Server Powered On Time Duration	TRUE		

7.6.6 Thermal Settings Attributes

This section describes the attributes for setting the managable system's power. The attributes are used to set the system thermal Settings.

482 The GroupID property for the DCIM_SystemEnumeration shall be "ThermalSettings.1".

483 The GroupDisplayName property for the DCIM_SystemEnumeration shall be "Thermal Settings".

484 The following table lists the values for the DCIM_SystemEnumeration of this group. Each column heading
485 corresponds to a property name on the DCIM_SystemEnumeration class. The Description column
486 contains the description for each of the attribute. Each row contains the values for the properties listed in
487 the column headings. The PossibleValues property is an array property represented in the table as
488 comma delimited list.

Table 23 – DCIM_SystemEnumeration Thermal Settings Attributes

AttributeName	AttributeDisplayName	IsReadOnly	PossibleValues
ThermalProfile	Thermal Profile	FALSE	Auto, Maximum performance, Minimum powe
AirExhaustTemp	Average Air Exhaust Temperature	FALSE	70,40,45,50,55,60,65
FanSpeedOffset	Fan Speed Offset	FALSE	None, Low Fan Speed, High Fan Speed, Medium Fan Speed, Max Fan Speed
ThirdPartyPCIFanResponse	Fan Speed Response for Third-Party PCI Cards	FALSE	“Disabled”, “Enabled”

Table 17 – DCIM_SystemInteger Thermal Settings Attributes

AttributeName	AttributeDisplayName	IsReadOnly	LowerBound	UpperBound
MinimumFanSpeed	Minimum Fan Speed	FALSE	0	65535
MFSMinimumLimit	MFS Minimum Limit	TRUE		
MFSMaximumLimit	MFS Maximum Limit	TRUE		
FanSpeedLowOffsetVal	Fan Speed Low Offset Value	TRUE		
FanSpeedMediumOffsetVal	Fan Speed Medium Offset Value	TRUE		
FanSpeedHighOffsetVal	Fan Speed High Offset Value	TRUE		
FanSpeedMaxOffsetVal	Fan Speed Max Offset Value	TRUE		

AttributeName	AttributeDisplayName	IsReadOnly	LowerBound	UpperBound

7.6.7 Quick Sync Attributes

This section describes the attributes for managing system's quick sync .The attributes are used to set Quick Sync Access, Quick Sync Presence, Quick Sync Inactivity Timer Enable and Quick Sync Inactivity Timeout.

The GroupID property for the DCIM_SystemEnumeration and DCIM_SystemInteger shall be "QuickSync.1".

The GroupDisplayName property for the DCIM_SystemEnumeration and DCIM_SystemInteger shall be "Quick Sync".

The following table lists the values for the DCIM_SystemEnumeration of this group. Each of the column headings correspond to a property name on the DCIM_SystemEnumeration class. The Description column contains the description for each of the attribute. Each row contain the values for the properties listed in the column headings. The PossibleValues property is an array property represented in the table as comma delimited list.

Table 24 – DCIM_SystemEnumeration Sync Quick Attributes

AttributeName	AttributeDisplayName	IsReadOnly	PossibleValues	Description
Access	Quick Sync Access	FALSE	"Disable", "Read Only", "Read Write" [1] <i>Note: The default value is "Read Write"</i>	Represents the configuration of Quick Sync feature.
Presence	Quick Sync Presence	TRUE	"Not Supported", "Absent" and "Present"	Represents whether the Quick Sync feature is present or not
InactivityTimerEnable	Quick Sync Inactivity Timer Enable	FALSE	"Enable", "Disable" [2] <i>Note: The default value is "Enable"</i> .	Represents enabling or disabling the Inactivity Timer.

The following table lists the values for the DCIM_SystemInteger of this group. Each column heading corresponds to a property name on the DCIM_SystemInteger class. Each row contains the values for the properties listed in the column headings.

Table 25 – DCIM_SystemInteger Sync Quick Attributes

AttributeName	AttributeDisplayName	IsReadOnly	LowerBound	UpperBound
InactivityTimeout	Quick Sync Inactivity Timeout value.	FALSE	15 [3] <i>Note: The default value is "30"</i> .	3600

7.6.8 Backplane SGPIO Mode Attributes

This section describes the attributes for backplane operating mode .The attributes are used to read the current bus mode of backplane.

The GroupID property for the DCIM_SystemEnumeration and DCIM_SystemInteger shall be "Backplane.1".

514 The GroupDisplayName property for the DCIM_SystemEnumeration and DCIM_SystemInteger shall be
515 "BackplaneBusMode".

516 The following table lists the values for the DCIM_SystemEnumeration of this group. Each of the column
517 headings correspond to a property name on the DCIM_SystemEnumeration class. The Description
518 column contains the description for each of the attribute. Each row contain the values for the properties
519 listed in the column headings. The PossibleValues property is an array property represented in the table
520 as comma delimited list.

521 **Table 26 – DCIM_SystemEnumeration Backplane SGPIO Mode Attributes**

AttributeName	AttributeDisplayName	IsReadOnly	PossibleValues	Description
BackplaneBusMode	BackplaneBusMode	TRUE	"Unknown","I2C","SGPIO"	Represents the current busmode of BackPlane

522 **7.6.9 Diagnostics Attributes**

523 This section describes the attributes for diagnostics. The attribute(s) can be used to view the OS App
524 Collection Time.

525 The GroupID property for the DCIM_SystemString shall be "Diagnostics.1".

526 The GroupDisplayName property for the DCIM_SystemString shall be "Server Information".

527 The following table lists the values for the DCIM_SystemString of this group. Each column heading
528 corresponds to a property name on the DCIM_SystemString class. The Value Expression column
529 contains constraints on string value formulation. Each row contains the values for the properties listed in
530 the column headings.

531 **Table 27 – DCIM_SystemString Diagnostic Attributes**

AttributeName	Attribute Description	IsReadOnly	MinLength	MaxLength	Value Expression
OSAppCollectionTime	OS App Collection Time	TRUE	0	64	

532

533 **7.6.10 Chassis Control Attributes**

534 This section describes the attributes related to Chassis Control.

535 The GroupID property for the DCIM_SystemEnumeration shall be "ChassisControl.1".

536 The GroupDisplayName property for the DCIM_SystemEnumeration shall be "Chassis Control".

537 The following table lists the values for the DCIM_SystemEnumeration of this group. Each column heading
538 corresponds to a property name on the DCIM_SystemEnumeration class. The Description column
539 contains the description for each of the attribute. Each row contains the values for the properties listed in
540 the column headings. The PossibleValues property is an array property represented in the table as
541 comma delimited list.

542

Table 28 – DCIM_SystemEnumeration Chassis Control Attributes

AttributeName	AttributeDisplayName	IsReadOnly	PossibleValues
ChassisManagementMonitoring	Chassis Management and Monitoring	FALSE	“Disabled”, “Enabled”
ChassisManagementatServer	Chassis Management at Server	TRUE	“None”, “Monitor”, “Manage and Monitor”

543 7.6.11 Chassis PowerState Attributes

544 This section describes the attributes related to Chassis PowerState.

545 The GroupID property for the DCIM_SystemEnumeration shall be “ChassisPwrState.1”.

546 The GroupDisplayName property for the DCIM_SystemEnumeration shall be “ChassisPowerstate”.

547 The following table lists the values for the DCIM_SystemEnumeration of this group. Each column heading
 548 corresponds to a property name on the DCIM_SystemEnumeration class. The Description column
 549 contains the description for each of the attribute. Each row contains the values for the properties listed in
 550 the column headings. The PossibleValues property is an array property represented in the table as
 551 comma delimited list.

552

Table 29 – DCIM_SystemEnumeration Chassis Control Attributes

AttributeName	AttributeDisplayName	IsReadOnly	PossibleValues
ChassisLEDState	Chassis LED State	FALSE	“Lit”, “Blinking”, “off”

553

554 7.7 DCIM_SystemManagementService – System Management Service

555 This section describes the implementation for the DCIM_SystemManagementService class.

556 This class shall be instantiated in the Implementation Namespace: root/dcim.

557 7.7.1 Resource URIs

558 The class Resource URI shall be “http://schemas.dell.com/wbem/wscim/1/cim-
 559 schema/2/DCIM_SystemManagementService?__cimnamespace=root/dcim”

560 The key property shall be the SystemCreationClassName, SystemName, CreationClassName, and
 561 Name.

562 The instance Resource URI for DCIM_SystemManagementService instance shall be:

563 “http://schemas.dell.com/wbem/wscim/1/cim-

564 schema/2/DCIM_SystemManagementService?__cimnamespace=root/dcim+

565 SystemCreationClassName=DCIM_ComputerSystem+SystemName=srv:system+CreationClassName=D
 566 CIM_SystemManagementService+Name=DCIM:SystemManagementService”

7.7.2 Operations

The following table lists the operations implemented on DCIM_SystemManagementService.

Table 30 – DCIM_SystemManagementService - Operations

Operation Name	Requirements	Required Input
Get	Mandatory	Instance URI
Enumerate	Mandatory	Class URI
Invoke	Mandatory	Instance URI
DCIM_SystemManagementService.SetAttribute()	Mandatory	See section 8.1
DCIM_SystemManagementService.SetAttributes()	Mandatory	See section 8.2
DCIM_SystemManagementService.CreateTargetedConfigJob()	Mandatory	See section 8.3
DCIM_SystemManagementService.DeletePendingConfiguration()	Mandatory	See section 8.4
DCIM_SystemManagementService.ShowErrorsOnLCD()	Mandatory	See section 8.5
DCIM_SystemManagementService.IdentifyChassis()	Mandatory	See section 8.6

7.7.3 Properties

The following table lists the implemented properties for DCIM_SystemManagementService instance representing system management 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 31 – DCIM_SystemManagementService- Properties

Property Name	Requirements	Description/Additional Requirement
SystemCreationClassName	Mandatory	The property value shall be “DCIM_ComputerSystem”.
CreationClassName	Mandatory	The property value shall be “DCIM_SystemManagementService”.
SystemName	Mandatory	The property value shall be “srv:system”.
Name	Mandatory	This property shall have a value of “DCIM:SystemManagementService”
ElementName	Mandatory	The property value shall be “System Management Service”.

7.8 System Info Profile Profile Registration

This section describes the implementation for the DCIM_LCRegisteredProfile class.

This class shall be instantiated in the Interop Namespace: root/interop.

The DCIM_ElementConformsToProfile association(s) shall reference the DCIM_LCRegisteredProfile instance.

7.8.1 Resource URIs for WinRM®

The class Resource URI shall be “http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/CIM_RegisteredProfile?__cimnamespace=root/interop”

The key property shall be the InstanceID property.

The instance Resource URI shall be: “http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_LCRegisteredProfile?__cimnamespace=root/interop+InstanceID=DCIM: SystemInfo:1.0.0”

7.8.2 Operations

The following table lists the operations implemented on for DCIM_LCRegisteredProfile.

Table 32 – DCIM_LCRegisteredProfile - Operations

Operation Name	Requirements	Required Input
Get	Mandatory	Instance URI
Enumerate	Mandatory	Class URI

7.8.3 Properties

The following table lists the implemented properties for DCIM_LCRegisteredProfile instance representing System Info Profile implementation. 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 33 – DCIM_LCRegisteredProfile

Property Name	Type	Requirement	Additional Requirements
InstanceID	String	Mandatory	DCIM:SystemInfo:1.0.0
RegisteredName	String	Mandatory	This property shall have the value "System Info".
RegisteredVersion	String	Mandatory	This property shall have the value "1.4.0".
RegisteredOrganization	Uint16	Mandatory	This property shall have the value 1 (Other).
OtherRegisteredOrganization	String	Mandatory	The property value shall match "DCIM".
AdvertiseTypes[]	Uint16	Mandatory	The property array shall contain: ["1(Other), 1(Other)"]
AdvertiseTypeDescriptions[]	String	Mandatory	The property array shall contain: "WS-Identify", "Interop Namespace"

8 Methods

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

8.1 DCIM_SystemManagementService.SetAttribute()

The SetAttribute() method is used to set or change the value of a system attribute.

Invocation of the SetAttribute() method shall change the value of the attribute's CurrentValue or attribute's PendingValue property to the value specified by the AttributeValue parameter if the attribute's IsReadOnly property is FALSE. If this method is invoked when the attribute's IsReadOnly property is TRUE, it shall result in no change to the value of the attribute's CurrentValue property. The result of changing this value is described with the SetResult parameter.

Return code values for the SetAttribute() method are specified in Table 34 and parameters are specified in Table 35. Invoking the SetAttribute() method multiple times can result in the earlier requests being overwritten or lost.

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Table 34 – SetAttribute() Method: Return Code Values

Value	Description
0	Completed with no error
2	Failed

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Table 35 – SetAttribute() Method: Parameters

Qualifiers	Name	Type	Description/Values
IN, REQ	Target	String	Shall be set to "System.Embedded.1"
IN, REQ	AttributeName	String	Shall be the GroupID property value followed by "#" character and then followed by the AttributeName property value for the attribute to be modified. Example: "ServerPwr.1#PowerCapSetting"
IN, REQ	AttributeValue[]	String	Shall contain the desired attribute value. If the value is valid, the CurrentValue or PendingValue property of the specified attribute will be modified.
OUT	SetResult	String	Returns: "Set CurrentValue property" when the attributes current value is set. "Set PendingValue property" when the attributes pending value is set.
OUT	RebootRequired	String	Returns: "Yes" if reboot is required, "No" if reboot is not required.
OUT	MessageID	String	Error Message ID may be used to look-up in the Dell Message registry files. For more information, see Error Message Registry
OUT	Message	String	Error Message
OUT	MessageArguments[]	String	Error MessageArguments

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Table 36 – SetAttribute() Method: Standard Messages

MessageID (OUT parameter)	Message	MessageArguments[]
SYS001	The command was succesful	
SYS002	The command failed	
SYS003	Missing parameter(s) %s	AttributeName/AttributeValue
SYS004	Invalid parameter value for %s	AttributeName/AttributeValue
SYS005	AttributeName and AttributeValue count mismatch	
SYS006	Cannot set ReadOnly AttributeName %s	AttributeName
SYS007	Input out of range for %s	AttributeName
SYS008	Invalid boolean in AttributeValue for AttributeName %s	AttributeName
SYS009	String exceeds maximum length for AttributeName %s	AttributeName
SYS010	Invalid character in AttributeValue for AttributeName %s	AttributeName
SYS011	Configuration is already committed, cannot set the configuration	

MessageID (OUT parameter)	Message	MessageArguments[]
SYS012	User is not authorized to perform this operation	
SYS013	Invalid AttributeName %s	AttributeName
SYS014	Invalid AttributeValue for AttributeName %s	AttributeName
SYS015	Job created	
SYS016	Job completed with errors	
SYS017	Job failed	
SYS018	Job completed	
SYS019	Required dependancy input not found	
SYS020	Invalid Required Attribute value	
SYS023	No pending configurations	
SYS024	Attribute dependency failed	
JCP017	Maximum job limit reached, cannot create new jobs	
LC062	An instance of Export or Import System Configuration is already running.	

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616 8.2 DCIM_SystemManagementService.SetAttributes()

617 The SetAttributes() method is used to set or change the values of a group of attributes.

618 Invocation of the SetAttributes() method shall change the values of the attribute's CurrentValue or
619 PendingValue properties that correspond to the names specified by the AttributeName parameter and the
620 values specified by the AttributeValue parameter if the respective attribute's IsReadOnly property is
621 FALSE. . If this method is invoked when the attribute's IsReadOnly property is TRUE, it shall result in no
622 change to the value of the attribute's CurrentValue property.

623 Return code values for the SetAttributes() method are specified in Table 37, and parameters are
624 specified in Table 38.

625 Invoking the SetAttributes() method multiple times can result in the earlier requests being overwritten or
626 lost.

627 **Table 37 – SetAttributes() Method: Return Code Values**

Value	Description
0	Completed with no error
2	Failed

628 **Table 38 – SetAttributes() Method: Parameters**

Qualifiers	Name	Type	Description/Values
IN, REQ	Target	String	Shall be set to "System.Embedded.1"

Qualifiers	Name	Type	Description/Values
IN, REQ	AttributeName[]	String	Shall contain array of attributes where each element shall be the GroupID property value followed by “#” character and then followed by the AttributeName property value for the attribute to be modified. Example: “ServerPwr.1#PowerCapSetting”
IN, REQ	AttributeValue[]	String	Shall contain the desired attribute values. If the value is valid, the CurrentValue or PendingValue property of the specified attribute will be modified. Note: Attributes with multi-element array values shall not be set using this method.
OUT	SetResult[]	String	Returns: • “Set CurrentValue property” when the attributes current value is set. • “Set PendingValue property” when the attributes pending value is set.
OUT	RebootRequired[]	String	Returns: • “Yes” if reboot is required, • “No” if reboot is not required.
OUT	MessageID[]	String	Error Message ID may be used to look-up in the Dell Message registry files. For more information, see Error Message Registry
OUT	Message[]	String	Error Message
OUT	MessageArguments[]	String	Error MessageArguments

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Table 39 – SetAttributes() Method: Standard Messages

MessageID (OUT parameter)	Message	MessageArguments[]
SYS001	The Command was succesful	
SYS002	The command failed	
SYS003	Missing parameter(s) %s	AttributeName/AttributeValue
SYS004	Invalid parameter value for %s	AttributeName/AttributeValue
SYS005	AttributeName and AttributeValue count mismatch	
SYS006	Cannot set ReadOnly AttributeName %s	AttributeName
SYS007	Input out of range for %s	AttributeName
SYS008	Invalid boolean in AttributeValue for AttributeName %s	AttributeName
SYS009	String exceeds maximum length for AttributeName %s	AttributeName
SYS010	Invalid character in AttributeValue for AttributeName %s	AttributeName
SYS011	Configuration already committed, cannot set configuration	
SYS012	User is not Authorized to perform this operation	
SYS013	Invalid AttributeName %s	AttributeName
SYS014	Invalid AttributeValue for	AttributeName

MessageID (OUT parameter)	Message	MessageArguments[]
	AttributeName %s	
SYS015	Job created	
SYS016	Job completed with errors	
SYS017	Job failed	
SYS018	Job completed	
SYS019	Required Dependency input not found	
SYS020	Invalid Required Attribute value	
SYS023	No pending configurations	
SYS024	Attribute dependency failed	
JCP017	Maximum job limit reached, cannot create new jobs	
LC062	An instance of Export or Import System Configuration is already running.	

8.3 DCIM_SystemManagementService.CreateTargetedConfigJob()

The CreateTargetedConfigJob() method is used to apply the pending values created by the SetAttribute, SetAttributes, ChangeBootSourceState, and ChangeBootOrderByInstanceId methods. The successful execution of this method creates a job to apply the pending values.

The CreateTargetedConfigJob() method supports the following optional input parameters:

- RebootJobType: When provided in the input parameters, it creates a specific reboot job to "PowerCycle", "Graceful Reboot without forced shutdown", or "Graceful Reboot with forced shutdown". This parameter only creates the RebootJob and does not schedule it.
NOTE: Many attributes in the profile do not require a reboot job. Thus, it may not be necessary to specify this parameter.
- ScheduledStartTime: When provided in the input parameters, schedules the "configuration job" and the optional "reboot job" at the specified start time. A special value of "TIME_NOW" schedules the job(s) immediately.
- UntilTime: This parameter has a dependency on "ScheduledStartTime", together "ScheduledStartTime" and "UntilTime" define a time window for scheduling the job(s). Once scheduled, jobs will be executed within the time window.

If CreateTargetedConfigJob method is executed without the three optional parameters discussed above, then configuration job is created but not scheduled. However, this configuration job can be scheduled later using the DCIM_JobService.SetupJobQueue () method from the "Job Control Profile". DCIM_JobService.SetupJobQueue () can be executed to schedule several configuration jobs including the reboot job. Refer to "Job Control Profile" for more details.

Return code values for the CreateTargetedConfigJob() method are specified in Table 37, and parameters are specified in Table 38.

Subsequent calls to CreateTargetedConfigJob after the first CreateTargetedConfigJob will result in error until the first job is completed."

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Table 40 – CreateTargetedConfigJob() Method: Return Code Values

Value	Description
2	Failed
4096	Job Created

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Table 41 – CreateTargetedConfigJob() Method: Parameters

Qualifiers	Name	Type	Description/Values
IN, REQ	Target	String	Shall be set to "System.Embedded.1"
IN	ScheduledStartTime	String	Start time for the job execution in format: yyyyymmddhhmmss. The string "TIME_NOW" means immediate.
IN	UntilTime	String	End time for the job execution in format: yyyyymmddhhmmss. If this parameter is not NULL, then ScheduledStartTime parameter shall also be specified.
OUT	Job	CIM_ConcreteJob REF	Reference to the newly created pending value application job.
OUT	MessageID	String	Error Message ID may be used to look-up in the Dell Message registry files. For more information, see Error Message Registry.
OUT	Message	String	Error Message
OUT	MessageArguments[]	String	Error MessageArguments

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Table 42 – CreateTargetedConfigJob() Method: Standard Messages

MessageID (OUT parameter)	Message	MessageArguments[]
SYS001	The command was succesful	
SYS002	The command failed	
SYS003	Missing parameter(s) %s	AttributeName/AttributeValue
SYS004	Invalid parameter value for %s	AttributeName/AttributeValue
SYS005	AttributeName and AttributeValue count mismatch	
SYS006	Cannot set ReadOnly AttributeName %s	AttributeName
SYS007	Input out of range for %s	AttributeName
SYS008	Invalid boolean in AttributeValue for AttributeName %s	AttributeName
SYS009	String exceeds maximum length for AttributeName %s	AttributeName
SYS010	Invalid character in AttributeValue for AttributeName %s	AttributeName
SYS011	Configuration already committed, cannot set configuration	
SYS012	User is not Authorized to perform this operation	
SYS013	Invalid AttributeName %s	AttributeName

MessageID (OUT parameter)	Message	MessageArguments[]
SYS014	Invalid AttributeValue for AttributeName %s	AttributeName
SYS015	Job created	
SYS016	Job completed with errors	
SYS017	Job failed	
SYS018	Job completed	
SYS019	Required dependancy input not found	
SYS020	Invalid Required Attribute value	
SYS023	No pending configurations	
SYS024	Attribute dependency failed	
SYS029	Unsupported parameter name <parameter name>	Parameter Name
JCP017	Maximum job limit reached, cannot create new jobs	
LC062	An instance of Export or Import System Configuration is already running.	

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660 8.4 DCIM_SystemManagementService.DeletePendingConfiguration()

661 The DeletePendingConfiguration() method is used to cancel the pending values created by the
662 SetAttribute and SetAttributes methods. The DeletePendingConfiguration() method cancels the pending
663 configuration changes made before the configuration job is created with CreateTargetedConfigJob(). This
664 method only operates on the pending changes prior to CreateTargetedConfigJob() being called. After the
665 configuration job is created, the pending changes can only be canceled by calling DeleteJobQueue()
666 method in the Job Control profile.

667 Return code values for the DeletePendingConfiguration() method are specified in Table 43, and
668 parameters are specified in Table 44.

669 **Table 43 – DeletePendingConfiguration() Method: Return Code Values**

Value	Description
0	Completed with no error
2	Failed

670 **Table 44 – DeletePendingConfiguration() Method: Parameters**

Qualifiers	Name	Type	Description/Values
IN, REQ	Target	String	Shall be equal to "System.Embedded.1"
OUT	MessageID	String	Error Message ID may be used to look-up in the Dell Message registry files. For more information, see Error Message Registry.
OUT	Message	String	Error Message
OUT	MessageArguments[]	String	Error MessageArguments

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Table 45 – DeletePendingConfiguration() Method: Standard Messages

MessageID (OUT parameter)	Message	MessageArguments[]
SYS001	The command was succesful	
SYS002	The command failed	
SYS003	Missing parameter(s) %s	AttributeName/AttributeValue
SYS004	Invalid parameter value for %s	AttributeName/AttributeValue
SYS005	AttributeName and AttributeValue count mismatch	
SYS006	Cannot set ReadOnly AttributeName %s	AttributeName
SYS007	Input out of range for %s	AttributeName
SYS008	Invalid boolean in AttributeValue for AttributeName %s	AttributeName
SYS009	String exceeds maximum length for AttributeName %s	AttributeName
SYS010	Invalid character in AttributeValue for AttributeName %s	AttributeName
SYS011	Configuration already committed, cannot set configuration	
SYS012	User is not authorized to perform this operation	
SYS013	Invalid AttributeName %s	AttributeName
SYS014	Invalid AttributeValue for AttributeName %s	AttributeName
SYS015	Job created	
SYS016	Job completed with errors	
SYS017	Job failed	
SYS018	Job completed	
SYS019	Required dependancy input not found	
SYS020	Invalid Required Attribute value	
SYS023	No pending configurations	
SYS024	Attribute dependency failed	
JCP017	Maximum job limit reached, cannot create new jobs	
LC062	An instance of Export or Import System Configuration is already running.	

673 **8.5 DCIM_SystemManagementService.ShowErrorsOnLCD()**

674 The ShowErrorsOnLCD() method is used to hide and unhide LCD Errors.

675 Return code values for the ShowErrorsOnLCD() method are specified in Table 46, and parameters are
676 specified in Table 47.

Table 46 – ShowErrorsOnLCD() Method: Return Code Values

Value	Description
0	Completed with no error
2	Failed

Table 47 – ShowErrorsOnLCD() Method: Parameters

Qualifiers	Name	Type	Description/Values
IN, REQ	Show	Boolean	Whether to show or hide LCD errors
OUT	MessageID	String	Error Message ID may be used to look-up in the Dell Message registry files. For more information, see Error Message Registry.
OUT	Message	String	Error Message
OUT	MessageArguments[]	String	Error MessageArguments

Table 48 – ShowErrorsOnLCD() Method: Standard Messages

MessageID (OUT parameter)	Message	MessageArguments[]
SYS001	The command was succesful	
SYS002	The command failed	
SYS003	Missing parameter(s) <parameter name>	Show
SYS004	Invalid parameter value for <parameter name>	Show
SYS024	Attribute dependency failed	

8.6 DCIM_SystemManagementService.IdentifyChassis()

The IdentifyChassis() method is used to turn on and off LEDs on the chassis in order to identify the system.

Return code values for the IdentifyChassis() method are specified in Table 49, and parameters are specified in Table 50.

Table 49 – IdentifyChassis() Method: Return Code Values

Value	Description
0	Completed with no error
2	Failed

Table 50 – IdentifyChassis() Method: Parameters

Qualifiers	Name	Type	Description/Values
IN, REQ	IdentifyState	UInt8	This parameter represents the requested state of the identifying LED. 0 – “Disabled” 1 – “Enabled” 2 – “Time Limited Enabled”

Qualifiers	Name	Type	Description/Values
IN	DurationLimit	UInt8	This parameter represents the requested time limit in seconds for identifying chassis before the identifying LED turns back off. The parameter shall be specified and non-NULL, if the IdentifyState parameter has value of 2 – “Time Limited Enabled”.
OUT	MessageID	String	Error Message ID may be used to look-up in the Dell Message registry files. For more information, see Error Message Registry.
OUT	Message	String	Error Message
OUT	MessageArguments[]	String	Error MessageArguments

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Table 51 – IdentifyChassis() Method: Standard Messages

MessageID (OUT parameter)	Message	MessageArguments[]
SYS001	The command was succesful	
SYS002	The command failed	
SYS003	Missing parameter(s) <parameter name>	DurationLimit/IdentifyState
SYS004	Invalid parameter value for <parameter name>	Show
SYS024	Attribute dependency failed	

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9 Use Cases

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See *Lifecycle Controller (LC) Integration Best Practices Guide*.

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10 CIM Elements

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No additional details specified.

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11 Privilege and License Requirement

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The following table describes the privilege and license requirements for the listed operations.

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Table 52 – Privilege and License Requirements

SetAttributes	Operation	User Privilege Required	License Required
ServerPwr.1#PowerCapSetting	INVOKE	Login, System Control	None.
ServerPwr.1#PowerCapValue	INVOKE	Login, System Control	None.
QuickSync.1#Access	INVOKE	Login, System Control	None.
QuickSync.1#InactivityTimerEnable	INVOKE	Login, System Control	None

QuickSync.1#InactivityTimeout	INVOKE	Login, System Control	None
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Table 535 – Privilege and License Requirements

Class and Method	Operation	User Privilege Required	License Required
DCIM_SystemView	ENUMERATE, GET	Login	None.
DCIM_SystemInteger	ENUMERATE, GET	Login	None.
DCIM_HostNetworkInterfaceView	ENUMERATE, GET	Login	None
DCIM_SystemEnumeration	ENUMERATE, GET	Login	None.
DCIM_SystemString	ENUMERATE, GET	Login	None.
DCIM_System Management Service	ENUMERATE, GET	Login	None.
DCIM_SystemManagementService.SetAttribute()	INVOKE	Login, Configure	LM_POWER_BUDGETING & LM_REMOTE_CONFIGURAT ION
DCIM_SystemManagementService.SetAttributes()	INVOKE	Login, Configure	LM_POWER_BUDGETING & LM_REMOTE_CONFIGURAT ION
DCIM_SystemManagementService.CreateTargetedConfigJob()	INVOKE	Login, Configure	LM_REMOTE_CONFIGURAT ION
DCIM_SystemManagementService.DeletePendingConfiguration()	INVOKE	Login, Configure	LM_REMOTE_CONFIGURAT ION
DCIM_SystemManagementService.ShowErrorsOnLCD()	INVOKE	Login, System Operations	LM_REMOTE_CONFIGURAT ION
DCIM_SystemManagementService.IdentifyChassis()	INVOKE	Login, System Operations	LM_REMOTE_CONFIGURAT ION
DCIM_LCRegisteredProfile	ENUMERATE, GET	Login	None.
DCIM_LCElementConformsToProfile	ENUMERATE, GET	Login	None.

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ANNEX A (informative)

Change Log

Version	Date	Description
1.4.0		Added the Thermal Configuration attribute. Added LC062 error message to the SetAttribute(), SetAttributes(), CreateTargetedConfigJob(), and DeletePendingConfiguration() methods.
1.4.0	9/6/2012	Added LCD group attributes – CurrentDisplay, UserDefinedString Added ThermalConfig group attributes – EventGenerationInterval, CriticalEventGenerationInterval Added ServerOS group attributes – HostName, OSName, OSVersion Added methods – ShowErrorsOnLCD(), IdentifyChassis() Updated privilege and licensing requirement for added methods/attributes
1.4	6/14/2013	Added Thermal Settings Attributes
1.4.1	10/24/2013	Added Quick Sync Attributes.
1.5.0	7/15/2014	Added DCIM_HostNetworkInterfaceView
1.5.1	7/15/2014	Backplane SGPIO attributes
1.5.2	12/01/2014	Added property EstimatedSystemAirflow to DCIM_SystemView
1.5.3	3/20/2015	Added attribute vConsoleIndication to LCD Attributes under DCIM_SystemEnumeration
1.5.4	4/16/2015	Added Attributes QualifierWatt and QualifierTemp in DCIM_SystemEnumeration LCD Attributes. Added Section 7.6.9 Diagnostics Attributes, to accommodate attribute OSAppCollectionTime in DCIM_SystemString. Updated Privilege requirements for, ServerPwr.1#PowerCapSetting ServerPwr.1#PowerCapValue QuickSync.1#Access QuickSync.1#InactivityTimerEnable QuickSync.1#InactivityTimeout
1.5.5	5/28/2015	Added ThirdPartyPCIFanResponse Attribute to DCIM_SystemEnumeration Thermal Settings Attributes and added property EstimatedExhaustTemperature in DCIM_SystemView. Also changed datatype of EstimatedSystemAirflow from sint16 to uint16
1.5.6	7/13/2015	Added IDSMDRollupStatus and IntrusionRollupStatus in DCIM_SystemView
1.5.7	10/23/2015	Added Chassis related attributes
1.5.8	05/06/2016	Updated description for PrimaryStatus
1.5.9	05/10/2016	Removed BaseAlgorithm attribute
1.5.10	06/21/2016	Replaced error code 4 with NULL in Healthstatus parameters

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		(Extended Health Object).
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