Sensors Profile

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CONTENTS

Figures

Tables

1 Scope

The DCIM Sensors Profile describes the properties and interfaces for executing system management tasks related to the management of sensors within a system. It extends the management capabilities of referencing profiles by adding the capability to represent sensors. The sensor's relationship with devices and the profile's registration for the schema implementation version information are also described.

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 DSP1009, *Sensors Profile 1.0.0*
- 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*
- *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
- 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_PSNumericSensor.mof
    - DCIM_Sensor.mof
    - DCIM_NumericSensor.mof
    - DCIM_LCRegisteredProfile.mof
    - DCIM_RegisteredProfile.mof
    - DCIM_LCElementConformsToProfile.mof
    - DCIM_ElementConformsToProfile.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

3.18

SET - Refers to WS-MAN SET operation as defined in Section 7.4 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

5 Synopsis

Profile Name: Sensors

Version: 1.0.0

Organization: Dell

CIM Schema Version: 2.26 Experimental

Dell Schema Version: 1.0.0

Interop Namespace: root/interop

Implementation Namespace: root/dcim: root/dcim

Central Class: DCIM_Sensor, DCIM_NumericSensor

Scoping Class: DCIM_ComputerSystem

The Dell Sensors Profile is a component profile that contains the Dell specific implementation requirements for sensors in a managed system.

DCIM_Sensor 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	DCIM	1.0	Reference
Sensors	DMTF	1.0	Specialize

6 Description

The Dell Sensors Profile describes the platform's sensor information. Each platform sensor is represented by an instance of CIM_Sensor class.

Figure 1 represents the class schema for the *Sensors Profile*.

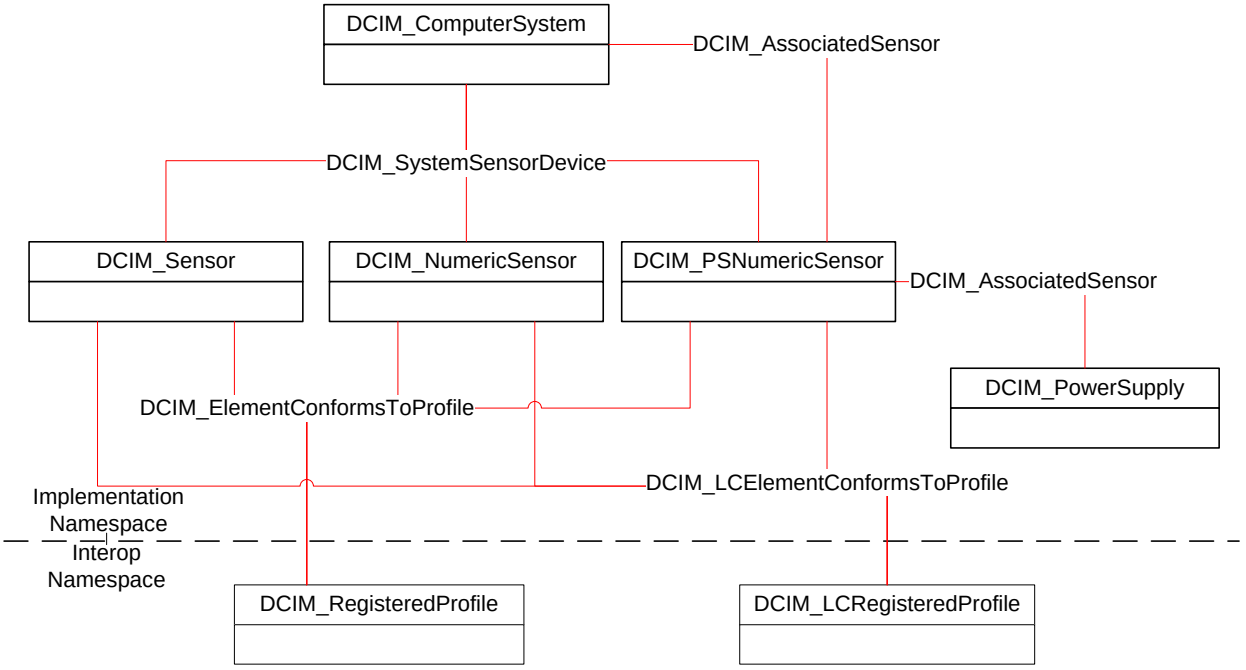

Figure 1 – Sensors_Profile Implementation

7 Implementation Requirements

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

Table 2 – Class Requirements: Sensors Profile

Element Name	Requirement	Description
Classes		
DCIM_PSNumericSensor	Mandatory	The class shall be implemented in the *Implementation Namespace*: root/dcim. See section 7.1
DCIM_NumericSensor	Mandatory	The class shall be implemented in the *Implementation Namespace*: root/dcim. See section 7.2
DCIM_Sensor	Mandatory	The class shall be implemented in the *Implementation Namespace*: root/dcim. See section 7.3
DCIM_SystemSensorDevice	Mandatory	The class shall be implemented in the *Implementation Namespace*: root/dcim. See section 7.1, 7.2 and 7.3
DCIM_AssociatedSensor	Mandatory	The class shall be implemented in the *Implementation Namespace*: root/dcim. See section 7.1
DCIM_ElementConformsToProfile	Mandatory	The class shall be implemented in both the *Interop* and *Implementation Namespace: root/dcim*. See section 7.4
DCIM_RegisteredProfile	Mandatory	The class shall be implemented in the *Interop Namespace*. See section 7.4
DCIM_LCElementConformsToProfile	Mandatory	The class shall be implemented in both the *Interop* and *Implementation Namespace: root/dcim*. See section 7.5
DCIM_LCRegisteredProfile	Mandatory	The class shall be implemented in the *Interop Namespace*. See section 7.5
Indications		
None defined in this profile		

7.1 Power Numeric Sensor – DCIM_PSNumericSensor

This section describes the implementation for the DCIM_PSNumericSensor class that represents the power related analog sensor.

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

The DCIM_SystemSensorDevice association shall reference DCIM_PSNumericSensor instances and the DCIM_ComputerSystem instance.

The DCIM_AssociatedSensor association shall reference DCIM_PSNumericSensor instances and the DCIM_ComputerSystem instance.

The DCIM_AssociatedSensor association shall reference DCIM_PSNumericSensor instances and the DCIM_PowerSupply instance.

7.1.1 Power Consumption Sensor in Watts

7.1.1.1 Resource URIs for WinRM®

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

The key properties shall be the SystemCreationClassName, SystemName, CreationClassName and DeviceID.

The instance Resource URI for DCIM_PSNumericSensor instance is:
"http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_PSNumericSensor?__cimnamespace=root/dcim+SystemCreationClassName=DCIM_ComputerSystem+SystemName=srv:system+CreationClassName=DCIM_PSNumericSensor+DeviceID=<FQDD>"

7.1.1.2 Operations

The following table lists the operations implemented on DCIM_PSNumericSensor.

Table 3 – DCIM_PSNumericSensor - Operations

Operation Name	Requirements	Required Input
Get	Mandatory	Instance URI
Enumerate	Mandatory	Class URI
Set	Conditional	Instance URI Note: Set operation shall be supported, if the SettableThresholds property contains one or more thresholds for the sensor.

7.1.1.3 Class Properties

The following table lists the implemented properties for DCIM_PSNumericSensor instance in a system. The DCIM_PSNumericSensor class is mandatory when the DCIM_Sensor class is not implemented. 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_PSNumericSensor – Requirements for Power Consumption Sensor in Watts

Property Name	Type	Requirement	Additiona Requirement
SystemCreationClassName	string	Mandatory	The property value shall be "DCIM_ComputerSytem".
SystemName	string	Mandatory	The property value shall be "srv:system
CreationClassName	string	Mandatory	The property value shall be "DCIM_PSNumericSensor
DeviceID	string	Mandatory	The property shall have the sensor FQDD value.
BaseUnits	uint16	Mandatory	The property value shall be 7 (watts).
CurrentReading	sint32	Mandatory	The present value indicated by the Sensor. The property value shall be in watts.

Property Name	Type	Requirement	Additiona Requirement
CurrentState	string	Mandatory	The present state indicated by the Sensor. The property value shall be a value from the "PossibleStates" value array. The property may have "Unknown" value.
ElementName	string	Mandatory	The property shall describe the sensor location.
EnabledState	uint16	Mandatory	The property value shall be 2 (enabled)
HealthState	uint16	Mandatory	Indicates the current health of the sensor. The property value shall be one of the following: • 0(Unknown) • 5 (OK) • 10(Degraded/Warning) • 25 (Critical Failure)
OperationalStatus	uint16	Mandatory	This property indicates the current statuses of the sensor. The property value shall be one of the following: • 0(Unknown) • 2(OK) • 3(Degraded) • 6 (Error)
PossibleStates	string	Mandatory	The property shall have the following values: • Other • Unknown • OK • Non-Critical • Critical • Fatal
PrimaryStatus	uint16	Mandatory	The property value shall be one of the following: • 0(Unknown) • 1(OK) • 2(Degraded) • 3 (Error)
RateUnits	uint16	Mandatory	The property value shall be 0 (None)
RequestedState	uint16	Mandatory	The property value shall be 12 (Not Applicable)
Resolution	uint32	Mandatory	The property value shall be 1.
SensorType	uint16	Mandatory	The property value shall be 13 (Power Consumption).
SettableThresholds[]	uint16	Mandatory	An array representing the writable thresholds supported by Sensor.
SupportedThresholds[]	uint16	Mandatory	The array property shall have the following value: • 1(UpperThresholdNonCritical) • 3(UpperThresholdCritical), if the simlarly named thresholds are supported.
UnitModifier	sint32	Mandatory	The property shall denote the decimal magnitude of the value: CurrentReading * 10^(UnitModifier) and shall have value 0.

Property Name	Type	Requirement	Additiona Requirement
UpperThresholdCritical	sint32	Mandatory	The property shall be populated in 1 Watt units, if the instrumentation supports it.
UpperThresholdNonCritical	sint32	Mandatory	The property shall be populated in 1 Watt units, if the instrumentation supports it.

7.1.2 Power Consumption Sensor in Amps

This section describes the implementation for the DCIM_PSNumericSensor class.

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

7.1.2.1 Resource URIs for WinRM®

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

The key properties shall be the SystemCreationClassName, SystemName, CreationClassName and DeviceID.

The instance Resource URI for DCIM_PSNumericSensor instance is:
“http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_PSNumericSensor?__cimnamespace=root/dcim+SystemCreationClassName=DCIM_ComputerSystem+SystemName=
srv:system+CreationClassName=DCIM_PSNumericSensor+DeviceID=<FQDD>”

7.1.2.2 Operations

The following table lists the operations implemented on DCIM_PSNumericSensor.

Table 5 – DCIM_PSNumericSensor - Operations

Operation Name	Requirements	Required Input
Get	Mandatory	Instance URI
Enumerate	Mandatory	Class URI
Set	Conditional	Instance URI Note: Set operation shall be supported, if the SettableThresholds property contains one or more thresholds for the sensor.

7.1.2.3 Properties

The following table lists the implemented properties for DCIM_PSNumericSensor instance representing a an analog power consumption sensor in a system measuring power supply consumption in amperes. 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_PSNumericSensor – Requirements for Power Supply Sensor in Amperes

Property Name	Type	Requirement	Additonal Requirement
SystemCreationClassName	string	Mandatory	DCIM_ComputerSytem
SystemName	string	Mandatory	srv:system
CreationClassName	string	Mandatory	DCIM_PSNumericSensor
DeviceID	string	Mandatory	The property shall have the sensor FQDD value.
BaseUnits	uint16	Mandatory	6 (Amps)

Property Name	Type	Requirement	Additonal Requirement
CurrentReading	sint32	Mandatory	The property value shall be in 100 miliAmperes units.
CurrentState	string	Mandatory	The present state indicated by the Sensor. The property value shall be a value from the "PossibleStates" value array. The property may have "Unknown" value.
ElementName	string	Mandatory	The property shall describe the sensor location.
EnabledState	uint16	Mandatory	The property value shall be 2 (enabled)
HealthState	uint16	Mandatory	Indicates the current health of the sensor. The property value shall be one of the following: • 0(Unknown) • 5 (OK) • 10(Degraded/Warning) • 25 (Critical Failure)
OperationalStatus[]	uint16	Mandatory	Indicates the current statuses of the sensor. The property value shall be one of the following: • 0(Unknown) • 2(OK) • 3(Degraded) • 6 (Error)
PossibleStates[]	string	Mandatory	The property shall have the following values: • Other • Unknown • OK • Non-Critical • Critical • Fatal
PrimaryStatus	uint16	Mandatory	The property value shall be one of the following: • 0(Unknown), • 1(OK), • 2(Degraded) • 3 (Error)
RateUnits	uint16	Mandatory	The property value shall be 0 (None)
RequestedState	uint16	Mandatory	The property value shall be 12 (Not Applicable)
Resolution	uint32	Mandatory	The property value shall be 1.
SensorType	uint16	Mandatory	The property value shall be 13 (Power Consumption).
SettableThresholds[]	uint16	Mandatory	An array representing the writable thresholds supported by Sensor.
SupportedThresholds[]	uint16	Mandatory	The array property shall have the following value: • 1(UpperThresholdNonCritical), • 3(UpperThresholdCritical), if the simlarly named thresholds are supported.
UnitModifier	sint32	Mandatory	The property value shall be -1. The property shall describe that the value in the CurrentReading has to be multiplied with 10^-1 to get the actual value of the sensor reading in the units described in the BaseUnits property.
UpperThresholdCritical	sint32	Mandatory	The property shall be populated in 100 miliAmperes units, if the instrumentation supports it.

Property Name	Type	Requirement	Additonal Requirement
UpperThresholdNonCritical	sint32	Mandatory	The property shall be populated in 100 miliAmperes units, if the instrumentation supports it.

7.2 Non-Power Analog Sensors – DCIM_NumericSensor

This section describes the implementation for the DCIM_NumericSensor class that represents non power related analog sensor.

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

The DCIM_SystemSensorDevice association shall reference DCIM_NumericSensor instances and the DCIM_ComputerSystem instance.

7.2.1 Resource URIs for WinRM®

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

The key properties shall be the SystemCreationClassName, SystemName, CreationClassName and DeviceID.

The instance Resource URI for DCIM_NumericSensor instance is:
“http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_NumericSensor?__cimnamespace=root/dcim+SystemCreationClassName=DCIM_ComputerSystem+SystemName=srv:system+CreationClassName=DCIM_NumericSensor+DeviceID=<FQDD>”

7.2.2 Operations

The following table lists the operations implemented on DCIM_NumericSensor.

Table 7 – DCIM_NumericSensor - Operations

Operation Name	Requirements	Required Input
Get	Mandatory	Instance URI
Enumerate	Mandatory	Class URI
Set	Conditional	Instance URI Note: Set operation shall be supported, if the SettableThresholds property contains one or more thresholds for the sensor and is not NULL. Note: Set operation may modify only the properties denoted in the SettableThresholds property.

7.2.3 Class Properties

The following table lists the implemented properties for DCIM_NumericSensor instance representing a an IPMI analog sensor 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_NumericSensor – Requirements Non-Power Analog Sensor

Property Name	Type	Requirement	Additonal Requirement

Property Name	Type	Requirement	Additonal Requirement
SystemCreationClassName	string	Mandatory	The property value shall be "DCIM_ComputerSystem".
SystemName	string	Mandatory	The property value shall be "system".
CreationClassName	string	Mandatory	The property value shall be "DCIM_NumericSensor".
DeviceID	string	Mandatory	The property shall have the sensor FQDD value.
BaseUnits	uint16	Mandatory	The property value shall be one of the following: • 2 (Degrees C) • 5 (Volts) • 19 (RPM)
CurrentReading	sint32	Mandatory	The property value shall be in units specified by the BaseUnit property value multiplied by 10 to the power of the UnitModier property value.
CurrentState	string	Mandatory	The present state indicated by the Sensor. The property value shall be a value from the "PossibleStates" value array. The property may have "Unknown" value.
ElementName	string	Mandatory	The property shall describe the sensor location.
EnabledState	uint16	Mandatory	The property value shall be 2 (enabled)
HealthState	uint16	Mandatory	Indicates the current health of the sensor. The property value shall be one of the following: • 0(Unknown) • 5 (OK) • 10(Degraded/Warning) • 25 (Critical Failure)
OperationalStatus[]	uint16	Mandatory	Indicates the current statuses of the sensor. The property value shall be one of the following: • 0(Unknown) • 2(OK) • 3(Degraded) • 6 (Error)
PossibleStates[]	string	Mandatory	The property shall have the following values: • Other • Unknown • OK • Non-Critical • Critical • Fatal
PrimaryStatus	uint16	Mandatory	The property value shall be one of the following: • 0(Unknown) • 1(OK) • 2(Degraded) • 3 (Error)
RateUnits	uint16	Mandatory	The property value shall be 0 (None)
RequestedState	uint16	Mandatory	The property value shall be 12 (Not Applicable)
Resolution	uint32	Mandatory	The property value shall be 1.

Property Name	Type	Requirement	Additonal Requirement
SensorType	uint16	Mandatory	The property shall have one of the following values: • 1(Other) • 2(Temperature) • 3(Voltage) • 4(Current) • 5(Tachometer).
SettableThresholds[]	uint16	Mandatory	An array representing the writable thresholds supported by Sensor. The NULL value shall represent that the sensor does not support any settable thresholds.
SupportedThresholds[]	uint16	Mandatory	The array property shall contain all the supported thresholds for the sensor. The NULL value shall represent that the sensor does not support any thresholds.
UnitModifier	sint32	Mandatory	The property shall denote the decimal magnitude of the value: CurrentReading * 10^(UnitModifier) and shall have one of the following values: -1, 0.
LowerThresholdCritical	sint32	Conditonal	The property shall have non-NULL value if the SupportedThresholds array contains the value 2(LowerThresholdCritical).
LowerThresholdNonCritical	sint32	Conditonal	The property shall have non-NULL value if the SupportedThresholds array contains the value 0(LowerThresholdNonCritical).
UpperThresholdCritical	sint32	Conditonal	The property shall have non-NULL value if the SupportedThresholds array contains the value 3(UpperThresholdCritical).
UpperThresholdNonCritical	sint32	Conditonal	The property shall have non-NULL value if the SupportedThresholds array contains the value 1(UpperThresholdNonCritical).

7.3 Non-Power Digital Sensors – DCIM_Sensor

This section describes the implementation for the DCIM_Sensor class that represents non-power related digital sensor.

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

The DCIM_SystemSensorDevice association shall reference DCIM_Sensor instances and the DCIM_ComputerSystem instance.

7.3.1 Resource URIs for WinRM®

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

The key properties shall be the SystemCreationClassName, SystemName, CreationClassName and DeviceID.

The instance Resource URI for DCIM_Sensor instance is: “http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_Sensor?__cimnamespace=root/dcim+SystemCreationClassName=DCIM_ComputerSystem+SystemName=srv:system+CreationClassName=DCIM_Sensor+DeviceID=<FQDD>”

7.3.2 Operations

The following table lists the operations implemented on DCIM_Sensor.

Table 9 – DCIM_Sensor - Operations

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

7.3.3 Properties

The following table lists the implemented properties for DCIM_Sensor instance representing an IPMI digital sensor 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_Sensor – Requirements for Non-Power Digital Sensor

Property Name	Type	Requirement	Additonal Requirement
SystemCreationClassName	string	Mandatory	The property value shall be "DCIM_ComputerSystem".
SystemName	string	Mandatory	The property value shall be "system".
CreationClassName	string	Mandatory	The property value shall be "DCIM_Sensor".
DeviceID	string	Mandatory	The property shall have the sensor FQDD value.
CurrentState	string	Mandatory	The present state indicated by the Sensor. The property value shall be a value from the "PossibleStates" value array. The property may have "Unknown" value.
ElementName	string	Mandatory	The property shall describe the sensor location.
EnabledState	uint16	Mandatory	The property value shall be 2 (enabled)
HealthState	uint16	Mandatory	Indicates the current health of the sensor. The property value shall be one of the following: • 0(Unknown) • 5 (OK) • 10(Degraded/Warning) • 25 (Critical Failure)
OperationalStatus[]	uint16	Mandatory	Indicates the current statuses of the sensor. The property value shall be one of the following: • 0(Unknown) • 2(OK) • 3(Degraded) • 6 (Error)
PossibleStates[]	string	Mandatory	The property shall have the following values: • Other • Unknown • OK • Non-Critical • Critical • Fatal

Property Name	Type	Requirement	Additonal Requirement
PrimaryStatus	uint16	Mandatory	The property value shall be one of the following: • 0(Unknown) • 1(OK) • 2(Degraded) • 3 (Error)
RequestedState	uint16	Mandatory	The property value shall be 12 (Not Applicable)
SensorType	uint16	Mandatory	The property shall have one of the following values: • 1(Other) • 2(Temperature) • 3(Voltage) • 4(Current) • 5(Tachometer).

7.4 DCIM_RegisteredProfile - DMTF Sensors Profile Profile Registration

This section describes the implementation for the DCIM_RegisteredProfile class

This class shall be instantiated in the Interop Namespace.

The DCIM_ElementConformsToProfile shall be instantiate in both the Interop Namespace and Implementation Namespace: root/dcim and shall reference the DCIM_RegisteredProfile instance.

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

The key property shall be the InstanceID property.

7.4.2 Operations

The following table lists the operations implemented on CIM_RegisteredProfile .

Table 11 – CIM_RegisteredProfile - Operations

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

7.4.3 DCIM_RegisteredProfile Properties

The following table lists the implemented properties for DCIM_RegisteredProfile instance. 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_RegisteredProfile

Property Name	Requirement	Type	Additional Requirements

Property Name	Requirement	Type	Additional Requirements
InstanceID	Mandatory	string	DMTF:Sensors:1.0.0
RegisteredName	Mandatory	string	This property value shall be "Sensors".
RegisteredVersion	Mandatory	string	This property value shall be "1.0.0".
RegisteredOrganization	Mandatory	uint16	This property value shall be 2 (DMTF).
AdvertisedTypes[]	Mandatory	uint16	This property array shall contain [1(Other), 1 (Other)].
AdvertiseTypeDescriptions[]	Mandatory	string	This property array shall contain ["WS-Identify", "Interop Namespace"].

7.5 DCIM_LCRegisteredProfile - DCIM Sensors Profile Profile Registration

This section describes the implementation for the DCIM_RegisteredProfile class

This class shall be instantiated in the Interop Namespace.

The DCIM_LCElementConformsToProfile shall be instantiate in both the Interop Namespace and Implementation Namespace: root/dcim and shall reference the DCIM_LCRegisteredProfile instance.

7.5.1 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 property.

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

7.5.2 Operations

The following table lists the operations implemented on DCIM_RegisteredProfile .

Table 13 – DCIM_RegisteredProfile - Operations

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

7.5.3 Properties

The following table lists the implemented properties for DCIM_LCRegisteredProfile instance. 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

Property Name	Requirement	Type	Additional Requirements
InstanceID	Mandatory	string	DCIM:Sensors:1.0.0
RegisteredName	Mandatory	string	This property value shall be "Sensors".
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”.

Property Name	Requirement	Type	Additional Requirements
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. 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.

8 Methods

No additional details specified.

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 15 – Privilege and License Requirements

Class and Method	Operation	User Privilege Required	License Required
DCIM_PSNumericSensor	ENUMERATE, GET	Login	None.
DCIM_PSNumericSensor	SET	Login, Configure	None.
DCIM_NumericSensor	ENUMERATE, GET	Login	None.
DCIM_NumericSensor	SET	Login, Configure	None
DCIM_Sensor	ENUMERATE, GET	Login	None.
DCIM_SystemSensorDevice	ENUMERATE, GET	Login	None.

Class and Method	Operation	User Privilege Required	License Required
DCIM_AssociatedSensor	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.

268