Computer System Chassis Instance Provider

Provider Overview

The Computer System Chassis Instance Provider is a Web-Based Enterprise Management (WBEM) instance provider that retrieves the HP base server physical asset information of the system.

Description

The Computer System Chassis Instance Provider is a Web-Based Enterprise Management (WBEM) instance provider that retrieves the HP base server physical asset information of the system from HP 9000 systems and HP Integrity servers, running HPUX. The provider retrieves properties such as the serial number, product ID, and Logical Universally Unique ID (UUID). This provider is compliant with the Common Information Model (CIM) Schema, proposed by the Distributed Management Task Force (DMTF).

The Computer System Chassis Instance Provider allows any client program, compliant with the CIM 2.8 Schema, to query for information about the managed system's physical asset information.

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

The following MOF classes are handled by the Computer System Chassis Instance Provider:

- HP_ComputerSystemChassis

  HP_ComputerSystemChassis (subclass of HP_ComputerSystem) represent base server physical asset information about the HP base server, including model, serial number, product ID, etc.

In addition, the Instance Computer System Chassis Provider also implements association class to associate the instance of the different CIM classes mentioned above. These include:

- HP_ComputerSystemPackage (subclass of PG_ComputerSystem): This class associates the HP_ComputerSystem with its chassis instance of HP_ComputerSystemChassis.

The MOF classes 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 all the MOF classes mentioned above, the Computer System Chassis Instance Provider supports the following standard CIM Operations:

1. enumerateInstanceNames()
2. enumerateInstances()
3. getInstance()

The following CIM operations are not supported by the Computer System Chassis Instance Provider:

1. createInstance()
2. deleteInstance()
3. modifyInstance()

The Computer System Chassis 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

Release history

Supported managed resources

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

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

Please note that the Computer System Chassis Instance Provider provides only the information about the above resource. It does not provide any management, diagnostic or configuration capabilities for the above resource.

Setting up this provider

installing this provider

This provider installs along with SysFaultMgmt product.

For installation, see the SFM Administration guide at: http://docs.hp.com/en/5992-1318/index.html

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 libsfmprovider.1. This is available in /opt/sfm/lib/, along with all the other libraries it uses to implement the Computer System Chassis Instance provider. A symbolic link is made in /opt/wbem/providers/lib/libsfmprovider.so to link to the libsfmprovider.1 library in /opt/sfm/lib/.

- The CIM MOF files, containing the definitions of the HP-specific MOF classes, (namely HP_CSChassis.mof) will be available in /opt/sfm/schemas/mof. This directory will also include the provider registration file, namely SFMProvidersHPOnlyR.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 SysFaultMgmt 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 Computer System Chassis Instance Provider).

- The /var/opt/sfm/log/ directory will contain log files generated during the execution of the Computer System Chassis Instance Provider.

Configuring this provider

Computer System Chassis 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) : Possible values are (in increasing severity)

   INFORMATIONAL

   WARNING

   ERROR

   CRITICAL

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) : 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

The current implementation of the logging mechanism assumes that the path to the log file (target specified in the configuration file) already exist. 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 the Computer System Chassis 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 Computer System Chassis Instance Provider. The few non-key properties not supported (currently) by the Computer System Chassis Instance Provider are not listed below.

Note:

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

table 1: HP_ComputerSystemChassis properties

Table 1 describes the properties of the HP_ComputerSystemChassis classs. It has three columns. The first is the property name (including type and units), the second is the property inheritance (indicating which class or superclass defines the property), and the third is the property's value and data source. Each row describes a property.

property name	***property inheritance***	***property value (and data source)***
	Inherited from CIM_PhysicalElement.	An arbitrary string that uniquely identifies the physical element and serves as the key of the Element. The Tag property can contain information such as asset tag or serial number data. The key for PhysicalElement is placed very high in the object hierarchy in order to independently identify the hardware or entity, regardless of physical placement in or on Cabinets, Adapters, and so on. For example, a hot swappable or removable component can be taken from its scoping package and be temporarily unused. The object still continues to exist and can even be inserted into a different scoping container. Therefore, the key for Physical Element is an arbitrary string and is defined independently of any placement or location-oriented hierarchy.
String SerialNumber	Inherited from CIM_PhysicalElement.	A manufacturer-allocated number used to identify the Physical Element.
String Model	Inherited from CIM_PhysicalElement	The name by which the PhysicalElement is generally known.
String ProductID	Inherited from CIM_Location	The HP Product ID for the physical package. The Product ID is sometimes necessary to uniquely identify a HP product as the HP_ComputerSystem.SerialNumber values can be reused.

String VirtualSerialNumber	Inherited from HP_ComputerSystemChassis	The HP Serial Number (Logical) for the computer system package. Serial Number (Logical) is the system serial number exposed to the operating system when running in an HP Virtual Connect environment. The Serial Number (Logical) presented here will correspond to UUID (Logical) at the same index location.
String VirtualUUID	Inherirted from HP_ComputerSystemChassis	The HP UUID (Logical) for the computer system package. The UUID (Logical) is the system UUID exposed to the operating system when running in an HP Virtual Connect environment. The UUID (Logical) presented here will correspond to the HP Serial Number (Logical) at the same index location.

table 2: HP_ComputerSystemPackage properties

Table 2 describes the properties of the HP_ComputerSystemPackage association class (associating HP_ComputerSystemChassis and PG_ComputerSystem). It has three columns. The first is the property name (including type and units), the second is the property inheritance (indicating which class or superclass defines the property), and the third is the property's value and data source. Each row describes a property.

property name	*property inheritance*	*property value (and data source)*
	Property of HP_ComputerSystemPackage	Object path of the HP_ComputerSystemChassis Instance.
	Property of HP_ComputerSystemPackage	Object path of the PG_ComputerSystem Instance.
String PackageGUID	Property of CIM_ComputerSystemPackage	A Globally Unique Identifier for the System's Package.

table 3: Intrinsic methods for all the CIM classes supported by Computer System Chassis Instance Provider

Table 3 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 tables above.)	
modifyInstance	This operation is not supported by the Computer System Chassis Instance Provider. This is indicated to the client, via exceptions.	CIMNotSupportedException
deleteInstance	This operation is not supported by the Computer System Chassis Instance Provider. This is indicated to the client, via exceptions.	CIMNotSupportedException
createInstance	This operation is not supported by the Computer System Chassis Instance Provider.	CIMNotSupportedException

	This is indicated to the client, via exceptions.

indications generated by this provider This Provider does not currently generate any indications.

Links to more information

1. **WBEM information**
   For a CIM tutorial, go to http://www.dmtf.org/education/cimtutorial.php

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