Sensors Profile



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1 1 Scope

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

2 Normative References

- 7 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:
- 22 http://www.delltechcenter.com/page/DCIM.Library.MOF
- Related Managed Object Format (MOF) files:
 - DCIM PSNumericSensor.mof
 - DCIM Sensor.mof
 - o DCIM_NumericSensor.mof
 - DCIM_LCRegisteredProfile.mof
 - DCIM_RegisteredProfile.mof
- 29 o DCIM_LCElementConformsToProfile.mof
- 30 o DCIM ElementConformsToProfile.mof

3 Terms and Definitions

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

- **33 3.1**
- 34 Conditional Indicates requirements to be followed strictly in order to conform to the document when the
- 35 specified conditions are met.
- 36 **3.2**
- 37 **Mandatory** Indicates requirements to be followed strictly in order to conform to the document and from
- 38 which no deviation is permitted.
- 39 **3.3**
- 40 May Indicates a course of action permissible within the limits of the document.
- 41 **3.4**
- 42 **Optional** Indicates a course of action permissible within the limits of the document.
- 43 **3.5**
- can Used for statements of possibility and capability, whether material, physical, or causal.
- 45 **3.6**
- cannot Used for statements of possibility and capability, whether material, physical, or causal.
- 47 **3.7**
- need not Indicates a course of action permissible within the limits of the document.
- 49 **3.8**
- 50 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.
- 52 **3.9**
- shall Indicates requirements to be followed strictly in order to conform to the document and from which
- 54 no deviation is permitted.

- 55 **3.10**
- 56 **shall not** Indicates requirements to be followed strictly in order to conform to the document and from
- 57 which no deviation is permitted.
- 58 **3.11**
- 59 **should** Indicates that among several possibilities, one is recommended as particularly suitable, without
- 60 mentioning or excluding others, or that a certain course of action is preferred but not necessarily required.
- 61 **3.12**
- should not Indicates that a certain possibility or course of action is deprecated but not prohibited
- 63 **3.13**
- 64 **FQDD** Fully Qualified Device Descriptor is used to identify a particular component in a system.
- 65 **3.14**
- 66 Interop Namespace Interop Namespace is where instrumentation instantiates classes to advertise its
- 67 capabilities for client discovery.
- 68 **3.15**
- 69 **Implementation Namespace** Implementation Namespace is where instrumentation instantiates
- 70 classes relevant to executing core management tasks.
- 71 3.16
- 72 ENUMERATE Refers to WS-MAN ENUMERATE operation as described in Section 8.2 of
- 73 DSP0226 V1.1 and Section 9.1 of DSP0227 V1.0
- 74 **3.17**
- 75 GET Refers to WS-MAN GET operation as defined in Section 7.3 of DSP00226 V1.1 and Section 7.1
- 76 of DSP0227 V1.0
- 77 **3.18**
- 78 SET Refers to WS-MAN SET operation as defined in Section 7.4 of DSP00226 V1.1 and Section 7.1 of
- 79 DSP0227 V1.0
- 80

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4 Symbols and Abbreviated Terms

- 82 **4.1**
- 83 CIM Common Information Model
- 84 **4.2**
- 85 iDRAC integrated Dell Remote Access Controller management controller for blades and monolithic
- 86 servers
- 87 **4.3**
- 88 **CMC -** Chassis Manager Controller management controller for the modular chassis

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90 **5** Synopsis

- 91 **Profile Name:** Sensors
- 92 **Version:** 1.0.0
- 93 Organization: Dell
- 94 **CIM Schema Version:** 2.26 Experimental
- 95 **Dell Schema Version:** 1.0.0
- 96 **Interop Namespace:** root/interop
- 97 Implementation Namespace: root/dcim: root/dcim
 98 Central Class: DCIM_Sensor, DCIM_NumericSensor
- 99 **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.
- 102 DCIM_Sensor shall be the Central Class.
- Table 1 identifies profiles that are related to this profile.

104 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.

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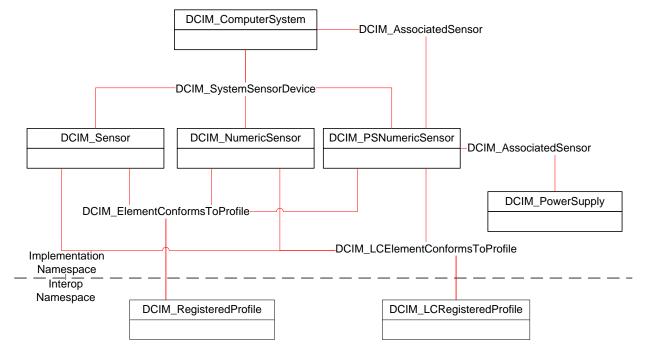


Figure 1 – Sensors_Profile Implementation

7 Implementation Requirements

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113 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 <i>Interop</i> and <i>Implementation</i> 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.
- 118 This class shall be instantiated in the Implementation Namespace: root/dcim.
- The DCIM_SystemSensorDevice association shall reference DCIM_PSNumericSensor instances and the
- 120 DCIM_ComputerSystem instance.
- 121 The DCIM_AssociatedSensor association shall reference DCIM_PSNumericSensor instances and the
- 122 DCIM_ComputerSystem instance.

- 123 The DCIM_AssociatedSensor association shall reference DCIM_PSNumericSensor instances and the
- 124 DCIM PowerSupply instance.

7.1.1 Power Consumption Sensor in Watts

126 7.1.1.1 Resource URIs for WinRM®

- 127 The class Resource URI is "http://schemas.dell.com/wbem/wscim/1/cim-
- 128 schema/2/DCIM_PSNumericSensor?__cimnamespace=root/dcim"
- 129 The key properties shall be the SystemCreationClassName, SystemName, CreationClassName and
- 130 DeviceID.

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- 131 The instance Resource URI for DCIM PSNumericSensor instance is:
- 132 "http://schemas.dell.com/wbem/wscim/1/cim-
- 133 schema/2/DCIM_PSNumericSensor?__cimnamespace=root/dcim+SystemCreationClassName=DCIM_C
- 134 omputerSystem+SystemName=srv:system+CreationClassName=DCIM_PSNumericSensor+DeviceID=<
- 135 FQDD>"

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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
		Instance URI Note: Set operation shall be supported, if the SettableThresholds property contains one or
Set	Conditional	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.
- 141 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
			The property value shall be
SystemCreationClassName	string	Mandatory	"DCIM_ComputerSytem".
SystemName	string	Mandatory	The property value shall be "srv:system
			The property value shall be
CreationClassName	string	Mandatory	"DCIM_PSNumericSensor
			The property shall have the sensor FQDD
DeviceID	string	Mandatory	value.
BaseUnits	uint16	Mandatory	The property value shall be 7 (watts).
			The present value indicated by the Sensor. The
CurrentReading	sint32	Mandatory	property value shall be in watts.

Property Name	Туре	Requirement	Additiona Requirement
			The present state indicated by the Sensor. The
			property value shall be a value from the
CurrentState	etring	Mandatory	"PossibleStates" value array. The property may have "Unknown" value.
ElementName	string string	Mandatory	The property shall describe the sensor location.
EnabledState	uint16	Mandatory	The property value shall be 2 (enabled)
LitabledState	unitio	iviaridatory	Indicates the current health of the sensor. The
			property value shall be one of the following:
			0(Unknown)
			• 5 (OK)
			10(Degraded/Warning)
HealthState	uint16	Mandatani	25 (Critical Failure)
Пеанпона	umtro	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)
OperationalStatus	uint16	Mandatory	• 6 (Error)
Operationalotatus	diritio	Mandatory	The property shall have the following values:
			Other
			Unknown
			• OK
			Non-Critical
			Critical
PossibleStates	string	Mandatory	• Fatal
			The property value shall be one of the following:
			• 0(Unknown)
			• 1(OK)
			2(Degraded)
PrimaryStatus	uint16	Mandatory	• 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.
ConcorTyro		Mondota	The property value shall be 13 (Power
SensorType	uint16	Mandatory	Consumption). An array representing the writable thresholds
SettableThresholds[]	uint16	Mandatory	supported by Sensor.
Octable The Shords[]	diricio	Mandatory	The array property shall have the following
			value:
			1(UpperThresholdNonCritical)
			3(UpperThresholdCritical), if the
			simlarly named thresholds are
SupportedThresholds[]	uint16	Mandatory	supported.
		j	The property shall denote the decimal
			magnitude of the value: CurrentReading *
UnitModifier	sint32	Mandatory	10^(UnitModifier) and shall have value 0.

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

7.1.2 Power Consumption Sensor in Amps 146

- 147 This section describes the implementation for the DCIM_PSNumericSensor class.
- 148 This class shall be instantiated in the Implementation Namespace: root/dcim.

7.1.2.1 Resource URIs for WinRM®

- 150 The class Resource URI is "http://schemas.dell.com/wbem/wscim/1/cim-
- schema/2/DCIM_PSNumericSensor?__cimnamespace=root/dcim" 151
- 152 The key properties shall be the SystemCreationClassName, SystemName, CreationClassName and
- 153 DeviceID.

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- 154 The instance Resource URI for DCIM_PSNumericSensor instance is:
- "http://schemas.dell.com/wbem/wscim/1/cim-155
- schema/2/DCIM_PSNumericSensor?__cimnamespace=root/dcim+SystemCreationClassName=DCIM_C 156
- omputerSystem+SystemName= 157
- srv:system+CreationClassName=DCIM PSNumericSensor+DeviceID=<FQDD>" 158

159 7.1.2.2 Operations

The following table lists the operations implemented on DCIM_PSNumericSensor. 160

161 Table 5 – DCIM PSNumericSensor - Operations

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

162 7.1.2.3 Properties

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163 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

164 "Requirements" column shall denote whether the property is implemented (for requirement definitions,

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see section 3). The "Additional Requirements" column shall denote either possible values for the property. 166

167 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	Туре	Requirement	Additonal Requirement
-			The property value shall be in 100 miliAmperes
CurrentReading	sint32	Mandatory	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) Indicates the current health of the sensor. The property value shall be one of the following: • 0(Unknown) • 5 (OK) • 10(Degraded/Warning)
HealthState	uint16	Mandatory	25 (Critical Failure)
			Indicates the current statuses of the sensor. The property value shall be one of the following: • 0(Unknown) • 2(OK) • 3(Degraded)
OperationalStatus[]	uint16	Mandatory	• 6 (Error)
			The property shall have the following values:
PossibleStates[]	string	Mandatory	Fatal
	3	,	The property value shall be one of the following: • 0(Unknown), • 1(OK), • 2(Degraded)
PrimaryStatus	uint16	Mandatory	• 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). An array representing the writable thresholds
SettableThresholds[]	uint16	Mandatory	supported by Sensor.
- Contable Thirdenestacij	diffe	Mandatory	The array property shall have the following value: • 1(UpperThresholdNonCritical),
SupportedThresholds[]	uint16	Mandatory	 3(UpperThresholdCritical), if the simlarly named thresholds are supported.
			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
UnitModifier	sint32	Mandatory	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
			The property shall be populated in 100
			miliAmperes units, if the instrumentation
UpperThresholdNonCritical	sint32	Mandatory	supports it.

7.2 Non-Power Analog Sensors – DCIM_NumericSensor

- 170 This section describes the implementation for the DCIM_NumericSensor class that represents non power
- 171 related analog sensor.
- 172 This class shall be instantiated in the Implementation Namespace: root/dcim.
- 173 The DCIM SystemSensorDevice association shall reference DCIM NumericSensor instances and the
- 174 DCIM_ComputerSystem instance.

7.2.1 Resource URIs for WinRM®

- 176 The class Resource URI is "http://schemas.dell.com/wbem/wscim/1/cim-
- 177 schema/2/DCIM NumericSensor? cimnamespace=root/dcim"
- 178 The key properties shall be the SystemCreationClassName, SystemName, CreationClassName and
- 179 DeviceID.
- 180 The instance Resource URI for DCIM NumericSensor instance is:
- 181 "http://schemas.dell.com/wbem/wscim/1/cim-
- 182 schema/2/DCIM_NumericSensor?__cimnamespace=root/dcim+SystemCreationClassName=DCIM_Com
- 183 puterSystem+SystemName=srv:system+CreationClassName=DCIM_NumericSensor+DeviceID=<FQDD
- 184 >"

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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
		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
Set	Conditional	property.

7.2.3 Class Properties

The following table lists the implemented properties for DCIM_NumericSensor instance representing a an

190 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
Overtone Overtion Olera News		NA l - t	The property value shall be
SystemCreationClassName SystemName	string	Mandatory	"DCIM_ComputerSystem".
SystemName	string	Mandatory	The property value shall be "system". The property value shall be
CreationClassName	string	Mandatory	"DCIM_NumericSensor".
DeviceID	string	Mandatory	The property shall have the sensor FQDD value.
	J	•	The property value shall be one of the following:
			2 (Degrees C)
			• 5 (Volts)
BaseUnits	uint16	Mandatory	• 19 (RPM)
			The property value shall be in units specified by
CurrentReading	sint32	Mandatory	the BaseUnit property value multiplied by 10 to the power of the UnitModier property value.
Currentiveaurig	3111132	iviaridatory	The present state indicated by the Sensor. The
			property value shall be a value from the
			"PossibleStates" value array. The property may
CurrentState	string	Mandatory	have "Unknown" value.
ElementName	string	Mandatory	The property shall describe the sensor location.
EnabledState	uint16	Mandatory	The property value shall be 2 (enabled)
			Indicates the current health of the sensor. The property value shall be one of the following:
			O(Unknown)
			• 5 (OK)
			10(Degraded/Warning)
HealthState	uint16	Mandatory	25 (Critical Failure)
		,	Indicates the current statuses of the sensor. The
			property value shall be one of the following:
			0(Unknown)
			• 2(OK)
			• 3(Degraded)
OperationalStatus[]	uint16	Mandatory	• 6 (Error)
			The property shall have the following values: Other
			Unknown
			• OK
			Non-Critical
			Critical
PossibleStates[]	string	Mandatory	Fatal
			The property value shall be one of the following:
			• 0(Unknown)
			• 1(OK)
			2(Degraded)
PrimaryStatus	uint16	Mandatory	• 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	Туре	Requirement	Additonal Requirement
			The property shall have one of the following
			values:
			• 1(Other)
			2(Temperature)
			• 3(Voltage)
			4(Current)
SensorType	uint16	Mandatory	• 5(Tachometer).
			An array representing the writable thresholds
			supported by Sensor.
			The NULL value shall represent that the sensor
SettableThresholds[]	uint16	Mandatory	does not support any settable thresholds.
			The array property shall contain all the supported
			thresholds for the sensor.
			The NULL value shall represent that the sensor
SupportedThresholds[]	uint16	Mandatory	does not support any thresholds.
			The property shall denote the decimal magnitude
			of the value: CurrentReading * 10^(UnitModifier)
UnitModifier	sint32	Mandatory	and shall have one of the following values: -1, 0.
			The property shall have non-NULL value if the
			SupportedThresholds array contains the value
LowerThresholdCritical	sint32	Conditonal	2(LowerThresholdCritical).
			The property shall have non-NULL value if the
			SupportedThresholds array contains the value
LowerThresholdNonCritical	sint32	Conditonal	0(LowerThresholdNonCritical).
			The property shall have non-NULL value if the
			SupportedThresholds array contains the value
UpperThresholdCritical	sint32	Conditonal	3(UpperThresholdCritical).
			The property shall have non-NULL value if the
			SupportedThresholds array contains the value
UpperThresholdNonCritical	sint32	Conditonal	1(UpperThresholdNonCritical).

7.3 Non-Power Digital Sensors – DCIM_Sensor

- 195 This section describes the implementation for the DCIM_Sensor class that represents non-power related digital sensor. 196
- 197 This class shall be instantiated in the Implementation Namespace: root/dcim.
- The DCIM_SystemSensorDevice association shall reference DCIM_Sensor instances and the 198
- DCIM_ComputerSystem instance. 199

7.3.1 Resource URIs for WinRM®

- 201 The class Resource URI is "http://schemas.dell.com/wbem/wscim/1/cim-
- 202 schema/2/DCIM_Sensor?__cimnamespace=root/dcim"
- 203 The key properties shall be the SystemCreationClassName, SystemName, CreationClassName and
- DeviceID. 204

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- 205 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_ComputerSys 206
- tem+SystemName=srv:system+CreationClassName=DCIM_Sensor+DeviceID=<FQDD>" 207

7.3.2 Operations

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The following table lists the operations implemented on DCIM_Sensor.

210 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	Туре	Requirement	Additonal Requirement
			The property value shall be
SystemCreationClassName	string	Mandatory	"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.
			The present state indicated by the Sensor. The
			property value shall be a value from the
CurrentState	string	Mandatory	"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)
			Indicates the current health of the sensor. The
			property value shall be one of the following:
			• 0(Unknown)
			• 5 (OK)
			10(Degraded/Warning)
HealthState	uint16	Mandatory	25 (Critical Failure)
		,	Indicates the current statuses of the sensor. The
			property value shall be one of the following:
			• 0(Unknown)
			• 2(OK)
			3(Degraded)
OperationalStatus[]	uint16	Mandatory	• 6 (Error)
			The property shall have the following values:
			Other
			 Unknown
			• OK
			Non-Critical
			Critical
PossibleStates[]	string	Mandatory	• Fatal

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

217 7.4 DCIM_RegisteredProfile - DMTF Sensors Profile Profile Registration

- 218 This section describes the implementation for the DCIM_RegisteredProfile class
- 219 This class shall be instantiated in the Interop Namespace.
- 220 The DCIM_ElementConformsToProfile shall be instantiate in both the Interop Namespace and
- 221 Implementation Namespace: root/dcim and shall reference the DCIM_RegisteredProfile instance.

222 7.4.1 Resource URIs for WinRM®

- 223 The class Resource URI shall be "http://schemas.dell.com/wbem/wscim/1/cim-
- 224 schema/2/DCIM_RegisteredProfile?__cimnamespace=root/interop"
- The instance Resource URI shall be: "http://schemas.dell.com/wbem/wscim/1/cim-
- 226 schema/2/DCIM_LCRegisteredProfile?__cimnamespace=root/interop+InstanceID=DMTF:Sensors:1.0.0"
- The key property shall be the InstanceID property.

228 **7.4.2 Operations**

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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

- 232 The following table lists the implemented properties for DCIM_RegisteredProfile instance. The
- 233 "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
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).
			This property array shall contain [1(Other), 1
AdvertisedTypes[]	Mandatory	uint16	(Other)].
			This property array shall contain ["WS-Identify",
AdvertiseTypeDescriptions[]	Mandatory	string	"Interop Namespace"].

7.5 DCIM_LCRegisteredProfile - DCIM Sensors Profile Profile Registration

- 238 This section describes the implementation for the DCIM_RegisteredProfile class
- 239 This class shall be instantiated in the Interop Namespace.
- 240 The DCIM LCElementConformsToProfile shall be instantiate in both the Interop Namespace and
- Implementation Namespace: root/dcim and shall reference the DCIM_LCRegisteredProfile instance.

242 7.5.1 Resource URIs for WinRM®

- The class Resource URI shall be "http://schemas.dell.com/wbem/wscim/1/cim-
- 244 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-
- 247 schema/2/DCIM_LCRegisteredProfile?__cimnamespace=root/interop+InstanceID=DCIM:Sensors:1.0.0"

248 **7.5.2 Operations**

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249 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

251 **7.5.3 Properties**

252 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	Туре	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	Туре	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"].
			This property array shall describe the required licenses for this profile.
ProfileRequireLicense[]	Mandatory	String	If no license is required for the profile, the property shall have value NULL.
			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"
ProfileRequireLicenseStatus[]	Mandatory	String	If no license is required for the profile, the property shall have value NULL.

8 Methods

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258 No additional details specified.

9 Use Cases

260 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
	ENUMERATE,		
DCIM_PSNumericSensor	GET	Login	None.
DCIM_PSNumericSensor	SET	Login, Configure	None.
	ENUMERATE,		
DCIM_NumericSensor	GET	Login	None.
DCIM_NumericSensor	SET	Login, Configure	None
	ENUMERATE,		
DCIM_Sensor	GET	Login	None.
DCIM_SystemSensorDevice	ENUMERATE, GET	Login	None.

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

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