SMI-S provider troubleshooting for HP Systems Insight Manager and HP Storage Essentials

About this document

HP Systems Insight Manager (HP SIM) and HP Storage Essentials (HP SE) use CIM/WBEM servers and providers that conform to the Storage Management Initiative Specification (SMI-S). Before HP SIM and HP SE can manage and report on a storage device, the appropriate SMI-S provider must be installed and configured.

Testing SMI-S provider installations

Complete the following procedure to test an SMI-S provider installation.

1. Open a DOS window on the Central Management Server (CMS).

2. Set the current directory to `./Program Files/HP/Systems Insight Manager/`.

3. For each installed provider, type: `wbemdisco <host> <port> <interopnamespace> <user> <password>`.

   See the following table for more information about each command option.

\<host\>	The IP address or DNS name of the SMA or PC on which the SMI-S provider is installed.
\<port\>	The port on which the SMI-S provider is running.
\<namespace\>	The "interoperability" namespace of the provider.
\<user\>	The user name giving access to the data available from the provider.
\<password\>	The corresponding password giving access to the data available from the provider.

4. The output should be similar to the following:

```
HOST   = coresma2
PORT   = 5989
NAMESP = root
USER   = administrator
PASSWD = ***** Connect to coresma2 in namespace root
with SSL=true

Enumerating instances of CIM_Registered Profile...

Profile.RegisteredName=Array
Profile.RegisteredVersion=1.0.2
ProviderVersion=4.0
Profile.HPVersion=EVA4.0.0-Dev25
SubProfile.RegisteredName=SNIA:Software
SubProfile.RegisteredName=SNIA:Pool Manipulation
Capabilities and Settings
SubProfile.RegisteredName=SNIA:Backend Ports
SubProfile.RegisteredName=SNIA:LUN Mapping and
Masking
SubProfile.RegisteredName=SNIA:LUN Creation
SubProfile.RegisteredName=SNIA:Copy Services
SubProfile.RegisteredName=SNIA:Access Point
SubProfile.RegisteredName=SNIA:Location
SubProfile.RegisteredName=SNIA:Cluster
HPEVA_StorageSystem.CreationClassName=
"HPEVA_StorageSystem",Name="50001FE150014420"
NameSpace = root/eva
Vendor=HP
Name=HSV100
IdentifyingNumber=50001FE150014420
```

This example shows one EVA array being reported on by the provider.

Troubleshooting SMI-S provider installations

If the output from `wbemdisco` is not similar to the previous example, check for the following errors:

Error connecting with SSL=true - Connection refused: connect (CIMCLIENT_ERR_CONNECTION_FAILED)

- Cause: The CIMOM is not running on the specified host .

  Possible solutions:

  - Make sure the CIMOM is installed on the specified host, or try again with the correct host.
  - Verify that the CIMOM is running. Refer to the CIMOM documentation for instructions. If the CIMOM is not running, start it and run `wbemdisco` again.

- Cause: The CIMOM is listening on a different port than the one specified. The default port for all CIMOMs communicating via SSL is 5989.

  Possible solution:

  - Check the port number on which the CIMOM is listening. If necessary, change the port number, and run `wbemdisco` again. Refer to the CIMOM documentation for instructions on checking and changing the port number.

Error connecting with SSL=true - (CIM_ERR_ACCESS_DENIED)

Cause: The user name or password is incorrect.

Possible solutions:

- Make sure you enter a user name and password that allow at least read access to all data in the CIMOM.
- Refer to the CIMOM documentation for instructions on determining the appropriate user name, and how to determine (or change) the password.
- For most HP SMI-S providers the default is user name: *administrator* and password: *administrator*. Use the `.\Program Files\Hewlett-Packard\SMI-S\cimom\UserAccountsManager.bat` utility to change the password. If you run the utility without input, it displays its syntax.
- For Command View EVA 5.0, the default user name is *administrator*. The password is created during the provider installation. You can change the password with the `cimuser` utility, which is installed during the provider installation.
- For Command View XP Advanced Edition 1.1 and later, the default user name is *system* and the default password is *manager*. You can add Users and change passwords through the Command View XP Advanced Edition user interface (you must log in with a username/password that is in the *Admin* group). Click the **User Management** branch, and select **Users**. The user chosen for CIMOM access must be in the *Admin* or *StorageAdmin* group.
- For Windows HBAs (Emulex OEM), the default user name is *cimadmin* and the default password is *pwd580*. You can change the user name and password during the provider installation, or with the *cimuser* utility.

Error connecting with SSL=true - ... (CIM_ERR_INVALID_NAMESPACE)

Cause: The namespace is incorrect.

Possible solutions:

Make sure you enter the correct namespace for the affected device.

Table 1 Default namespaces

Device	Default namespace
HP arrays	The default for most HP arrays is `root`, with the following exceptions: • If you are running Command View EVA, the default namespace is `root/pg_interop`. • If you are running Command View XP Advanced Edition 5.0, the namespace is `root/hitachi/dm50`. • If you are running Command View XP Advanced Edition 5.1, the namespace is `root/hitachi/dm51`.
Emulex HBAs	`root/emulex`
HP-UX HBAs	`root/cimv2`
QLogic HBAs	`root/qlogic`
Brocade switches	`interop`

Device	Default namespace
Cisco switches	`root/cimv2`
HP switches	`interop` or `root/cimv2` depending on the switch model
McData switches	`interop`
HP StorageWorks Enterprise Systems tape libraries	`root/pg_interop`

The output from `wbemdisco` lists information about the CIMOM and provider, but no storage devices are listed

Cause: Most storage device CIMOMs require additional management software. This error usually means the management software is not configured to manage any storage devices.

Possible solutions: Consult the documentation for the management software that includes the SMI-S provider. Complete the steps required to configure the software to manage the appropriate storage devices, and then run `wbemdisco` again.

- HP EVA arrays use the Command View EVA management software. In Command View EVA, click **Discover** to discover all EVAs on the SAN that are visible to the computer running Command View EVA. By default, Command View EVA will try to manage all of the discovered arrays.

  NOTE:

  The same EVA cannot be managed by more than one copy of Command View EVA.

- HP XP arrays use Command View XP or Command View XP Advanced Edition. Run the Command View XP/XP Advanced Edition software and specify the XP arrays to manage.
- HP VA arrays use Command View SDM. Command View SDM typically discovers any VA array visible on the SAN, and begins to manage it. If this is not the case, for example, if SAN connectivity is created after the installation of the software, run the batch command `armdiscover` to discover your VA arrays.
- HP MSA arrays do not require additional management software. The standard management software is called ACU, but it is not required for the SMI CIMOM/provider to work. For MSA arrays, the provider automatically reports on any MSA visible to the host on which it is running. No configuration is needed.
- HP EMA/ESA/MA arrays with HSG80 controllers use HSG Element Manager. The software should automatically discover any HSG80-based arrays visible on the SAN. No configuration is needed.