Sensors Profile

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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:
    - o   DCIM_PSNumericSensor.mof
    - o   DCIM_Sensor.mof
    - o   DCIM_NumericSensor.mof
    - o   DCIM_LCRegisteredProfile.mof
    - o   DCIM_RegisteredProfile.mof
    - o   DCIM_LCElementConformsToProfile.mof
    - o   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

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

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

102   DCIM_Sensor shall be the Central Class.

103   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

105 6 Description

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

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

109
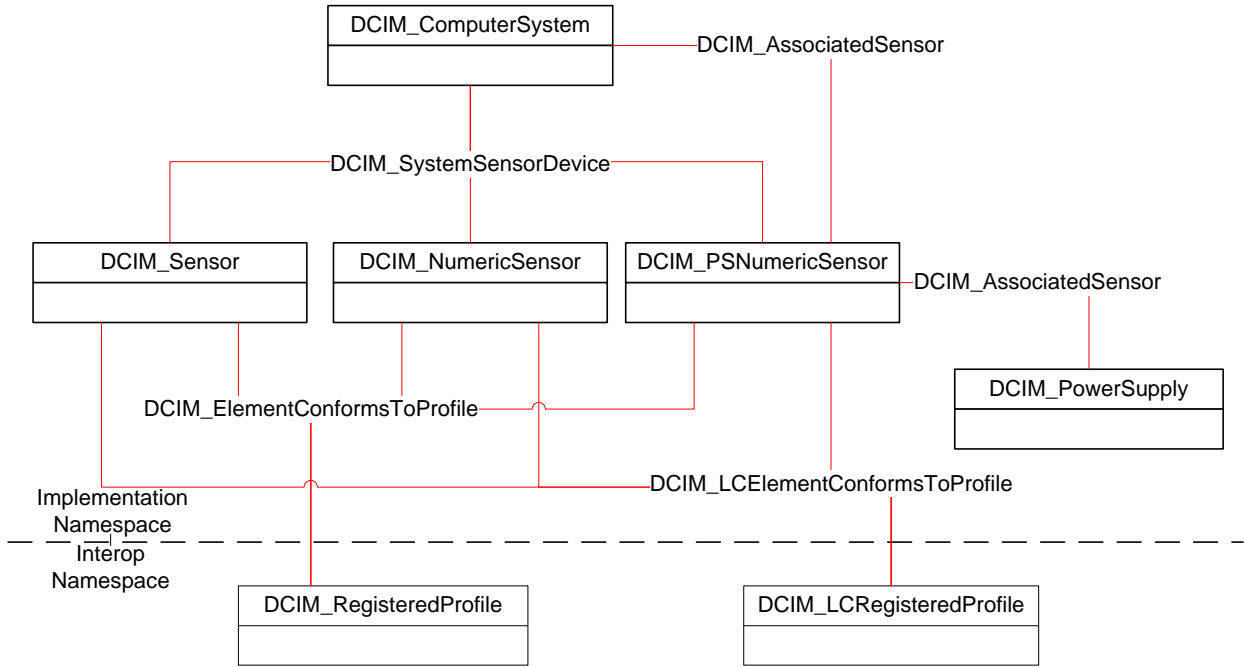
110

111 **Figure 1 – Sensors Profile Implementation**

112 **7   Implementation Requirements**

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

114   **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		

115   **7.1   Power Numeric Sensor – DCIM_PSNumericSensor**

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

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

119   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.

125 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.

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>"

136 7.1.1.2 Operations

137 The following table lists the operations implemented on DCIM_PSNumericSensor.

138 **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.

139 7.1.1.3 Class Properties

140 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
142 "Requirements" column shall denote whether the property is implemented (for requirement definitions,
143 see section 3). The "Additional Requirements" column shall denote either possible values for the property,
144 or requirements on the value formulation.

145 **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.

146 ### 7.1.2 Power Consumption Sensor in Amps

147 This section describes the implementation for the DCIM_PSNumericSensor class.

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

149 #### 7.1.2.1 Resource URIs for WinRM®

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

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

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

159 #### 7.1.2.2 Operations

160 The following table lists the operations implemented on DCIM_PSNumericSensor.

161 **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.

162 #### 7.1.2.3 Properties

163 The following table lists the implemented properties for DCIM_PSNumericSensor instance representing a
164 an analog power consumption sensor in a system measuring power supply consumption in amperes. The
165 "Requirements" column shall denote whether the property is implemented (for requirement definitions,
166 see section 3). The "Additional Requirements" column shall denote either possible values for the property,
167 or requirements on the value formulation.

168 **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.

169 **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.

175 **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 >"

185 **7.2.2   Operations**

186 The following table lists the operations implemented on DCIM_NumericSensor.

187   **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.

188 **7.2.3   Class Properties**

189 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
191 implemented (for requirement definitions, see section 3). The "Additional Requirements" column shall
192 denote either possible values for the property, or requirements on the value formulation.

193   **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).

194 7.3 Non-Power Digital Sensors – DCIM_Sensor

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

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

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

200 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
204 DeviceID.

205 The instance Resource URI for DCIM_Sensor instance is: "http://schemas.dell.com/wbem/wscim/1/cim-
206 schema/2/DCIM_Sensor?__cimnamespace=root/dcim+SystemCreationClassName=DCIM_ComputerSys
207 tem+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).

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"

225 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"

227 The key property shall be the InstanceID property.

228 7.4.2 Operations

229 The following table lists the operations implemented on CIM_RegisteredProfile .

230 **Table 11 – CIM_RegisteredProfile - Operations**

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

231 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,
234 see section 3). The "Additional Requirements" column shall denote either possible values for the property,
235 or requirements on the value formulation.

236 **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"].

237 ## 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
241   Implementation Namespace: root/dcim and shall reference the DCIM_LCRegisteredProfile instance.

242   ### 7.5.1   Resource URIs for WinRM®

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

245   The key property shall be the InstanceID property.

246   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

249   The following table lists the operations implemented on DCIM_RegisteredProfile .

250   **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
253   "Requirements" column shall denote whether the property is implemented (for requirement definitions,
254   see section 3). The "Additional Requirements" column shall denote either possible values for the property,
255   or requirements on the value formulation.

256   **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.

257 8 Methods

258 No additional details specified.

259 9 Use Cases

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

261 10 CIM Elements

262 No additional details specified.

263 11 Privilege and License Requirement

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

267 **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.

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