



Enclosure Manager Instance Provider

Provider Overview

The Enclosure Manager Instance Provider provides information related to Enclosure of the Blade system.

Description

The Enclosure Manager Provider is a Web-Based Enterprise Management (WBEM) Instance Provider that provides Enclosure information from HP Blade servers based on HP Integrity Servers, running HPUX. This provider is compliant with the Common Information Model (CIM) 2.8 Schema, proposed by the Distributed Management Task Force (DMTF).

The Enclosure Manager Provider allows any client, compliant with the CIM 2.8 Schema, to query for information about the managed blade system's Enclosure details.

The Enclosure Manager Instance Provider implements Enclosure related CIM classes, proposed in the DMTF CIM 2.8 revision. In addition to the properties that belong to the standard CIM classes, the Enclosure Manager Provider serves information that is specific to HP Blade Servers, by implementing HP-specific CIM classes, derived from the standard DMTF classes.

The following MOF class is handled by the Enclosure Manager Instance Provider:

- HP_BladeEnclosureCS

HP_BladeEnclosureCS (subclass of CIM_ComputerSystem) contains Enclosure related information.

The MOF class mentioned above (i.e. all MOF classes prefixed with "HP_") are HP-specific extensions to the CIM Schema, and are registered in the "root/cimv2" namespace.

For the MOF class mentioned above, the Enclosure Manager Instance Provider supports the following standard CIM Operations:

- enumerateInstanceNames()
- enumerateInstances()
- getInstance()

The following CIM operations are not supported by the Enclosure Manager Instance Provider:

- createInstance()
- deleteInstance()
- modifyInstance()

Enclosure Manager Instance Provider is not a CIM Method Provider, and does not support extrinsic method invocation on instances on any of the MOF classes mentioned above. The invocation of any of these methods will result in a CIM_ERR_NOT_SUPPORTED exception.

Requirements

For the list of software requirements for using Enclosure Manager provider, see the SFM Release Notes at: <http://docs.hp.com/en/diag>.

Supported Managed Resources

This provider provides information related to the Blade Enclosure on the system.

Please note that the Enclosure Manager Instance Provider provides only the information about the above resources. It does not provide any management, diagnostic or configuration capabilities for the above resources.

Setting up this Provider

Installing this Provider

The installation of the bundle SysFaultMgmt will set up this provider.

Ensure that the appropriate version of HPWBEM services and OnlineDiag are installed as mentioned in the requirements section.

Use swinstall to install the product: "swinstall -s Fully_Qualified_Depot_Name SysFaultMgmt"

On installation, the shared-library files, executable binaries, configuration files and MOF definition and registration files will be available in the /opt/sfm/ directory, as follows:

- The provider library is libsfmproviders.1. This is available in /opt/sfm/lib/, along with all the other libraries it uses to implement the Enclosure Manager Instance provider. A symbolic link is made in /opt/wbem/providers/lib/libsfmproviders.sl to link to the libsfmproviders.1 library in /opt/sfm/lib/.
- The CIM MOF files, containing the definitions of the HP-specific MOF classes, (namely HP_BladeEnclosureCS.mof) will be available in /opt/sfm/schemas/mof. This directory will also include the provider registration file, namely HP_BladeEnclosureCSR.mof. Note: All the HP-specific MOF classes will be registered under the "root/cimv2" namespace.
- The /var/opt/sfm/conf/ directory will contain the (XML) configuration files of the System Fault Management Product.
- The /opt/sfm/msgcat/ directory will contain the catalog files for all the supported locales. (This is used for the localization of the message strings in Enclosure Manager Instance Provider).
- The /var/opt/sfm/log/ directory will contain log files generated during the execution of the Enclosure Manager Instance Provider.

For the list of supported platforms, see the SFM Release Notes at:

<http://docs.hp.com/en/diag>

Configuring this Provider

Enclosure Manager Instance Provider uses a common configuration file along with Memory Instance Provider and EMSWrapper Indication Provider. So editing the configuration file will affect the other two providers as well. The configuration file can be found in - /var/opt/sfm/conf/FMLoggerConfig.xml

The file specifies the logging threshold severity, and the location of the log-file. The contents of the file are as follows:

```
<SFMConfig>
  <LoggerConfig>
    <Severity> WARNING </Severity>
    <Target> /var/opt/sfm/log/sfm.log </Target>
  </LoggerConfig>
</SFMConfig>
```

In order to change the logging configuration, the following steps are to be followed:

1. Edit the configuration file /var/opt/sfm/conf/FMLoggerConfig.xml to change the threshold logging level and/or target.

a) Threshold: Possible values are (in increasing severity)

INFORMATIONAL

WARNING

ERROR

CRITICAL

NOTE The INFORMATIONAL logging severity will generate a lot of log-messages. It is strongly advised not to use this severity level for a long time, for the generated log-files may use a lot of disk space. The default (and recommended) threshold in the runtime environment is WARNING.

b) Target: Possible values include:

(i) STDOUT: All log messages are delivered to console.

(ii) The complete path to the file where the log messages are to be written

NOTE: The current implementation of the logging mechanism assumes that the path to the log file (target specified in the configuration file) already exists. i.e., if the target is specified as "/abc/def/ghi.log", the path "/abc/def/" should already exist, and should be writeable by root-user.

2. Run /opt/sfm/bin/sfmconfig command, to specify the changed configuration file. i.e.

```
$ /opt/sfm/bin/sfmconfig -c /var/opt/sfm/conf/FMLoggerConfig.xml
```

Note that the complete path of the configuration file must be provided to the sfmconfig command.

Using this Provider

Schema Supported by this Provider

The "Description" section explains in brief the different MOF classes supported by Enclosure manager Instance Provider. The following tables list all the supported properties corresponding to these MOF classes, along with the properties inherited from the standard CIM MOF classes, as per CIM 2.8 schema specifications.

Note: All key properties corresponding to the CIM classes are supported by the Enclosure manager Instance Provider. The few non-key properties not supported (currently) by the Enclosure manager Instance Provider are not listed below.

Note:

1. All key properties corresponding to the CIM classes are supported by the Enclosure manager Instance Provider.
2. The non-key properties that are not supported by the Enclosure manager Instance Provider are not listed below.

Property Name	Property Inheritance	Property Value
OperationalStatus	CIM_ManagedSystemElement	uint16 [0] = Overall MP status: 0=Unknown 2=OK 3=Degraded 6=Critical
StatusDescriptions	CIM_ManagedSystemElement	String - OnboardAdministrator is in OK state. - OnboardAdministrator is in Degraded state. - OnboardAdministrator has critical errors. - OnboardAdministrator is in unknown state.
ManagementIPAddress	HP_BladeEnclosureCS	String IP address of Enclosure Manager.
ManagementMACAddress	HP_BladeEnclosureCS	String MAC address of Enclosure Manager.
ManagementURL	HP_BladeEnclosureCS	string The Uniform Resource Locator of the Enclosure manager.
RackName	HP_BladeEnclosureCS	string User defined rack name set through Onboard Administrator.
RackUID	HP_BladeEnclosureCS	string The UID assigned for the Rack.
BladeBayNumber	HP_BladeEnclosureCS	String Bay number to which the Blade is associated/connected to.
EnclosureName	HP_BladeEnclosureCS	String Enclosure name. Example : OA-0016355E3003
EnclosureSerialNumber	HP_BladeEnclosureCS	String Enclosure Serial Number. Example : 1Z34AB7580
EnclosureModel	HP_BladeEnclosureCS	String Enclosure Model Description. Example : BladeSystem c7xxx Enclosure
Name	CIM_System	String
CreationClassName	CIM_EnabledLogicalElement	String MOF Name-"HP_BladeEnclosureCS"

Table 3 – Properties / Methods for HP_BladeEnclosureCS and parent classes

Intrinsic methods for all the CIM classes supported by Enclosure Manager Instance Provider

This Table describes the intrinsic methods supported by this provider. It has three columns. The first is the method name, the second is a description of the provider's actions based on invoking that method, and the third is a list of any exceptions that could result from invoking the method. Each row describes a method.

Method Name	Description	Exceptions Thrown
enumerateInstances	Returns all instances of class with values of supported properties. (See tables above.)	
enumerateInstanceNames	Returns object path of all instances of class.	
getInstance	Returns an instance that matches the keys with values of supported properties. (See table above.)	
modifyInstance	This operation is not supported by the Enclosure Manager Instance Provider. This is indicated to the client, via exceptions.	CIMNotSupportedException
deleteInstance	This operation is not supported by the Enclosure Manager Instance Provider. This is indicated to the client, via exceptions.	CIMNotSupportedException
createInstance	This operation is not supported by the Enclosure Manager Instance Provider. This is indicated to the client, via exceptions.	CIMNotSupportedException

Links to more information

WBEM information

For a CIM tutorial, go to <http://www.dmtf.org/education/cimtutorial.php>

System Fault Management Administrator's Guide at:

<http://docs.hp.com/en/diag>

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