
1 HP Insight Management WBEM Management Processor Lite Provider

Description

The HP Insight Management Web-Based Enterprise Management (WBEM) Management Processor Lite provider extends the management capability of referencing profiles by adding the capability to represent HP Management Processor on HP servers.

This provider implements the following profiles and installs the necessary files:

Profile Name	Organization	Version
HP Management Processor (MP) Lite Profile	HP WBEM TC	2.0.1

For each hardware architecture listed, this provider requires the following distributions

Requirements

HP Integrity managed servers

SLES 10 and later

RHEL 5.0 and later

HP ProLiant managed servers

SLES 11 and later

RHEL 5.3 and later

Release History Initial release with HP Insight Management WBEM Providers for Linux v2.0.

1-1 Setting Up the Provider

Installing the Provider

There are no special installation instructions for this provider. It is installed by default as part of the HP Insight Management WBEM providers.

Configuring the Provider

This provider does not accept specific configuration adjustments beyond standard HP Insight Management WBEM support.

1-2 Using the Provider

Namespaces Supported by the Provider

This provider returns instances in the `root/hpq` namespace.

Schema Supported by the Provider

This provider supports the following classes:

- SMX_ManagementProcessor
- SMX_MPFirmware
- SMX_MPCollection
- SMX_MPHostedCollection
- SMX_MPComponentCS
- SMX_MPMemberOfCollection
- SMX_MPElementFirmwareIdentity
- SMX_MPInstalledFirmwareIdentity

The tables in the following sections describe the properties of the supported classes. The classes are categorized by the class or superclass that defines the property, the first column is the Property Name (including type and units) and the second column describes how the provider determines the properties implementation. When the Property Implementation value is a number, the number given is the default behavior and the Managed Object Format interpretation is within parenthesis. If other values are returned, a problem is indicated.

Unless otherwise noted, all of the property implementation values given are for HP ProLiant and HP Integrity (cellular and non-cellular) systems. The location related properties and implementation values are determined based on the server type so they may differ.

1-2-1 SMX_ManagementProcessor Class

The SMX_ManagementProcessor class implements the HP_ManagementProcessor to describe a management processor controller system.

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_ManagedElement	
Caption	<p>Short Description of the Management Processor, including the product name and the enabled state of the MP.</p> <p>For example: Product name of the management processor in the format: <i><product name> (X)</i></p> <p>Where: <i><product name></i> is the name of the MP product and <i>(X)</i> indicates whether the MP is Active or Inactive/Disabled.</p> <p>For example: Integrated Lights Out 2 (iLO 2) (Active) Integrated Lights Out 2 (iLO 2) (Inactive) Integrated Lights Out 3 (iLO 3) (Active)</p>

Property Name	Property Implementation
Description	<p>Description of the Management Processor, including the product name.</p> <p>For example: HP Management Processor - <i><product name></i></p> <p>Where: <i><product name></i> is the name of the MP product.</p> <p>For example: HP Management Processor – Integrated Lights Out 2 (iLO 2)</p>
ElementName	<p>Name of the Management Processor, including the product name and the enabled state of the MP.</p> <p>For example: Product name of the management processor in format: <i><product name></i> (X)</p> <p>Where: <i><product name></i> is the name of the MP product. (X) indicates whether the MP is Active or Inactive/Disabled</p> <p>For example: Integrated Lights Out 2 (iLO 2) (Inactive) Integrated Lights Out 2 (iLO 2) (Inactive) Integrated Lights Out 3 (iLO 3) (Active)</p>
CIM_ManagedSystemElement	

Property Name	Property Implementation
OperationalStatus	<p>Enumerators indicating the Management Processor operational status (refer to OperationalStatus mapping table in HP Management Processor Lite Profile for specific descriptions of when each value is populated).</p> <p>OperationalStatus[0] contains MP operational status:</p> <p>0 (Unknown), when NICCondition=0</p> <p>2 (OK), normal operation</p> <p>3 (Degraded), when NICCondition=5</p> <p>6 (Error), when NICCondition=6 or MP software interface fails</p> <p>OperationalStatus[1] contains NIC status (when MP is enabled):</p> <p>0 (Unknown), when NICCondition=0 or MP software interface fails</p> <p>2 (OK), normal operation</p> <p>3 (Degraded), when NICCondition=5</p> <p>6 (Error), when NICCondition=6</p> <p>10 (Stopped), when NICCondition=3</p> <p>15 (Dormant), when NICCondition=4</p> <p>Note:</p> <p>When a Management Processor is disabled (refer to property EnabledState) OperationalStatus[0] will always report a status of 2 (OK) so as not to contribute negatively to overall system status. An MP is disabled only if the user has manually disabled it via the MP's RBSU settings; this is seen as a normal condition. In this scenario OperationalStatus[1] is not populated.</p>
StatusDescriptions	<p>Descriptive text per OperationalStatus.</p> <p>StatusDescriptions[0] text per OperationalStatus[0]:</p> <p>Management Processor Status: Unknown</p> <p>Management Processor Status: OK</p> <p>Management Processor Status: Degraded</p> <p>Management Processor Status: Error</p> <p>StatusDescriptions[1] text per OperationalStatus[1]:</p> <p>Management Processor NIC Status: Unknown</p> <p>Management Processor NIC Status: OK</p> <p>Management Processor NIC Status: NIC disconnected</p> <p>Management Processor NIC Status: NIC failed</p> <p>Management Processor NIC Status: NIC is disabled</p> <p>Management Processor NIC Status: Not in use, MP is utilizing host NIC</p>

Property Name	Property Implementation
HealthState	<p>0 (Unknown), when OperationalStatus[0]=0 (Unknown)</p> <p>5 (OK), normal operation</p> <p>10 (Degraded/Warning), when OperationalStatus[0]=3 (Degraded)</p> <p>20 (Major failure), when OperationalStatus[0]=6 (Error)</p> <p>Note:</p> <p>When a Management Processor is disabled (refer to property EnabledState) HealthState will always report a state of 5 (OK) so as not to contribute negatively to overall system status. An MP is disabled only if the user has manually disabled it via the MP's RBSU settings; this is seen as a normal condition.</p>
CIM_LogicalElement	
CIM_EnabledLogicalElement	
EnabledState	<p>2 (Enabled) for active MP</p> <p>3 (Disabled) for inactive/disabled MP</p> <p>Note:</p> <p>The Active MP may be enabled or disabled (the user can manually disable the MP via RBSU settings). The Inactive MP is always disabled.</p>
RequestedState	12 (Not Applicable)
EnabledDefault	2 (Enabled)
CIM_System	
CreationClassName	SMX_ManagementProcessor
Name	Opaque instance identifier using HPQ as the OrgID. For example: HPQ:SMX_ManagementProcessor:1
CIM_ComputerSystem	
Dedicated	14 (Management)
ResetCapability	4 (Enabled)
HP_ManagementProcessor	

Property Name	Property Implementation
ControllerType	<p>Enumerator indicating the model or type of management processor.</p> <p>0 (Unknown)</p> <p>1 (Other)</p> <p>2 (PCI Board-Remote Insight Lights Out Edition II (RILOE II))</p> <p>3 (Embedded Integrated Lights Out Controller (iLO))</p> <p>4 (Embedded Integrated Lights Out Controller 2 (iLO 2))</p> <p>5 (Embedded Integrity Management Processor)</p> <p>6 (Embedded Integrity Integrated Lights Out Controller (iLO))</p> <p>7 (Embedded Integrity Integrated Lights Out Controller 2 (iLO 2))</p> <p>8 (Embedded Lights Out 100 Series (LO 100))</p> <p>9 (Embedded Integrated Lights Out Controller 3 (iLO 3))</p> <p>10 (Embedded Integrity Integrated Lights Out Controller 3 (iLO 3))</p>
OtherControllerType	Descriptive text describing the controller type when ControllerType=1 (Other)
HardwareVersion	The hardware version of the management processor.
UniqueIdentifier	String which uniquely distinguishes the management processor controller from any other MP hardware.
IPAddress	<p>The IP address of the MP-resident network interface.</p> <p>Note:</p> <p>When a Management Processor is disabled (refer to property EnabledState) IP Address will always be reported as 0.0.0.0. Network communication with the MP is not possible when the MP is disabled.</p>
URL	<p>The Uniform Resource Locator of the management processor controller's web-based user interface.</p> <p>Note:</p> <p>When a Management Processor is disabled (refer to property EnabledState) URL will always be reported as https://0.0.0.0. Network communication with the MP is not possible when the MP is disabled.</p>
SupportedProtocols	An array of values indicating the protocol(s) supported by the management processor controller. It is assumed that any protocol listed is active and can be utilized.

Property Name	Property Implementation
NICCondition	<p>Enumerator indicating the condition of the MP-resident network interface connection.</p> <p>0 (Unknown)</p> <p>2 (OK)</p> <p>3 (NIC disabled)</p> <p>4 (NIC not in operation-alternate host NIC in use)</p> <p>5 (NIC in operation but disconnected)</p> <p>6 (Failed)</p> <p>Note:</p> <p>When a Management Processor is disabled (refer to property EnabledState) NICCondition will always report a state of 3 (NIC disabled). Network communication with the MP is not possible when the MP is disabled.</p>
ActiveLicense	<p>Enumerator indicating the license type of the Management Processor.</p> <p>0 (Unknown)</p> <p>1 (None)</p> <p>2 (iLO Advanced)</p> <p>3 (iLO Light)</p> <p>4 (iLO Advanced for Blade System)</p> <p>5 (iLO standard for Blade System)</p> <p>Note:</p> <p>When communication failure with MP occurs then ActiveLicense is Unknown. If no license present then ActiveLicense is None.</p>
LicenseKey	Management Processor License Key
HostName	The network hostname in use by this management processor if one is defined
IPv6Address	The IPv6 address of the management processor controller's NIC if one is defined
IPv6SubnetPrefixLength	Describes the prefix length of the IPv6Address property in order to specify a valid IPv6 subnet
IPv4Address	The IPv4 address of the management processor controller's NIC if one is defined
IPv4SubnetMask	The mask for the IPv4 address of the management processor controller's NIC if an IPv4 address is defined
PermanentAddress	The permanent network address or MAC that is hard-coded for the management processor controller's NIC

Property Name	Property Implementation
GatewayIPAddresses[]	The IPv4 and IPv6 addresses which define the default IPv4 and/orIPv6 gateways for the management processor
HostName	The network hostname in use by this management processo,rif one is defined
HP_ManagementProcessor	

1-2-2 SMX_MPFirmware Class

The SMX_MPFirmware class implements the HP_MPFirmware class to describe management processor firmware

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_ManagedElement	
Caption	Short Description of the MP firmware For example: Management Processor Firmware
Description	Description of the MP firmware. For example: HP Management Processor Firmware
ElementName	Represents the target type/firmware family. Examples: RI7 for iLO 2 R19 for iLO 3
CIM_ManagedSystemElement	
Name	Product name of the management processor. Examples: Integrated Lights Out 2 (iLO 2)
OperationalStatus	2 (OK), normal operation 6 (Error), when MP software interface fails
StatusDescriptions	Management Processor Firmware Status: OK
HealthState	5 (OK), normal operation 20 (Major failure), when MP software interface fails
CIM_LogicalElement	
CIM_SoftwareIdentity	

Property Name	Property Implementation
InstanceID	Opaque instance identifier using HPQ as the OrgID. For example: HPQ:SMX_MPFirmware:1
MajorVersion	The major version of the MP firmware.
MinorVersion	The minor version number of the MP firmware.
VersionString	String indicating the MP firmware version information. This property is the string translation of the content provided in the MajorVersion and MinorVersion properties.
Manufacturer	Hewlett-Packard
Classifications	10 (Firmware)
ClassificationDescriptions	HP Management Processor Firmware
IdentityInfoValue	<p>Indexed array that provides the values described by the type information stored in the corresponding component of the IdentityInfoType array.</p> <p>For IdentityInfoType CIM:SoftwareFamily, the value will represent the target type/firmware family:</p> <p>Examples: HPQ:RI7 for ProLiant iLO 2 HPQ:RI9 for ProLiant iLO 3 HPQ:iLO2 for Integrity iLO 2 HPQ:MP for Integrity MP</p>
IdentityInfoType	<p>Indexed array that provides the Description of the type of information that is stored in the corresponding component of the IdentityInfoValue array.</p> <p>CIM:SoftwareFamily</p>
ReleaseDate	The MP firmware date (in DMTF datetime format).
HP_MPFirmware	

1-2-3 SMX_MPCollection Class

The SMX_MPCollection class implements the HP_MPCollection class to represent the collection of all management processor controller systems in a computer system and forwards group operational status.

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_ManagedElement	

Property Name	Property Implementation
Description	Description of the class, for example HP Management Processor Collection
ElementName	ElementName for the class For example: Management Processor Collection
CIM_Collection	
CIM_SystemSpecificCollection	
InstanceID	Opaque instance identifier using HPQ as the OrgID. For example: HPQ:SMX_MPCollection:1
HP_GroupSystemSpecificCollection	
Caption	Caption for the class, for example Management Processor Collection
GroupOperationalStatus	Describes the group operational status of the management processor collection (refer to HP Management Processor Lite Profile). The group operational status represents the “worst-of” algorithm for all individual MP statuses in HP_ManagementProcessor.OperationalStatus[0]. GroupOperationalStatus[0] contains group operational status: 0 (Unknown) 2 (OK) 3 (Degraded) 6 (Error)
GroupStatusDescriptions	GroupStatusDescriptions[0] text per GroupOperationalStatus[0]: Aggregate Management Processor Collection Status: Unknown Aggregate Management Processor Collection Status: OK Aggregate Management Processor Collection Status: Degraded Aggregate Management Processor Collection Status: Error
SMX_MPCollection	

1-2-4 SMX_MPHostedCollection Class

The SMX_MPHostedCollection class implements the HP_MPHostedCollection class, which associates a management processor collection to the scoping computer system.

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_Dependency	
CIM_HostedDependency	
CIM_HostedCollection	
HP_GroupHostedCollection	
HP_MPHostedCollection	
Antecedent	References HP_ComputerSystem
Dependent	References HP_MPCollection

1-2-5 SMX_MPComponentCS Class

The SMX_MPComponentCS class implements the HP_MPComponentCS class to associate a management processor subsystem to the scoping computer system that contains it.

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_Component	
CIM_SystemComponent	
CIM_ComponentCS	
HP_MPComponentCS	
GroupComponent	References HP_ComputerSystem
PartComponent	References HP_ManagementProcessor

1-2-6 SMX_MPMemberOfCollection Class

The SMX_MPMemberOfCollection class implements the HP_MPMemberOfCollection class to associate a management processor to the collection to which it belongs.

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_MemberOfCollection	
HP_MPMemberOfCollection	
Included	Writeable boolean property indicating if the management processor instance referenced by Member will contribute status to the HP_MPCollection. TRUE—Include member status in collection status

	FALSE—Do not include member status in collection status
Collection	References HP_MPCollection
Member	References HP_ManagementProcessor

1-2-7 SMX_MPElementFirmwareIdentity Class

The SMX_MPElementFirmwareIdentity class implements the HP_MPElementFirmwareIdentity class to associate a management processor to its corresponding firmware.

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_Dependency	
CIM_ElementSoftwareIdentity	
UpgradeCondition	3 (Owner Upgradeable)
ElementSoftwareStatus	ElementSoftwareStatus[0] 6 (Installed) ElementSoftwareStatus[1] 2 (Current)
HP_MPElementFirmwareIdentity	
Antecedent	References HP_MPFirmware
Dependent	References HP_ManagementProcessor

1-2-8 SMX_MPInstalledFirmwareIdentity Class

The SMX_MPInstalledFirmwareIdentity class implements the CIM_MPInstalledFirmwareIdentity class to associate a management processor to its corresponding installed firmware.

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_InstalledSoftwareIdentity	
SMX_MPInstalledFirmwareIdentity	
System	References SMX_ManagementProcessor
InstalledSoftware	References SMX_MPFirmware