

LAN Consolidated Status Provider Data Sheet



hp WBEM solutions



hp technical
data sheet

HP-VMS LAN Consolidated Status Provider (CSP) - CIM health status Provider for Ethernet LAN interfaces

Provider Overview

Description

The LAN Consolidated Status Provider is a WBEM based provider that reports the consolidated health status of the Ethernet subsystem. The provider instruments the association classes HP_GroupHostedCollection and CIM_MemberOfCollection and the collection class HP_GroupSystemSpecificCollection.

Clients can query the HP_GroupHostedCollection and obtain the object reference to the collection class. They can then query the collection class and obtain the consolidated health status. By querying the CIM_MemberOfCollection class, they can obtain object references to the constituent members of the collection.

The consolidated status values reported by LAN CSP are:

- OK – all LAN interfaces are operational
- Stopped – at least one LAN interface is not operational
- Unknown – problem noted, cannot identify

The provider also reports textual descriptions of each of the consolidated status values above. Please refer to Table 1 under 'GroupStatusDescriptions[]' for the textual descriptions.

The LAN Consolidated Status Provider requires HP-VMS WBEM Services 2.5.

Requirements

Release history

Initial release with HP WBEM Services for HP-VMS.

- HP I64VMS WBEMPROVIDERS V1.7-16 (May 2009)
- HP I64VMS WBEMPROVIDERS V2.0-4 (June 2010)
- HP I64VMS WBEMPROVIDERS V2.1-4 (August 2010)
- HP I64VMS WBEMPROVIDERS V2.2-3 (February 2011)

Supported managed resources

Managed systems running HP-VMS WBEM Services. This provider only supports HP Ethernet-based LAN interface products for HP-VMS

Setting Up This Provider

Installing this provider

The installation of HP WBEM Providers will set up this provider. Ensure HP WBEM Services is already installed.

On installation, executable binaries, configuration files and MOF definition and registration files will be available in their respective directory, as follows:

- The CIM MOF file, containing the definitions of the HP-specific MOF classes, (namely HPVMSEthernetPortCollection.mof, HPVMSEthernetGrpHostedCollection.mof & HPVMSEthernetMemberOfCollection.mof) will be available in SYS\$COMMON:[WBEMPROVIDERS.MOF]. This directory will also include the provider registration file, namely HPVMSLANCSPProviderModuleRegister.mof. Note: All the HP-specific

MOF classes will be registered under the "root/cimv2" namespace.

- The SYS\$SPECIFIC:[WBEMPROVIDERS] directory will contain the configuration files of the WBEM Providers Product.
- The WBEM Services SYS\$SPECIFIC:[WBEM_SERVICES]CIMSERVER_STARTUP.LOG log file will contain logs generated during the execution of this provider. By editing the "Severity" property in the SYS\$SPECIFIC:[WBEMPROVIDERS]FMLOGGERCONFIG.TXT file different levels of messages in the SYS\$SPECIFIC:[WBEM_SERVICES]CIMSERVER.LOG can be generated. The valid values are TRACE, DEBUG, INFORMATIONAL, WARNING, ERROR, CRITICAL, STOPLOGGING.

The LAN CSP is part of the LAN Provider (WBEMP-LAN-00) product. There are no special installation instructions for LAN CSP. It is automatically installed whenever the LAN Provider (WBEMP-LAN-00) product is installed.

Installing only the provider will not require a system reboot.

Using This Provider

Schema supported by this provider

This provider supports the HP_GroupSystemSpecificCollection, HP_GroupHostedCollection and CIM_MemberOfCollection classes through the sub-classes HPVMS_EthernetPortCollection, HPVMS_EthernetGroupHostedCollection and HPVMS_EthernetMemberOfCollection respectively. Tables 1 through 3 describe the properties and methods supported by the provider.

The following table lists the properties and the values of the class HPVMS_EthernetPortCollection. KEY properties are marked in bold-face.

Table 1: HPVMS_EthernetPortCollection properties.

Property/Method	Inheritance	Description/Notes
<i>String</i> InstanceID (key)	Inherited from CIM_SystemSpecificCollection	"Hewlett-Packard:HPVMS.wbemp-lan: HPVMS_EthernetPortCollection:1"
<i>Uint16</i> GroupOperationalStatus[]	Inherited from HP_GroupSystemSpecificCollection	ValueMap {"0", "2", "10"} Values {"Unknown", "OK", "Stopped" } 0 (Unknown) – status of at least one port could not be unambiguously determined. 2 (OK) – all Ethernet LAN ports in the system are functioning. 10 (Stopped) - at least one port is not functioning.
<i>String</i> GroupStatusDescriptions[]	Inherited from HP_GroupSystemSpecificCollection	if GroupOperationalStatus[] is 0(Unknown) then the status description is: "At least one LAN device has Unknown Status" if GroupOperationalStatus[] is 2 (OK) then the status description is: "All LAN devices are online and operational " if GroupOperationalStatus[] is 10(Stopped) then the status description is: "At least one LAN device is not operational"

String Caption	Inherited from HP_GroupSystemSpecificCollection	"HPVMS_EthernetPortCollection"
String ElementName	Inherited from CIM_PhysicalElement	"HPVMS_EthernetPortCollection"

Note: The GroupOperationalStatus[] above means the GroupOperationalStatus[0] element. Similarly the GroupStatusDescriptions[] above means the GroupStatusDescriptions[0] element.

The following table lists the properties and the proposed values of the class HPVMS_EthernetGroupHostedCollection. KEY properties are marked in bold-face.

Table 2: HPVMS_EthernetGroupHostedCollection properties.

Property/Method	Inheritance	Description/Notes
PG_ComputerSystem ref antecedent	Inherited from CIM_Dependency, overridden by CIM_HostedCollection, overridden by HP_GroupHostedCollection.	Within the reference property 'Antecedent': CreationClassName always returns the string "PG_ComputerSystem" for HPVMS. Name returns the fully qualified host name returned by the name service through the gethostbyname() system call. If a name service is not available, the provider supplies the hostname returned by the gethostname() system call.
HPVMS_EthernetPortCollection ref Dependent	Inherited from CIM_Dependency, overridden by CIM_HostedCollection, overridden by HP_GroupHostedCollection.	Within the reference property 'Dependent': InstanceID returns "Hewlett-Packard: HPVMS.wbemp-lan:HPVMS_EthernetPortCollection: 1".

The following table lists the properties and the proposed values of the class HPVMS_EthernetMemberOfCollection. KEY properties are marked in bold-face.

Table 3: HPVMS_EthernetMemberOfCollection properties

Property/Method	Inheritance	Description/Notes
HPVMS_EthernetPortCollection ref Collection	Inherited from CIM_Dependency, overridden by CIM_MemberOfCollection, overridden by HPVMS_EthernetMemberOfCollection.	Within the reference property 'Collection': InstanceID returns "Hewlett-Packard: HPVMS.wbemp-lan:HPVMS_EthernetPortCollection: 1"
HPVMS_EthernetPort ref Member	Inherited from CIM_Dependency, overridden by CIM_MemberOfCollection, overridden by HPVMS_EthernetMemberOfCollection	Within the reference property 'Member': SystemCreationClassName returns

	on.	<p>“CIM_UnitaryComputerSystem”</p> <p>CreationClassName returns “CIM_LogicalDevice”.</p> <p>SystemName returns the fully qualified hostname of the system.</p> <p>DeviceID returns the Interface Name (e.g. “EIA0”).</p>
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Tables 4 and 5 describe the intrinsic and extrinsic methods for the classes supported by the LAN CSP. The provider currently registers as an instance provider.

Table 4: intrinsic methods for LAN CSP

Table 4 describes the intrinsic methods supported by this provider. All the classes of the provider support these methods. 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	Exception Thrown
enumerateInstances	<p>Returns all instances of class with all properties.</p> <p>When called on class HPVMS_EthernetPortCollection, one instance of the class with the Consolidated status property (GroupOperationalStatus[0]) and other properties filled in, is returned. The client can thus obtain the consolidated status for the Ethernet subsystem from this class instance.</p>	CIM_ERR_FAILED (if an operation failed; an internal error)
enumerateInstanceNames	Returns object path of all instances of class with key properties.	CIM_ERR_FAILED (if an operation failed; an internal error)
getInstance	<p>Returns the requested instance (with all properties). When called on class HPVMS_EthernetPortCollection, one instance of the class with the Consolidated status property (GroupOperationalStatus[0]) and other properties filled in, is returned. The client can thus obtain the consolidated status for the Ethernet subsystem from this class instance.</p>	<p>CIM_ERR_INVALID_PARAMETER (if wrong class or wrong number of keys or wrong keys)</p> <p>CIM_ERR_FAILED (if an operation failed; an internal error)</p>
createInstance	Returns Not Supported.	CIM_ERR_NOT_SUPPORTED
modifyInstance	Returns Not Supported.	CIM_ERR_NOT_SUPPORTED
deleteInstance	Returns Not Supported.	CIM_ERR_NOT_SUPPORTED
Initialize	Performs provider specific initialization.	None

Terminate	Performs provider specific clean-up.	None
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Table 5: Extrinsic methods for HPVMS_EthernetPortCollection

None

- **Indications generated by this provider**

This provider does not generate any indications.

- **Associations provided by this provider**

HPVMS_EthernetGroupHostedCollection and HPVMS_EthernetMemberOfCollection.

Links to more information

- **Additional provider documentation**

There is no additional documentation for this provider.

See also man pages for information on the various commands and system calls noted in the descriptions above.

- **WBEM information**

For a CIM tutorial, please go to <http://www.wbemsolutions.com/tutorials/DMTF/cim-overview.html>

For information about HP WBEM Services for HP-VMS, please see <http://software.hp.com> and <http://docs.hp.com> (the Network and Systems Management section).

- **Client information**

This provider is designed to work with any WBEM aware client that queries for and handles responses from the classes HP_GroupHostedCollection, CIM_MemberOfCollection and HP_GroupSystemSpecificCollection.

For additional information on HP products and services, visit us at <http://www.hp.com>.

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