

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 as well as provides static methodology for the clients to query the system views without substantial traversal of the model.

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 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*

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

Interop Namespace is where instrumentation instantiates classes to advertise its capabilities for client discovery.

3.9

Implementation Namespace

Implementation Namespace 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

5 Synopsis

Profile Name: System Info

Version: 1.0.0

Organization: Dell

CIM Schema Version: 2.21.0 Experimental

Dell Schema Version: 1.0.0

Interop Namespace: root/interop

Implementation Namespace: 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
None			

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 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. 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. It is associated to the Interop namespace's SystemInfoProfile instance.

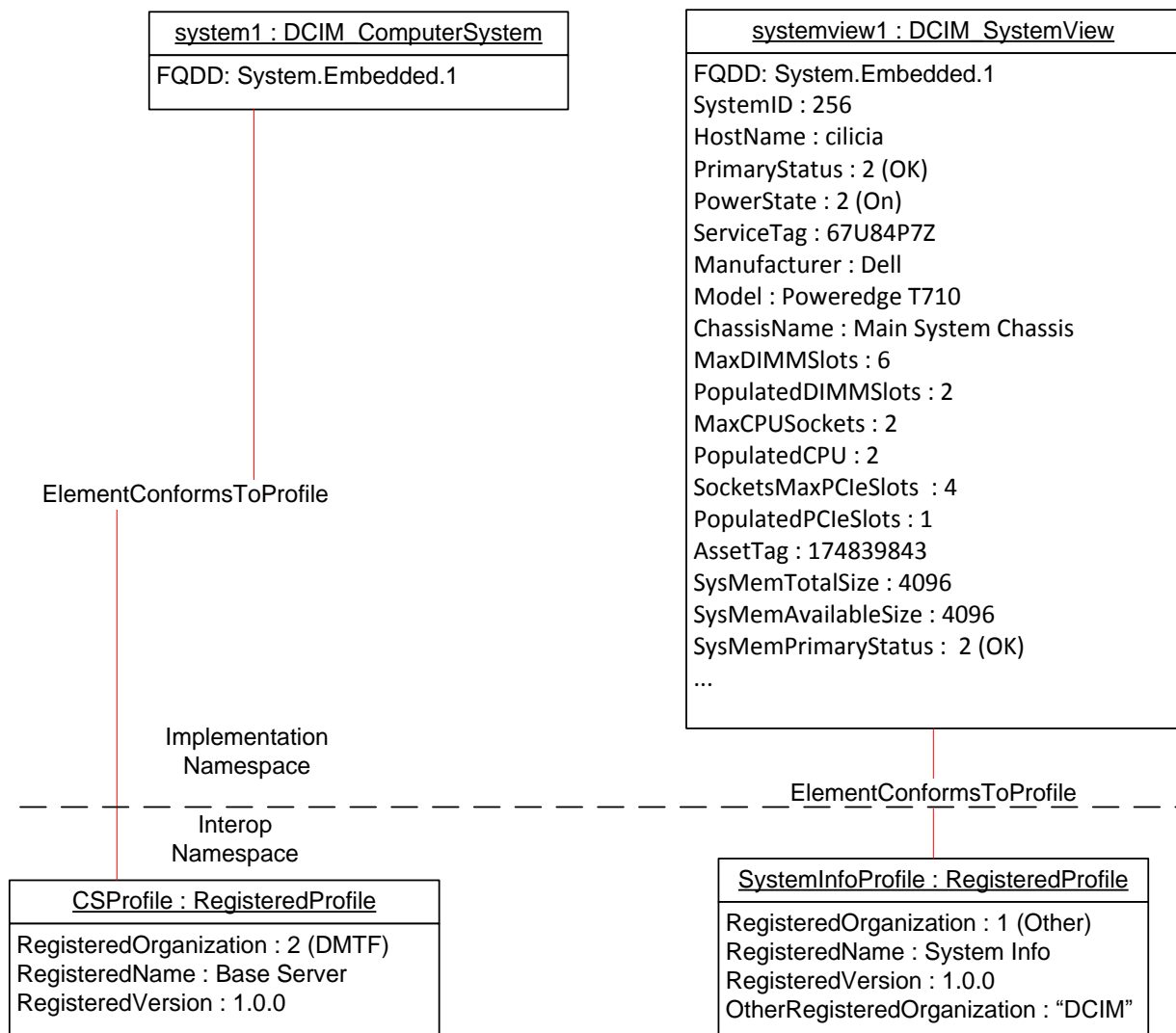


Figure 1 – System Info Profile Implementation

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 Implementation Namespace. See section 7.1.
DCIM_LCElementConformsToProfile	Mandatory	The class shall be implemented in the <i>Implementation Namespace</i> .
DCIM_LCElementConformsToProfile	Mandatory	The class shall be implemented in the <i>Interop Namespace</i> .
DCIM_LCRegisteredProfile	Mandatory	The class shall be implemented in the Interop Namespace. See section 7.2.
Indications		
None defined in this profile		

7.1 System View

This section describes the implementation for the DCIM_SystemView class.

This class shall be instantiated in the Implementation Namespace.

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

7.1.1 WBEM URIs for WinRM®

The class WBEM URI shall be “http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_SystemView?__cimnamespace=<Implementation Namespace>”

The key property shall be the InstanceID.

The instance WBEM URI for DCIM_SystemView instance shall be:

“http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_SystemView?__cimnamespace=<Implementation Namespace>+InstanceID=<FQDD>”

7.1.2 Operations

The following table details the implemented operations on DCIM_SystemView.

Table 3 – DCIM_SystemView - Operations

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

7.1.3 Properties

The following table details the implemented properties for DCIM_SystemView instance representing a system in a system. The “Requirements” column shall denote the implementation requirement for the corresponding property. If the column “Property Name” matches the property name, the property either shall have the value denoted in the corresponding column “Additional Requirement”, or shall be implemented according to the requirements in the corresponding column “Additional Requirement”.

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”
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.
HostName	Mandatory	string	System name string in ASCII.
PrimaryStatus	Mandatory	uint32	The property shall contain up-to-date information on health state of the system excluding storage sub-systems. PrimaryStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status.
PowerState	Mandatory	uint16	The current power state of the system.
PlatformGUID	Mandatory	string	System GUID uniquely identifies the system. The property is also sometimes referred as BIOS GUID.
smbiosGUI	Mandatory	String	Smbios GUID string as present in SMBIOS Type 1 structure
UUID	Mandatory	String	Same as smbiosGUID except that first 8 bytes in blocks of 4, 2, 2 are represented in little endian format
ChassisServiceTag	Optional	string	This property represents the service tag for the modular enclosure chassis. This property shall be represented for modular server blades.
ServiceTag	Mandatory	string	Service tag of the system.
ExpressServiceCode	Mandatory	String	ExpressServiceCode of the system
Manufacturer	Mandatory	string	System Manufacturer string, e.g. DELL Inc.
Model	Mandatory	string	Model of the system, eg: PowerEdge R610.
ChassisName	Mandatory	string	The property shall be “Main System Chassis” for monolithic and “Server Blade” for modular’s server blades.
ChassisSystemHeight	Mandatory		The property shall be in U of rack space units.
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.
BladeGeometry	Optional	uint16	The property represents the geometric dimension of the server blade enclosure in modular enclosure slot height and widths. This property shall be represented for modular server blades.

MaxDIMMSlots	Mandatory	uint32	The number of slots or sockets available for memory devices in the system memory array.
PopulatedDIMMSlots	Mandatory	uint32	System memory sockets current capacity.
MaxCPUSockets	Mandatory	uint32	Maximum CPU sockets in the system.
PopulatedCPUSockets	Mandatory	uint32	Populated CPU sockets in the system.
MaxPCleSlots	Mandatory	uint32	Maximum PCIe slots in the system.
PopulatedPCleSlots	Mandatory	uint32	Populated PCIe slots in the system.
AssetTag	Mandatory	string	Asset tag of the system.
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.
BIOSVersionString	Mandatory	string	System BIOS version.
BIOSReleaseDate	Mandatory	string	String number of the BIOS release date. The date string, if supplied, is in mm/dd/yyyy format.
SysMemTotalSize	Mandatory	uint32	The property shall be in Mbytes. The maximum memory capacity in MB.
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.
SysMemLocation	Mandatory	uint16	The physical location of the memory array, whether on the system board or an add-in board.
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.
MemoryOperationMode	Mandatory	string	System memory operation mode. Denotes the mode of operation for system memory such as mirrored, advanced ECC, optimized mode.
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

7.2 System Info Profile Profile Registration

This section describes the implementation for the DCIM_LCRegisteredProfile class.

This class shall be instantiated in the Interop Namespace.

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

7.2.1 WBEM URIs for WinRM®

The class WBEM URI shall be "http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/CIM_RegisteredProfile?__cimnamespace=<Interop Namespace>"

The key property shall be the InstanceID property.

The instance WBEM URI shall be: "http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_LCRegisteredProfile?__cimnamespace=<InteropNamespace>+InstanceID=DCIM: SystemInfo:1.0.0"

7.2.2 Operations

The following table details the implemented operations on for DCIM_LCRegisteredProfile.

Table 5 – DCIM_LCRegisteredProfile - 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_LCRegisteredProfile instance representing System Info Profile implementation. The "Requirements" column shall denote the implementation requirement for the corresponding property. If the column "Name" matches the property name, the property either shall have the value denoted in the corresponding column "Additional Requirements", or shall be implemented according to the requirements in the corresponding column "Additional Requirements".

Table 6 – DCIM_LCRegisteredProfile

Property Name	Requirement	Additional Requirements
InstanceID	Mandatory	DCIM: SystemInfo:1.0.1
RegisteredName	Mandatory	This property shall have a value of "System Info".
RegisteredVersion	Mandatory	This property shall have a value of "1.0.0".
RegisteredOrganization	Mandatory	This property shall have a value of 1 (Other).
OtherRegisteredOrganization	Mandatory	The property value shall match "DCIM".

8 Methods

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

No additional details specified.

9 Use Cases

This section contains use cases for the Dell SystemInfo Profile. For the general instance and class URI structure, see Section **Error! Reference source not found.** and Section **Error! Reference source not found.**, respectively.

Note that URIs in this section are in form of WBEM URIs for WinRM®.

9.1 Discovery of SystemInfo profile support

Use one of the two procedures below to confirm the existence of SystemInfo profile support

- A) GET the *DCIM_LCRegisteredProfile* instance using an *InstanceID* of DCIM:SystemInfo:1.0.0.
See Section 3.11 for a definition of GET .

Instance URI:

http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/DCIM_LCRegisteredProfile?_cimnamespace=root/interop+InstanceID=DCIM:SystemInfo:1.0.0

Results for the *InstanceID* of DCIM:SystemInfo:1.0.1 shown below. If no instance is returned, the profile is not supported.

```
DCIM_LCRegisteredProfile
  AdvertiseTypeDescriptions = WS-Identify, Interop Namespace
  AdvertiseTypes = 1, 1
  InstanceID = DCIM:SystemInfo:1.0.0
  OtherRegisteredOrganization = DCIM
  RegisteredName = System Info
  RegisteredOrganization = 1
  RegisteredVersion = 1.0.1
```

- B) ENUMERATE the *CIM_RegisteredProfile* class. See Section 3.10 for a definition of ENUMERATE .

Class URI:

http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/CIM_RegisteredProfile?_cimnamespace=root/interop

Then query the result for the following properties:

```
RegisteredName = System Info, OtherRegisteredOrganization = DCIM, RegisteredVersion = 1.0.1
```

9.2 Inventory of system

Enumerate the *DCIM_SystemView* class to view all available instances of the class

Class URI:

http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_SystemView?_cimnamespace=root/dcim

The instance information of all available SystemInfos will be returned

9.3 Get the first System's information

The URI for getting particular instance information is deterministic (i.e the *InstanceID* will be unique for each instance)

For the first System in the system, the instance URI will be:

http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_SystemView?_cimnamespace=root/dcim+InstanceID=System.Embedded.1

The instance of *DCIM_SystemView* that contains the information on the first System will be returned

10 CIM Elements

No additional details specified.

ANNEX A (informative)

Related MOF Files

Dell Tech Center MOF Library:

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

Related Managed Object Format (MOF) files:

DCIM_SystemView.mof

DCIM_LCEnumeration.mof

DCIM_LCRegisteredProfile.mof