Profile Registration Profile

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CONTENTS

1 Scope 5
2 Normative References 5
3 Terms and Definitions 6
4 Symbols and Abbreviated Terms 7
5 Synopsis 8
6 Description 8
7 Implementation Requirements 9
7.1 DCIM_RegisteredProfile 10
7.2 DCIM_LCRegisteredProfile 12
8 Methods 15
9 Use Cases 15
10 CIM Elements 15
11 Privilege and License Requirement 15

Figures

Figure 1 – Class Diagram 8
Figure 2 – Implementation Object Diagram 9

Tables

Table 1 – Class Requirements: Profile Registration Profile 9
Table 2 – DCIM_RegisteredProfile - Operations 10
Table 3 – DCIM_RegisteredProfile - Properties 10
Table 4 – DCIM_RegisteredProfile – DMTF Profile List 11
Table 5 – DCIM_LCRegisteredProfile - Operations 13
Table 6 – DCIM_LCRegisteredProfile - Properties 13
Table 7 – DCIM_LCRegisteredProfile – DCIM Profile List 13
Table 8 – Privilege and License Requirements 15

1 Scope

The DCIM *Profile Registration* Profile defines the classes used to describe the DCIM and DMTF profile registration and the version information of the profiles advertised as implemented for a managed system and components of the system. The information in this specification is intended to be sufficient for a provider or consumer of this data to identify unambiguously the classes, properties, methods, and values that must be instantiated to represent the profile name, version, and owning organization information that is modeled using the DMTF Common Information Model (CIM) Schema.

The *Profile Registration* Profile extends the management capability of the referencing profiles by adding the capability to describe the registration and versioning of Common Information Model (CIM) profiles that are implemented by CIM-based system and component-management instrumentation.

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 DSP1061, *Management Profile 1.0.0*
- DMTF DSP0200, *CIM Operations over HTTP 1.2.0*
- DMTF DSP0004, *CIM Infrastructure Specification 2.3.0*
- DMTF DSP1000, *Management Profile Specification Template*
- DMTF DSP1001, *Management Profile Specification Usage Guide*
- 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 1.0,* *http://en.community.dell.com/techcenter/extras/m/white_papers/20066173.aspx*
- *Dell WSMAN Licenses and Privileges 1.0*
- ISO/IEC Directives, Part 2, *Rules for the structure and drafting of International Standards*, http://isotc.iso.org/livelink/livelink.exe?func=ll&objId=4230456&objAction=browse&sort=subtype
- Unified Modeling Language (UML) from the Open Management Group (OMG), http://www.uml.org
- Dell Tech Center MOF Library: http://www.delltechcenter.com/page/DCIM.Library.MOF
- Related Managed Object Format (MOF) files:
    - DCIM_LCElementConformsToProfile
    - DCIM_ElementConformsToProfile
    - DCIM_RegisteredProfile
    - DCIM_LCRegisteredProfile

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

can – Used for statements of possibility and capability, whether material, physical, or causal.

3.6

cannot – Used for statements of possibility and capability, whether material, physical, or causal.

3.7

need not – Indicates a course of action permissible within the limits of the document.

3.8

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.

3.9

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

3.10

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

3.11

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

3.12

should not – Indicates that a certain possibility or course of action is deprecated but not prohibited

3.13

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

3.14

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

3.15

Implementation Namespace – Implementation Namespace is where instrumentation instantiates classes relevant to executing core management tasks.

3.16

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

3.17

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 Management Controller – management controller for the modular chassis

4.4

WBEM - Web-Based Enterprise Management

5 Synopsis

Profile Name: Profile Registration

Version: 1.0.0

Organization: DCIM

CIM Schema Version: 2.26 Experimental

Central Class: DCIM_RegisteredProfile & DCIM_LCRegisteredProfile

Scoping Class: CIM_RegisteredProfile

The *Profile Registration* Profile defines the classes used to describe the DMTF profile registration and the version information of the profiles advertised as implemented for a managed system and components of the system.

6 Description

Profile Registration Profile describes the profile advertisements of the managed accesspoint. The profiles implemented on the managed accesspoint are represented by the CIM_RegisteredProfile instances in the Interop Namespace.

Figure 2 represents the class schema for the Profile Registration Profile. For simplicity, the prefix CIM_ is removed from the names of the classes.

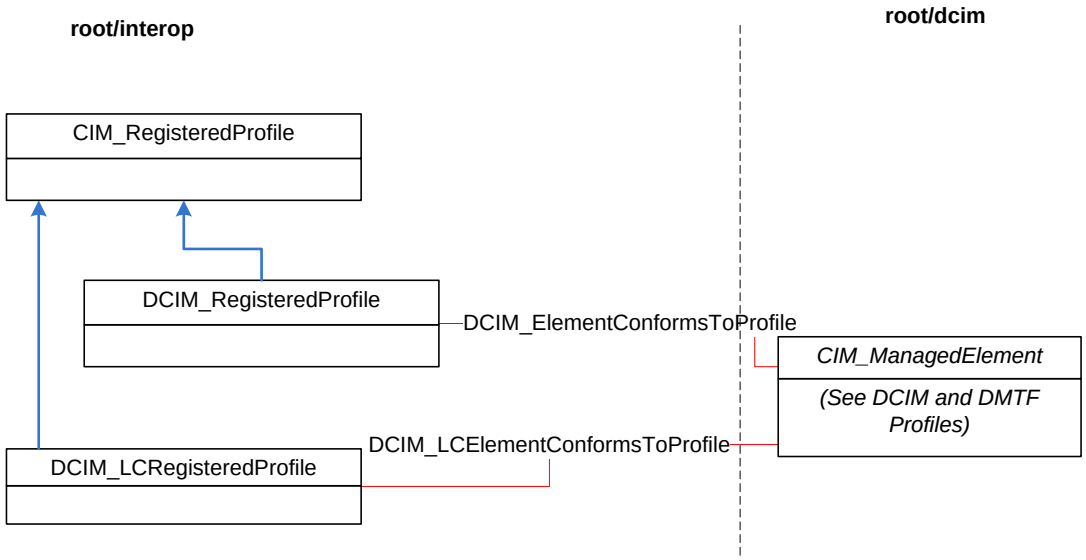

Figure 1 – Class Diagram

Figure 2 details the typical implementation for the Profile Registration Profile.

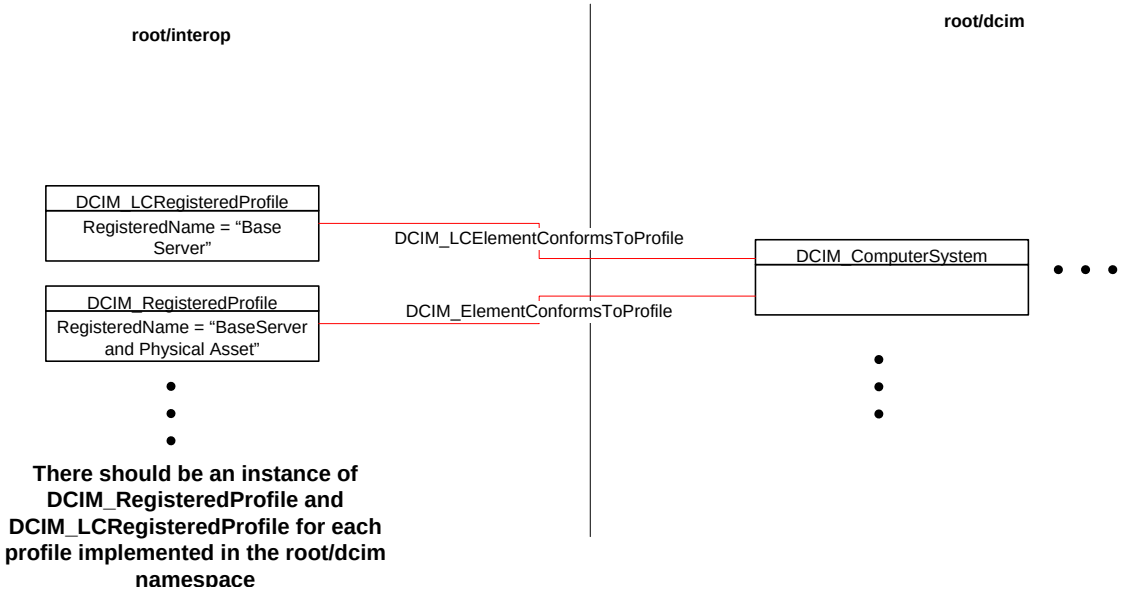

Figure 2 – Implementation Object Diagram

7 Implementation Requirements

This section describes the requirements and guidelines for implementing Profile Registration Profile.

Table 1 – Class Requirements: Profile Registration Profile

Element Name	Requirement	Description
Classes		
DCIM_RegisteredProfile	Mandatory	The class shall be implemented in the *Interop Namespace*: root/interop. See section 7.1
DCIM_ElementConformsToProfile	Mandatory	The class shall be implemented in both the *Interop Namespace*: root/interop and *Implementation Namespace: root/dcims*. See section 7.1.
DCIM_LCRegisteredProfile	Mandatory	The class shall be implemented in the *Interop Namespace*: root/interop. See section 7.2.
DCIM_LCElementConformsToProfile	Mandatory	The class shall be implemented in both the *Interop Namespace*: root/interop and *Implementation Namespace: root/dcim*. See section 7.2.
Indications		
None defined in this profile		

7.1 DCIM_RegisteredProfile

This section describes the implementation for the CIM_RegisteredProfile class that represents the registration of the DMTF profiles in the Interop Namespace.

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

The DCIM_ElementConformsToProfile shall reference the “Central Class” class listed in the Table 4 and the corresponding DCIM_RegeisteredProfile instance.

7.1.1 Resource URIs for WinRM®

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

The key property shall be the InstanceID.

The instance Resource URI for DCIM_RegisteredProfile instance shall be:
“http://schemas.dell.com.org/wbem/wscim/1/cim-schema/2/DCIM_LCRegisteredProfile?__cimnamespace=root/interop+InstanceID=<InstanceID value from Table 1>”

7.1.2 Operations

The following table lists the operations implemented on DCIM_RegisteredProfile.

Table 2 – DCIM_RegisteredProfile - Operations

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

7.1.3 Class Properties

The following table lists the implemented properties for DCIM_RegisteredProfile instance 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 3 – DCIM_RegisteredProfile - Properties

Property Name	Requirement	Type	Requirement and description
InstanceID	Mandatory	String	The property value shall be the InstanceID of the corresponding profile row from Table 4.
RegisteredName	Mandatory	String	The property value shall be the “Profile Name” column of the corresponding profile from Table 4.
RegisteredVersion	Mandatory	String	The property value shall be the “Version” column of the corresponding profile row from Table 4.
RegisteredOrganization	Mandatory	uint16	The property value shall be 2 (DMTF).
AdvertiseTypes[]	Mandatory	uint16	The property value shall be 1 (Other)
AdvertiseTypeDescriptions[]	Mandatory	String[]	The property array shall contain “WS-Identify” and “Interop Namespace” strings.

143 Table 4 lists the DMTF profiles in the “Profile Name” column with the corresponding Central Classes of
144 those profiles in the “Central Class” column. The “InstanceID” and “Version” columns correspond to the
145 DCIM_RegisteredProfile’s InstanceID and RegisteredVersion properties respectively.

146 **Table 4 – DCIM_RegisteredProfile – DMTF Profile List**

Profile Name	Central Class	InstanceID	Version
Base Metrics	DCIM_MetricService	DCIM:BaseMetricsRegisteredProfile:1	1.0.0
Base Server	DCIM_ComputerSystem	DCIM:CSRegisteredProfile:1	1.0.0
CLP Service	DCIM_CLPProtocolService	DCIM:CLPProtocolServiceRegisteredProfile:1	1.0.0
Physical Asset	DCIM_Chassis	DCIM:PhysicalAssetRegisteredProfile:1	1.0.0
Power State Management	DCIM_CSPowerManagement Service	DCIM:PowerStateManagementRegisteredProfile:1	2.0.0
Power Supply	DCIM_PowerSupply	DCIM:PowerSupplyRegisteredProfile:1	1.1.0
Profile Registration	DCIM_RegisteredProfile	DCIM:Profile Registration Profile	1.0.0
Record Log	DCIM_LCRecordLog & DCIM_SELRecordLog	DCIM:RecordLogRegisteredProfile:1	1.0.0
Record Log	DCIM_LCRecordLog	DMTF:RecordLog:2.0.0	2.0.0
Role Based Authorization	DCIM_LocalUserAccountManagementService & DCIM_IPMIAccountManagementService & DCIM_CLPAccountManagementService	DCIM:SimpleIdentityRegisteredProfile:1	1.0.0
Sensors	DCIM_Sensor & DCIM_PSNumericSensor & DCIM_Numeric Sensor	DMTF:Sensors:1.0.0	1.0.0
Service Processor	DCIM_SPComputerSystem	DCIM:SPRegisteredProfile:1	1.0.0
Simple Identity Management	DCIM_LocalRoleBasedAuthorizationService & DCIM_IPMIRoleBasedAuthorizationService & DCIM_CLPRoleBasedAuthorizationService	DCIM:RoleBasedAuthorizationRegisteredProfile:1	1.0.0
SM CLP Admin Domain	DCIM_AdminDomain	DCIM:SMCLPAdminDomain RegisteredProfile:1	1.0.0

Profile Name	Central Class	InstanceID	Version
SMASH Collections	DCIM_CSCapabilitiesConcreteCollection & DCIM_CSCapacitiesConcreteCollection & DCIM_CSSettingsConcreteCollection & DCIM_CSConsolesConcreteCollection & DCIM_CSLogsConcreteCollection & DCIM_CSSensorsConcreteCollection & DCIM_ADMProfilesConcreteCollection & DCIM_SPCapabilitiesConcreteCollection & DCIM_SPCapacitiesConcreteCollection & DCIM_SPSettingsConcreteCollection & DCIM_SPConsolesConcreteCollection & DCIM_SPLogsConcreteCollection & DCIM_SPSensorsConcreteCollection	DCIM:SMASHCollectionsRegisteredProfile:1	1.0.0

7.2 DCIM_LCRegisteredProfile

This section describes the implementation for the CIM_RegisteredProfile class that represents the registration of the DMTF profiles in the Interop Namespace.

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

The DCIM_ElementConformsToProfile shall reference the “Central Class” class listed in the Table 7 and the corresponding DCIM_RegeisteredProfile instance.

7.2.1 Resource URIs for WinRM®

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

The key property shall be the InstanceID.

The instance Resource URI for DCIM_LCRegisteredProfile instance shall be:
“http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_LCRegisteredProfile?__cimnamespace=root/interop+InstanceID=<InstanceID value from Table 1>”

7.2.2 Operations

The following table lists the operations implemented on DCIM_LCRegisteredProfile.

164 **Table 5 – DCIM_LCRegisteredProfile - Operations**

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

165 ### 7.2.3 Class Properties

166 The following table lists the implemented properties for DCIM_LCRegisteredProfile instance in a system.
167 The "Requirements" column shall denote whether the property is implemented (for requirement
168 definitions, see section 3). The "Additional Requirements" column shall denote either possible values for
169 the property, or requirements on the value formulation.

170 **Table 6 – DCIM_LCRegisteredProfile - Properties**

Property Name	Requirement	Type	Additional Requirements
InstanceID	Mandatory	String	The property value shall be from InstanceID of the corresponding profile row from Table 7.
RegisteredName	Mandatory	String	The property value shall be from "RegisteredName" of the corresponding profile from Table 7.
RegisteredVersion	Mandatory	String	The property value shall be from "Version" column of the corresponding profile row from Table 7.
RegisteredOrganization	Mandatory	uint16	The property value shall be 1 (Other).
OtherRegisteredOrganization	Mandatory	String	The property value shall be "DCIM".
AdvertiseTypes[]	Mandatory	uint16	The property value shall be 1 (Other)
AdvertiseTypeDescriptions[]	Mandatory	String	The property array shall contain "WS-Identify" and "Interop Namespace" strings.
ProfileRequireLicense[]	Mandatory	String	This property array shall describe the required licenses for this profile. If no license is required for the profile, the property shall have value NULL.
ProfileRequireLicenseStatus[]	Mandatory	String	This property array shall contain the status for the corresponding license in the same element index of the ProfileRequireLicense array property. Each array element shall contain: • "LICENSED" • "NOT_LICENSED" If no license is required for the profile, the property shall have value NULL.

171 Table 7 lists the DCIM profiles in the "Profile Name" column with the corresponding Central Classes of
172 those profiles in the "Central Class" column. The "DMTF Specialization" column denotes whether the
173 corresponding DCIM profile specializes from DMTF profile(s) or not. The "InstanceID" and "Version"
174 columns correspond to the DCIM_LCRegisteredProfile's InstanceID and RegisteredVersion properties
175 respectively.

176 **Table 7 – DCIM_LCRegisteredProfile – DCIM Profile List**

Profile Name	Central Class	InstanceID	Version	DMTF Specialization

Profile Name	Central Class	InstanceID	Version	DMTF Specialization
Base Metrics	DCIM_MetricService	DCIM:BaseMetrics:1.0.0	1.1.0	Yes
Base Server and Physical Asset	DCIM_ComputerSystem	DCIM:BaseServerandPhysicalAsset:1.0.0	1.0.0	Yes
BIOS and Boot Management	DCIM_BIOSService	DCIM:BIOSandBootManagement:1.0.0	1.2.0	No
CPU	DCIM_CPUView	DCIM:CPU:1.0.0	1.0.0	No
Event Filter	DCIM_EFConfigurationService	DCIM:EventFilter:1.0.0	1.0.0	No
Fan	DCIM_FanView	DCIM:Fan:1.0.0	1.0.0	No
iDRAC Card	DCIM_iDRACCardView	DCIM:iDRACCard:1.0.0	1.2.0	No
Job Control	DCIM_JobService	DCIM:JobControl:1.0.0	1.2.0	No
LC Management	DCIM_LCService	DCIM:LCManagement:1.1.0	1.5.0	No
License Management	DCIM_LicenseManagementService	DCIM:LicenseManagement:1.0.0	1.0.0	No
Memory	DCIM_MemoryView	DCIM:Memory:1.0.0	1.1.0	No
OS Deployment	DCIM_OSDeploymentService	DCIM:OSDeployment:1.1.0	1.4.0	No
PCI Device	DCIM_PCIDeviceView	DCIM:PCI Device:1.0.0	1.0.0	No
Persistent Storage	DCIM_PersistantStorageService	DCIM:PersistentStorage:1.0.0	1.0.0	No
Power State Management	DCIM_CSPowerManagement Service	DCIM:PowerStateManagement:1.0.0	1.0.0	Yes
Power Supply	DCIM_PowerSupplyView	DCIM:PowerSupply:2.0.0	2.1.0	No
Record Log	DCIM_LCRecordLog & DCIM_SELRecordLog	DCIM:RecordLog:1.0.0	1.0.0	Yes
Role Based Authorization	DCIM_LocalRoleBasedAuthorizationService & DCIM_IPMIRoleBasedAuthorizationService & DCIM_CLPRoleBasedAuthorizationService	DCIM:RoleBasedAuthorization:1.0.0	1.0.0	Yes
Sensors	DCIM_Sensor & DCIM_PSNumericSensor & DCIM_Numeric Sensor	DCIM:Sensors:1.0.0	1.0.0	Yes
Service Processor	DCIM_SPComputerSystem	DCIM:ServiceProcessor:1.0.0	1.0.0	Yes
Simple Identity Management	DCIM_LocalUserAccountManagementService & DCIM_IPMIAccountManagementService & DCIM_CLPAccountManagementService	DCIM:SimpleIdentityManagement:1.0.0	1.0.0	Yes
Simple NIC	DCIM_NICService	DCIM:SimpleNIC:1.0.0	1.2.0	No
Simple RAID	DCIM_RAIDService	DCIM:SimpleRAID:1.0.0	1.2.0	No
Software Inventory	DCIM_SoftwareIdentity	DCIM:SoftwareInventory:1.0.0	1.1.0	No
Software Update	DCIM_SoftwareInstallationService	DCIM:SoftwareUpdate:1.0.0	1.0.0	No
System Info	DCIM_SystemView	DCIM:SystemInfo:1.0.0	1.3.0	No
Video	DCIM_VideoView	DCIM:Video:1.0.0	1.0.0	No

177

8 Methods

There are no extrinsic methods for this profile.

9 Use Cases

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

10 CIM Elements

No additional requirements are defined.

11 Privilege and License Requirement

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

Table 8 – Privilege and License Requirements

Class and Method	Operation	User Privilege Required	License Required
DCIM_RegisteredProfile	ENUMERATE, GET	Login	None.
DCIM_ElementConformsToProfile	ENUMERATE, GET	Login	None.
DCIM_LCRegisteredProfile	ENUMERATE, GET	Login	None.
DCIM_LCElementConformsToProfile	ENUMERATE, GET	Login	None.