

# Power State Management Profile

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# 1. Scope

The *Power State Management Profile* describes the classes, associations, properties, and methods used to manage the power of a system.

# 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 DSP1027, Power State Management Profile 2.0.0
- 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 1.0,  
[http://en.community.dell.com/techcenter/extras/m/white\\_papers/20066173.aspx](http://en.community.dell.com/techcenter/extras/m/white_papers/20066173.aspx)
- Dell WSMAN Licenses and Privileges 1.0
- Dell Tech Center MOF Library:  
<http://www.delltechcenter.com/page/DCIM.Library.MOF>
- Related Managed Object Format (MOF) files:
  - o DCIM\_CSPowerManagementService.mof
  - o DCIM\_CSPowerManagementCapabilities.mof
  - o DCIM\_CSAssociatedPowerManagementService.mof
  - o DCIM\_PMSElementCapabilities.mof
  - o DCIM\_SPHostedPowerManagementService.mof

# 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 Manager Controller – management controller for the modular chassis

## 4.4. CS

Computer System

## 4.5. PM

Power Management

## 4.6. SP

Service Processor

## 4.7. LC

Lifecycle Controller

# 5. Synopsis

Profile Name: Power State Management

Version: 4.0.0

Organization: Dell

CIM Schema Version: 2.41 Final

Dell Schema Version: 1.0.0

Interop Namespace: root/interop

Implementation Namespace: root/dcim

Central Class: DCIM\_CSPowerManagementService

Scoping Class: DCIM\_ComputerSystem

The Dell Power State Management Profile is a component profile that contains the Dell specific implementation requirements for system view.

DCIM\_CSPowerManagementService is the Central Class.

Table 1 identifies profiles that are related to this profile.

**Table 1.** Related Profiles

| Profile Name           | Organization | Version | Relationship |
|------------------------|--------------|---------|--------------|
| Power State Management | DMTF         | 1.0     | Specialize   |
| Profile Registration   | DCIM         | 1.0     | Reference    |

# 6. Description

The *Power State Management Profile* defines the behavior of the power management service and the related classes used to describe and control power state and hardware reset management for a system. The profile describes the classes, property values, and methods that constitute Immediate Power State Change.

Figure 1 represents the class schema of the *Power State Management Profile* and shows the elements of the *Power State Management Profile*, and the dependent relationships between the elements of *Power State Management Profile* and the referencing profiles.

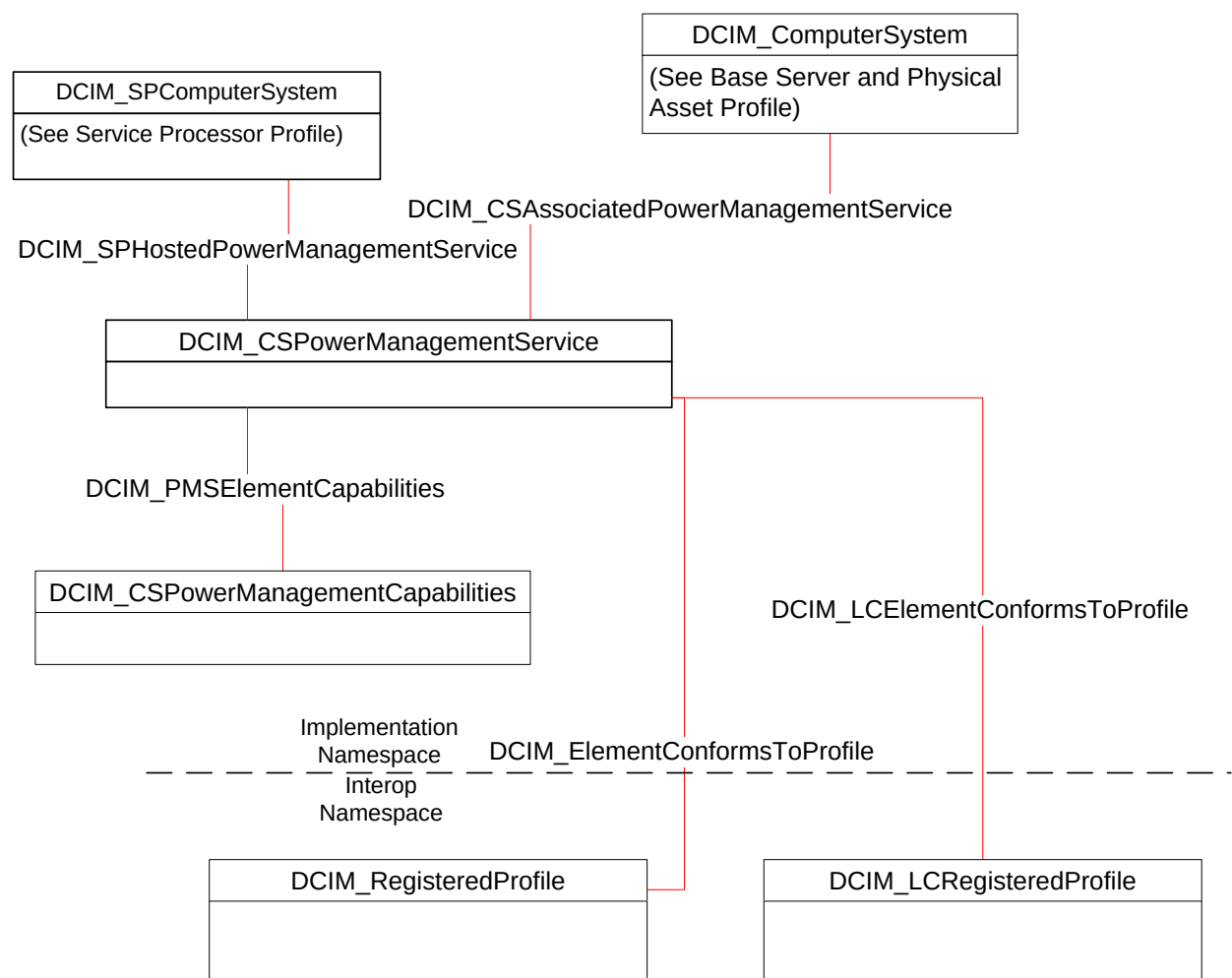


Figure 1. Power State Management Profile Implementation

## 7. Implementation Requirement

This section describes the implementation of Dell Power State Management Profile.

Table 2. Class Requirements: Power State Management Profile

| Element Name                       | Requirement | Description                                                                              |
|------------------------------------|-------------|------------------------------------------------------------------------------------------|
| Classes                            |             |                                                                                          |
| DCIM_CSPowerManagementService      | Mandatory   | The class shall be implemented in the <i>Implementation Namespace</i> . See section 7.1. |
| DCIM_CSPowerManagementCapabilities | Mandatory   | The class shall be implemented in the <i>Implementation Namespace</i> . See section 7.2. |



| Element Name                            | Requirement | Description                                                                                                                           |
|-----------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------|
| DCIM_CSAssociatedPowerManagementService | Mandatory   | The class shall be implemented in the <i>Implementation Namespace</i> .<br>See section 7.3.                                           |
| DCIM_PMSElementCapabilities             | Mandatory   | The class shall be implemented in the <i>Implementation Namespace</i> .<br>See section 7.1 and 7.2.                                   |
| DCIM_SPHostedPowerManagementService     | Mandatory   | The class shall be implemented in the <i>Implementation Namespace</i> .<br>See section 7.1.                                           |
| DCIM_ElementConformsToProfile           | Mandatory   | The class shall be implemented in both the <i>Interop</i> and <i>Implementation Namespaces</i> .<br>See section 7.1, 7.4.1 and 7.4.2. |
| DCIM_RegisteredProfile                  | Mandatory   | The class shall be implemented in the <i>Interop Namespace</i> .<br>See section 7.4.1 and 7.4.2.                                      |
| DCIM_LCElementConformsToProfile         | Mandatory   | The class shall be implemented in both the <i>Interop</i> and <i>Implementation Namespaces</i> .<br>See section 7.4.3.                |
| DCIM_LCRegisteredProfile                | Mandatory   | The class shall be implemented in the <i>Interop Namespace</i> .<br>See section 7.1 and 7.4.3.                                        |
| Indications                             |             |                                                                                                                                       |
| None defined in this profile            |             |                                                                                                                                       |

## 7.1. DCIM\_CSPowerManagementService - Power Management Service

This section describes the implementation for the DCIM\_CSPowerManagementService class that represents the service controlling the system power state.

This class is instantiated in the Implementation Namespace.

The DCIM\_CSPowerManagementService instance is associated to the DCIM\_ComputerSystem host computer system instance through the DCIM\_CSAssociatedPowerManagementService association. The DCIM\_CSAssociatedPowerManagementService.ServiceProvided property references the DCIM\_CSPowerManagementService instance.

The DCIM\_CSPowerManagementService instance is associated to the DCIM\_SPComputerSystem service processor instance through the DCIM\_SPHostedPowerManagementService association. The DCIM\_SPHostedPowerManagementService.Dependent property references the DCIM\_CSPowerManagementService instance.

The DCIM\_ElementConformsToProfile and DCIM\_LCElementConformstToProfile association(s) references the DCIM\_CSPowerManagementService instance(s).

### 7.1.1. Resource URIs for WinRM®

The class Resource URI is:

“http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM\_CSPowerManagementService?\_\_cimnamespace=root/dcim”

The key properties are the SystemCreationClassName, CreationClassName, SystemName, Name

The instance Resource URI for DCIM\_CSPowerManagementService instance is:

“http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM\_CSPowerManagementService?\_\_cimnamespace=root/dcim+SystemCreationClassName=DCIM\_SPCoComputerSystem+SystemName=systemmc+CreationClassName=DCIM\_CSPowerManagementService+Name= pwrmtgtsvc:1”

### 7.1.2. Operations

The following table lists the operations implemented on DCIM\_CSPowerManagementService.

**Table 3.** DCIM\_CSPowerManagementService - Operations

| Operation Name | Requirements | Required Input                     |
|----------------|--------------|------------------------------------|
| Get            | Mandatory    | Instance URI                       |
| Enumerate      | Mandatory    | Class URI                          |
| Invoke         | Mandatory    | Instance URI and Method parameters |

### 7.1.3. Class Properties

The following table lists the implemented properties for DCIM\_CSPowerManagementService 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 4.** DCIM\_CSPowerManagementService - Properties

| Property Name           | Requirement | Type   | Additional Requirement                                      |
|-------------------------|-------------|--------|-------------------------------------------------------------|
| CreationClassName       | Mandatory   | String | The property value shall be “DCIM_CSPowerManagementService” |
| Name                    | Mandatory   | String | The property value shall be “pwrmtgtsvc:1”                  |
| ElementName             | Mandatory   | String | The property value shall be “Power Management Service”      |
| SystemCreationClassName | Mandatory   | String | The property value shall be “DCIM_SPCoComputerSystem”       |
| SystemName              | Mandatory   | String | The property value shall be “systemmc”                      |

## 7.2. DCIM\_CSPowerManagementCapabilities - Power Management Capabilities

This section describes the implementation for the DCIM\_CSPowerManagementCapabilities class.

This class is instantiated in the Implementation Namespace.

### 7.2.1. Resource URIs

The class Resource URI is

“http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM\_CSPowerManagementCapabilities?\_\_cimnamespace=root/dcim”

The key property is the InstanceID.

The instance Resource URI for DCIM\_CSPowerManagementCapabilities instance is:

“http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM\_  
PowerManagementCapabilities?\_\_cimnamespace=root/dcim+InstanceID= DCIM:pwrmtcap1”

## 7.2.2. Operations

The following table lists the operations implemented on DCIM\_CSPowerManagementCapabilities.

**Table 5.** DCIM\_CSPowerManagementCapabilitites - Operations

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

## 7.2.3. Class Properties

The following table lists the implemented properties for DCIM\_CSPowerManagementCapabilitites 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 6.** DCIM\_CSPowerManagementCapabilitites - Properties

| Property Name                 | Requirement | Type   | Additional Requirement                                                                                                                                                                                                                                                                            |
|-------------------------------|-------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceID                    | Mandatory   | string | The property value shall be “DCIM:pwrmtcap1”                                                                                                                                                                                                                                                      |
| PowerChangeCapabilities       | Mandatory[] | uint16 | This property value shall have the following array of values: <ul style="list-style-type: none"> <li>• [3 (Power State Settable)</li> <li>• 4 (Power Cycling Supported)</li> <li>• 7 (HW Reset Supported)</li> <li>• 8 (Graceful Shutdown Supported)] depend on PowerStatesSupported ]</li> </ul> |
| ElementName                   | Mandatory   | String | The property value shall be “Power Management Capabilities”                                                                                                                                                                                                                                       |
| PowerStatesSupported          | Mandatory[] | uint16 | This property value shall have all the following array of values: <ul style="list-style-type: none"> <li>• [ 2 (On)</li> <li>• 5(Power cycle-off soft)</li> <li>• 8 (Off,soft)</li> <li>• 10 (Master Bus Reset)</li> <li>• 11 (NMI)</li> <li>• 12 (Off-soft graceful) ]</li> </ul>                |
| RequestedPowerStatesSupported | Mandatory[] | uint16 | This property value shall have all the following array of values: <ul style="list-style-type: none"> <li>• [ 2 (On)</li> <li>• 5(Power cycle-off soft)</li> <li>• 8 (Off,soft)</li> <li>• 10 (Master Bus Reset)</li> <li>• 11 (NMI), 12 (Off-soft graceful) ]</li> </ul>                          |

## 7.3. Associated Power Management Service

This section describes the implementation for the `DCIM_CSAssociatedPowerManagementService` class.

This class is instantiated in the Implementation Namespace.

### 7.3.1. Resource URIs

The class Resource URI is:

"http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM\_CSAssociatedPowerManagementService?\_\_cimnamespace=root/dcim"

The key properties are `ServiceProvided` and `UserofService`.

The instance Resource URI for `DCIM_CSAssociatedPowerManagementService` instance is:

"http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM\_SystemEnumeration?\_\_cimnamespace=root/dcim+ServiceProvided=<Reference to DCIM\_CSPowerManagementService>+UserofService=<Reference to DCIM\_ComputerSystem>"

### 7.3.2. Operations

The following table lists the operations implemented on `DCIM_CSAssociatedPowerManagementService`.

**Table 7.** `DCIM_CSAssociatedPowerManagementService` - Operations

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

### 7.3.3. Class Properties

The following table lists the implemented properties for `DCIM_CSAssociatedPowerManagementService` 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 8.** `DCIM_CSAssociatedPowerManagementService` – Properties

| Properties                       | Requirement | Type      | Additional Requirements                                                                                                                                                                                                                    |
|----------------------------------|-------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>ServiceProvided</code>     | Mandatory   | Reference | The property value shall be the Instance URI of <code>DCIM_CSPowerManagementService</code> class.                                                                                                                                          |
| <code>UserofService</code>       | Mandatory   | Reference | The property value shall be the Instance URI of <code>DCIM_ComputerSystem</code> .                                                                                                                                                         |
| <code>PowerState</code>          | Mandatory   | uint16    | The property value shall be one of the following: <ul style="list-style-type: none"><li>• 2(on),</li><li>• 13(off)</li></ul> NOTE: In 13 (off) state, although system is off, system has 'flea' or standby power, and iDRAC is powered on. |
| <code>RequestedPowerState</code> | Mandatory   | uint16    | The property value is always 0.                                                                                                                                                                                                            |
| <code>PowerOnTime</code>         | Mandatory   | datetime  | The property value is always "NULL",                                                                                                                                                                                                       |

## 7.4. Power State Management Profile Registration

This section describes the implementation for the DCIM\_LCRegisteredProfile class.

This class is instantiated in the Interop Namespace.

The DCIM\_ElementConformsToProfile association(s) shall reference the DCIM\_LCRegisteredProfile instance.

### 7.4.1. DMTF Profile Registration Version 1.0

#### 7.4.1.1. Resource URIs

The class Resource URI is:

"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 is:

"http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM\_LCRegisteredProfile?\_\_cimnamespace=root/interop+InstanceID=DCIM:PowerStateManagementRegisteredProfile:1"

#### 7.4.1.2. Operations

The following table lists the operations implemented on for DCIM\_LCRegisteredProfile.

**Table 9.** DCIM\_LCRegisteredProfile - Operations

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

#### 7.4.1.3. Class Properties

The following table lists the implemented properties for DCIM\_LCRegisteredProfile 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 10.** DCIM\_LCRegisteredProfile - Properties

| Property Name          | Requirement | Type   | Additional Requirements                               |
|------------------------|-------------|--------|-------------------------------------------------------|
| InstanceID             | Mandatory   | String | DCIM:PowerStateManagementRegisteredProfile: 4.0.0     |
| RegisteredName         | Mandatory   | String | This property value shall be "Power State Management" |
| RegisteredVersion      | Mandatory   | String | This property value shall be "4.0.0".                 |
| RegisteredOrganization | Mandatory   | Uint16 | This property value shall be 2 (DMTF).                |

### 7.4.2. DMTF Profile Registration version 2.0

#### 7.4.2.1. Resource URIs

The class Resource URI is:

"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 is:

"http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM\_LCRegisteredProfile?\_\_cimnamespace=root/interop+InstanceID=DCIM:PowerStateManagementRegisteredProfile:2"

#### 7.4.2.2. Operations

The following table lists the operations implemented on for DCIM\_LCRegisteredProfile.

**Table 11.** DCIM\_LCRegisteredProfile - Operations

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

#### 7.4.2.3. Class Properties

The following table lists the implemented properties for DCIM\_LCRegisteredProfile 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 12.** DCIM\_LCRegisteredProfile - Properties

| Property Name               | Requirement | Type   | Additional Requirements                               |
|-----------------------------|-------------|--------|-------------------------------------------------------|
| InstanceID                  | Mandatory   | String | DCIM:PowerStateManagementRegisteredProfile:2          |
| RegisteredName              | Mandatory   | String | This property value shall be "Power State Management" |
| RegisteredVersion           | Mandatory   | String | This property value shall be "2.0.0".                 |
| RegisteredOrganization      | Mandatory   | Uint16 | This property value shall be 2 (DMTF).                |
| OtherRegisteredOrganization | Mandatory   | String | The property value shall be "DCIM".                   |

### 7.4.3. Dell Profile Registration version 1.0

#### 7.4.3.1. Resource URIs

The class Resource URI is:

"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 is:

"http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM\_LCRegisteredProfile?\_\_cimnamespace=root/interop+InstanceID=DCIM:PowerStateManagement:1.0.0"

#### 7.4.3.2. Operations

The following table lists the operations implemented on for DCIM\_LCRegisteredProfile.

**Table 13.** DCIM\_LCRegisteredProfile - Operations

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

### 7.4.3.3. Class Properties

The following table lists the implemented properties for DCIM\_LCRegisteredProfile 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 14.** DCIM\_LCRegisteredProfile - Properties

| Property Name                 | Requirement | Type   | Additional Requirements                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------|-------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceID                    | Mandatory   | String | DCIM:PowerStateManagement:1.0.0                                                                                                                                                                                                                                                                                                                          |
| RegisteredName                | Mandatory   | String | This property value shall be "Power State Management"                                                                                                                                                                                                                                                                                                    |
| RegisteredVersion             | Mandatory   | String | This property value shall be "1.0.0".                                                                                                                                                                                                                                                                                                                    |
| RegisteredOrganization        | Mandatory   | Uint16 | This property value shall be 1 (Other).                                                                                                                                                                                                                                                                                                                  |
| OtherRegisteredOrganization   | Mandatory   | String | The property value shall be "DCIM".                                                                                                                                                                                                                                                                                                                      |
| AdvertisedTypes[]             | Mandatory   | Uint16 | This property array shall contain [1(Other), 1 (Other)].                                                                                                                                                                                                                                                                                                 |
| AdvertiseTypeDescriptions[]   | Mandatory   | String | This property array shall contain ["WS-Identify", "Interop Namespace"].                                                                                                                                                                                                                                                                                  |
| ProfileRequireLicense[]       | Mandatory   | String | This property array shall describe the required licenses for this profile.<br>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: <ul style="list-style-type: none"><li>• "LICENSED"</li><li>• "NOT_LICENSED"</li></ul> If no license is required for the profile, the property shall have value NULL. |

## 8. Methods

This section details the requirements for supporting extrinsic methods for the DCIM\_CSPowerManagementService class.

### 8.1. DCIM\_CSPowerManagementService.RequestPowerStateChange()

The RequestPowerStateChange() method is used to set the host system power state. The PowerChangeCapabilities property array of the associated instance of CIM\_PowerManagementCapabilities is used to represent the capabilities of the RequestPowerStateChange() method. When this method is supported, the PowerChangeCapabilities property shall contain the value 3 (Power State Settable).

RequestPowerStateChange() method return code values shall be as specified in Table 15.

RequestPowerStateChange() method parameters are specified in Table 16.

Invoking the RequestPowerStateChange() method multiple times could result in earlier requests being overwritten or lost.

**Table 15.** DCIM\_CSPowerManagementService.RequestPowerStateChange() Method: Return Code Values

| Value | Description                                                            |
|-------|------------------------------------------------------------------------|
| 0     | The initiation of Pending/Immediate Power State Change was successful. |
| 2     | Error occurred                                                         |

**Table 16.** DCIM\_CSPowerManagementService.RequestPowerStateChange() Method: Parameters

| Qualifiers | Name               | Type   | Description/Values     |
|------------|--------------------|--------|------------------------|
| IN         | PowerState         | uint16 | See section 8.1.1.     |
| OUT        | MessageID          | String | Error MessageID        |
| OUT        | Message            | String | Error Message          |
| OUT        | MessageArguments[] | String | Error MessageArguments |

**Table 17.** DCIM\_CSPowerManagementService.RequestPowerStateChange() Standard Messages

| MessageID (OUT parameter) | Message                               | MessageArguments[] |
|---------------------------|---------------------------------------|--------------------|
| SYS003                    | Missing parameter(s) %s               | PowerState         |
| SYS004                    | Invalid parameter value for %s        | PowerState         |
| SYS002                    | The command failed                    | NA                 |
| SYS021                    | The command failed to set <parameter> | PowerState         |

### 8.1.1. PowerState

The PowerState parameter indicates the desired power state of the computer system.

When the value used for the PowerState parameter is not equal to one of the values in the PowerStatesSupported property array of the associated instance of CIM\_PowerManagementCapabilities, the method shall return 2.

When the value used for the PowerState parameter is not equal to one of the values in the RequestedPowerStatesSupported property of the associated instance of CIM\_PowerManagementCapabilities, the method shall return 2.

When the value 5 (Power Cycle (Off-Soft)) or the value 15 (Power Cycle (Off-Soft Graceful)) is supported for the PowerState parameter, the PowerChangeCapabilities property array of the associated instance of CIM\_PowerManagementCapabilities shall contain the value 4 (Power Cycling Supported).

When the value 6 (Power Cycle (Off-Hard)) or the value 16 (Power Cycle (Off-Hard Graceful)) is supported for the PowerState parameter, the PowerChangeCapabilities property array of the associated instance of CIM\_PowerManagementCapabilities shall contain the value 6 (Off Hard Power Cycling Supported).

When the values 10 (Master Bus Reset) and 11 (Diagnostic Interrupt (NMI)) are supported for the PowerState parameter, the PowerChangeCapabilities property array of the associated instance of CIM\_PowerManagementCapabilities shall contain the value 7 (HW Reset Supported).

When the value is 12 (Off-Soft Graceful), 13 (Off-Hard Graceful), 14 (Master Bus Reset Graceful), 15 (PowerCycle (Off-Soft Graceful), or 16 (Power Cycle (Off-Hard Graceful)), is supported for the PowerState parameter, the PowerManagementCapabilities property array of the associated instance of CIM\_PowerManagementCapabilities shall contain value 8 (Graceful Shutdown supported).

When the CIM\_PowerManagementService.RequestPowerStateChange() method returns a value of 0 or 4096, the RequestedPowerState property of the instance of CIM\_AssociatedPowerManagementService that references the CIM\_PowerManagementService instance and the CIM\_ComputerSystem instance indicated by the ManagedElement parameter shall be set to the value of the PowerState parameter of the method.



The values of CIM\_PowerManagementService.RequestPowerStateChange() method PowerState parameter shall have the meaning specified in Table 18.

**Table 18.** PowerState Parameter Values

| PowerState enum Value           | Description                                                                                                                                                                                         |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 (Power On)                    | Initiate the transition of the system to full on state (corresponding ACPI state G0/S0).                                                                                                            |
| 5 (Power Cycle (Off Soft))      | Transition the system to off state (corresponding ACPI state G2/S5), in which the system consumes a minimal amount of power, followed by a transition to on state (corresponding ACPI state G0/S0). |
| 8 (Power Off – Soft)            | Initiate the transition of the system to off state (corresponding ACPI state G2/S5), in which the system consumes a minimal amount of power.                                                        |
| 10 (Master Bus Reset)           | Perform hardware reset on the system.                                                                                                                                                               |
| 11 (Diagnostic Interrupt (NMI)) | Assert an NMI on the system.                                                                                                                                                                        |
| 12 (Power Off - Soft Graceful)  | Perform an orderly transition to power off state (corresponding ACPI state G2/S5), in which the system consumes a minimal amount of power.                                                          |

## 9. Use Cases

See Lifecycle Controller (LC) Integration Best Practices Guide.

## 10. CIM Elements

No additional details specified.

## 11. Privilege and License Requirement

The following table 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 19.** Privilege and License Requirements

| Class and Method                                            | Operation      | User Privilege Required | License Required |
|-------------------------------------------------------------|----------------|-------------------------|------------------|
| DCIM_CSPowerManagementService                               | ENUMERATE, GET | Login                   | None.            |
| DCIM_CSPowerManagementService.<br>RequestPowerStateChange() | INVOKE         | Login, System Control   | None.            |
| DCIM_CSPowerManagementCapabilities                          | ENUMERATE, GET | Login                   | None.            |
| DCIM_CSAssociatedPowerManagementService                     | ENUMERATE, GET | Login                   | None.            |
| DCIM_PMSElementCapabilities                                 | ENUMERATE, GET | Login                   | None.            |
| DCIM_SPHostedPowerManagementService                         | ENUMERATE, GET | Login                   | None.            |
| DCIM_ElementConformsToProfile                               | ENUMERATE, GET | Login                   | None.            |
| DCIM_RegisteredProfile                                      | ENUMERATE, GET | Login                   | None.            |
| DCIM_LCRegisteredProfile                                    | ENUMERATE, GET | Login                   | None.            |
| DCIM_LCElementConformsToProfile                             | ENUMERATE, GET | Login                   | None.            |