

Compiling and customizing SNMP MIBs with HP SIM



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Introduction

HP Systems Insight Manager (HP SIM) provides the capability of managing systems through SNMP and by receiving incoming SNMP trap events. This paper discusses the tools provided by HP SIM to integrate third-party (non-HP) SNMP v1/v2 MIBs into HP SIM and to provide support for processing and displaying traps from other systems. This paper also discusses the MIB syntax extensions supported by HP SIM that provide additional value in customizing specific trap information. Finally, this paper discusses the set of MIBs included with HP SIM to provide out-of-the-box support for many HP systems.

Integration of third-party MIBs is a topic for advanced users of HP SIM. This paper assumes that the reader already has familiarity with SNMP-based management and MIBs in particular. Most vendors tend to loosely follow industry standards for the development of MIBs and MIB compilers. Therefore, it is often the case that MIBs require some changes and customization on the part of the end-user to properly integrate the MIBs with a management application such as HP SIM.

Note that this paper frequently references directories and tool locations throughout the HP SIM directory structure. This directory structure varies depending upon your installation choices and on the operating system under which you have installed HP SIM. Typical installation paths are as follows:

Windows

C:\Program Files\HP\System Insight Manager\ as the <BASE> installation directory

C:\Program Files\HP\System Insight Manager\mibs for all MIB and CFG files

C:\Program Files\HP\System Insight Manager\lbin for mcompile

C:\Program Files\HP\System Insight Manager\bin for mxmib

HP-UX and Linux

/opt/mx as the <BASE> installation directory

/opt/mx/mibs for all MIB and CFG files

/opt/mx/bin for mcompile and mxmib

Note: Compiling MIBs into HP SIM only enables the console to receive SNMP traps from systems. This does NOT extend the data collection mechanism to collect data points from the compiled MIBs into the database. This type of functionality is currently not available in HP SIM

MIB management tools

HP SIM provides three tools for use with MIB integration and trap customization. You register MIBs with HP SIM using two command-line tools. These tools are only accessible to the administrator or root user of the operating system. They are:

- `mcompile`
- `mxmib`

In addition, HP SIM provides a GUI tool to display and edit the trap settings for MIBs already compiled using the command-line tools listed above. This tool is the SNMP Trap Settings page.

The remainder of this section discusses each of the tools provided and elaborates on their specific usage.

`mcompile`

The `mcompile` tool verifies the syntax of all MIBs to be loaded into the system. `mcompile` resolves all MIB dependencies and, where necessary, converts SNMP v2 MIBs into v1 format for loading into the HP SIM database. `mcompile` is located in the `<BASE>\bin` directory and should be run from the `<BASE>\mibs` directory. `mcompile` looks for all MIB files in the `<BASE>\mibs` directory by default so any MIB that you intend to register should be copied to the `<BASE>\mibs` directory. While `mcompile` does provide some capability to specify a different directory to search for MIBs, as a best practice HP strongly recommends you place all MIBs in the `<BASE>\mibs` directory.

Usage for **`mcompile`** is as follows:

```
mcompile [-d <dirspec>] <mibfile>
```

Typical usage is `mcompile test.mib` where `test.mib` is the target MIB you want to register with HP SIM.

Use of the `-d` switch is not necessary when you have copied all MIBs, including dependency MIBs, to the `<BASE>\mibs` directory and execute **`mcompile`** from the `<BASE>\mibs` directory. The `-d` switch specifies which directory contains the MIB files to be compiled into HP SIM. The directory path must be specified as relative to the full path or relative to the `<BASE>` directory.

As output, **`mcompile`** produces a CFG file and save it to the `<BASE>\mibs` directory. This file has the same name as the source MIB except it has the `.cfg` suffix. In the typical usage mentioned above, the resulting output file would be `test.cfg`. Running **`mcompile`** several times against the same source MIB produces multiple revisions of the CFG with the latest version retaining the `.cfg` extension. CFG files are stripped-down versions of the original source MIBs where all comments have been

removed, all imports from other MIBs have been resolved and substituted as needed, and the compiler has converted v2 syntax to v1 where appropriate.

Also note when compiling MIBs with dependencies, the dependent MIB must be located in the same directory as the target MIB and must follow a certain naming convention, typically MIBMODULE.MIB.

An example follows using excerpts from the CPQFCA MIB:

```
CPQFCA-MIB DEFINITIONS ::= BEGIN

IMPORTS

    compaq
        FROM CPQHOST-MIB
    enterprises
        FROM RFC1155-SMI
    DisplayString
        FROM RFC1213-MIB
    OBJECT-TYPE
        FROM RFC-1212
    TRAP-TYPE
        FROM RFC-1215
    cpqSsChassisName
        FROM CPQSTSYS-MIB
```

mcompile searched for compaq by opening the file CPQHOST.MIB and **mcompile** looks for *cpqSsChassisName* in CPQSTSYS.MIB. The other imports are resolved automatically when **mcompile** runs from the <BASE>\mibs directory. HP provides versions of the RFC 1212, 1213, and 1215 MIBs for automatic import during compilation. **mcompile** automatically resolves and imports internally from RFC1155.

Another example of imports during compilation comes from the BLADETYPE2-TRAP.MIB used by the HP Proliant BL p-Class GbE2 Interconnect Switch:

```
BLADETYPE2-TRAP-MIB DEFINITIONS ::= BEGIN

IMPORTS

    TRAP-TYPE
        FROM RFC-1215
    sysName
        FROM RFC1213-MIB
    hpSwitchBladeType2-Mgmt
        FROM HP-SWITCH-PL-MIB
```

```
agSlotNumber
    FROM BLADETYPE2-SWITCH-MIB
ipCurCfgGwIndex
    FROM BLADETYPE2-NETWORK-MIB
```

In this example, *TRAP-TYPE* and *sysName* are readily resolved as in the example above.

hpSwitchBladeType2-Mgmt is resolved by **mcompile** checking *HP-SWITCH-PL.MIB*.

agSlotNumber is resolved from *BLADETYPE2-SWITCH.MIB* and *ipCurCfgGwIndex* is resolved from *BLADETYPE2-NETWORK.MIB*.

To illustrate further how imports are resolved—the following procedure is how **mcompile** would attempt to resolve the import for *hpSwitchBladeType2-Mgmt*:

1. Search for a file named *HP-SWITCH-PL-MIB.mib* (module name, uppercase).
2. Search for a file named *HP-SWITCH-PL.mib* (module name without “-MIB”, uppercase).
3. Search for *hp-switch-pl.mib* (convert name to lowercase for case sensitivity in Linux/HP-UX).
4. Search for *hp-switch-pl-mib.mib* (convert name to lowercase for case sensitivity in Linux/HP-UX).
5. Report an error indicating that the imported MIB could not be found.

A major consideration when importing MIBs is locating variables from other third-party MIBs. In many cases, MIBs are named to match module names. However, in some circumstances it might be necessary to rename MIB files to match the module names prior to compilation. For example, some vendors might provide MIB files with different extensions such as *.my*. In this case, before using **mcompile**, the *mibfile.my* file must be renamed to *mibfile.mib*.

mxmib

The **mxmib** tool registers MIBs into the HP SIM database by using their corresponding CFG files. This tool has the capability to list all registered MIBs, to display a list of traps contained in each individually registered MIB, and to unregister MIBs that you or the system have previously registered.

Important: While it is possible to unregister MIBs currently registered in the HP SIM database, HP strongly advises you do not unregister any files that have been registered by default. Doing so can impair HP SIM’s ability to correctly process traps from other HP systems on the network.

If you unregister a MIB from HP SIM, the corresponding received events in HP SIM are automatically deleted.

mxmib expects to find all files located in the *<BASE>\mibs* directory. Usage for **mxmib** is as follows:

```
mxmib -a <myfile.cfg>
mxmib -f <mylist.list>
mxmib -l
mxmib -t <myfile.mib>
mxmib -d <myfile.mib>
```

The switches work as follows:

- `-a` registers a new CFG, `<myfile.cfg>`, or replaces the data of a previously registered MIB.
- `-f` reads and processes a list of CFGs from a file, `<mylist.list (one mibname per line)>`, to register with HP SIM. This file must reside in the `<BASE>\mibs` directory and the full CFG filename must be listed on individual lines. Each line in the file is processed as it would be by running the `mxmib -a` command individually on each individual MIB file.
- `-l` lists all the MIBs registered in HP SIM. Supplying no arguments to **mxmib** defaults to running `mxmib -l`.
- `-t` lists the traps in the specified MIB `<myfile.mib>`.
- `-d` unregisters a MIB, `<myfile.mib>`, from the HP SIM database.

The initial command to register the file uses the `.cfg` extension, but all subsequent commands refer to the file by its `.mib` extension.

Important: **mxmib** is order sensitive. While the command allows you to compile MIBs whose dependencies have not been compiled, for optimal results, HP recommends that you register MIBs with HP SIM in order of dependency. If you do not compile MIBs in order of dependency, HP SIM might not properly resolve varbind data for incoming traps from MIB X when a varbind has been imported from MIB Y that was not registered prior to registering MIB X. MIB dependencies are typically identified at the top of MIB files in the IMPORTS section and are discussed in the **mcompile** section. Note that failing to compile imported MIBs properly does not block reception of traps; it only limits the data captured for some traps.

mxmib MIB keyword customization

After using **mcompile** to parse and validate the source MIB, you can customize the resulting CFG file for support in HP SIM. Specifically, there are special keywords that can be defined on a per-trap basis. At the conclusion of this section, there is a full example. The keywords and their usage are as follows.

--#TYPE

The *TYPE* keyword provides a way to add a short description of the trap to HP SIM. This short description can be used when sending a paging message. This enhances the ability to transmit information without being verbose. This keyword does not provide any functional purpose; however, it does represent the primary display string for the trap when it is displayed in HP SIM. Note that while the *TYPE* field does not need to be unique, but HP recommends that the combination of *TYPE* and *CATEGORY* fields form a unique pair so that this event can be effectively searched for using the **Event by Category/Type** search criteria.

--#SEVERITY

The *SEVERITY* keyword can be used to alter the severity of a trap. The vendor who created the MIB might have decided that the trap, under most circumstances, only warrants a severity level of informational. However, you might need to escalate the trap's severity based on operational importance. Therefore, this keyword overrides default severity. The allowable severity levels are shown below. Many vendors have different severities specified in their MIBs such as Normal, Warning, Degraded, Broken, and so on. These severities must be changed in the base MIB or CFG to one that matches HP SIM. For example, Degraded can be mapped to Minor or Major, depending on the degradation. Editing the MIB or CFG and doing a search/replace on the severities is the easiest way to tweak the MIB. HP SIM also provides a GUI to change the *SEVERITY* after MIB compilation.

- INFORMATIONAL—Events of this type require no attention. They are provided as useful information.
- MINOR—Events of this type indicate a warning condition that can escalate into a more serious problem.
- MAJOR—Events of this type indicate an impending failure.
- CRITICAL—Events of this type indicate a failure and signal the need for immediate attention.

--#ENABLE

The *ENABLE* flag can be set to **TRUE** or **FALSE** and can effectively enable or disable a trap from being processed by HP SIM. The usage for the keyword is either **TRUE** to indicate that that trap should be processed or **FALSE** to indicate that this trap should not be processed. By default, this keyword is **TRUE** and should only be explicitly overwritten on an exception basis.

--#CATEGORY

This provides a categorization of the trap for ease of viewing and use in forming HP SIM lists. You can use predefined categories or, if none of these fit your need, you can create a category befitting

your circumstances. The HP SIM **SNMP Trap Settings** page provides a GUI to change the *CATEGORY* after MIB compilation. The predefined categories in HP SIM are shown below.

- APPLICATION
- ARCserve Events
- CommandView Events
- Common Cluster Events
- Cpqdscs
- Data Protector Events
- General Backup
- Giga Switch Events
- HP Open View Internet Services Events
- HP OVSAM Events
- HP Service Events
- HP StorageWorks HSV Controller Events
- HP StorageWorks SAN Switch Events
- HP-UX EMS Events
- Integrity Server Events
- NetServer Events
- PATROL Events
- PowerDevice
- ProLiant Application Events
- ProLiant BL p-Class GbE Interconnect Switch Events
- ProLiant BL p-Class GbE2 Interconnect Switch Events
- ProLiant Cluster Events
- ProLiant Miscellaneous Events
- ProLiant NIC Events
- ProLiant Operating System Events
- ProLiant Rack Events
- ProLiant Remote Management Events
- ProLiant Storage Events
- ProLiant System and Environmental Events
- ProLiant Threshold Events
- SAN Appliance Events
- Server Net Events
- ServiceGuard Events
- STORAGE
- SWCC Events
- SYSTEM AND ENVIRONMENTAL
- Tandem EMS Events
- TruCluster Events
- Unassigned
- Unisys Configuration Agent Events

- UNKNOWN
- WYSE Events
- ZESA
- ZHRM

--#MSG_FORMATTER

This keyword has a number of HP SIM specific commands. These commands are parsed and executed when a paging or e-mail Automatic Action on Event rule is created and exercised within HP SIM. You might view these commands as a paging or e-mail command language. The general layout of each command contains an operand and descriptive text associated with the operand. The descriptive text must be delimited by a # pair. If the parser within HP SIM does not recognize a command, it will disregard that command without providing any additional feedback.

Important: Changing the MSG_FORMATTER string is only recommended for extremely advanced users. Always back up any files that are modified so that they can easily be restored. Also, for HP ProLiant traps, HP has already generated intelligent messages that are registered by default with HP SIM.

Referring to the following tables, the **V** keyword represents varbind information specific to individual traps. Numerically, all **V** definitions match the varbinds as they appear in the trap.

\$VnV#Some text#	Includes value for varbind and descriptive text (in this case, "Some text")	Label will reflect the value selected. This will vary on a trap-to-trap basis.
\$VnD#Some text#	Includes the varbind description that is only available within HP SIM	Label will reflect the value selected. This will vary on a trap-to-trap basis.

In addition, a special keyword can be used to form varbind data into text sentences.

\$Hdr#Some text#	Used to add text or formatting to headers	Text that could be added to add clarity to output data.
------------------	---	---

Also, if the beginning keyword in the trap definition file is a \$!, that tells the HP SIM parser to disregard the global settings and to use only the trap definition file keywords. See example below.

Example

```
cpqDa5PhyDrvStatusChange TRAP-TYPE
ENTERPRISE compaq
```

```
VARIABLES { sysName, cpqHoTrapFlags, cpqDaPhyDrvStatus,  
            cpqDaPhyDrvCntlrIndex, cpqDaPhyDrvBusNumber,  
            cpqDaPhyDrvBay, cpqDaPhyDrvModel, cpqDaPhyDrvFWRev,  
            cpqDaPhyDrvSerialNum, cpqDaPhyDrvFailureCode }
```

```
DESCRIPTION "Physical Drive Status Change. This trap signifies that the agent has detected  
a change in the status of an  
HP Drive Array physical drive. The variable cpaDaPhyDrvStatus indicates the current  
physical drive status. User Action: If the physical drive status is failed(3) or  
predictiveFailure(4), replace the drive."
```

```
--#TYPE "Physical Drive Status Change"  
--#SUMMARY "Physical Drive Status is now %d."  
--#ARGUMENTS {2}  
--#SEVERITY CRITICAL  
--#TIMEINDEX 99  
--#MSG_FORMATTER "$V1V#Computer: # $V3V#Drive Status: # $V9V#Serial Number: #"  
::= 3029
```

The e-mail or pager output would appear as:

Event Notice ID: 3029

Computer: CRONUS

Drive Status: FAILED

Serial Number: WS7000134715

Event Description: Physical Drive Status Change. This trap signifies that the agent has detected a change in the status of an HP Drive Array physical drive. The variable cpaDaPhyDrvStatus indicates the current physical drive status. User Action: If the physical drive status is failed(3) or predictiveFailure(4), replace the drive.

Event Time: 01/09/2003 15:46: PM

Note that Event Notice ID, Event Description and Event Time are inserted by HP SIM into all event notifications and that Computer (V1, sysName), Drive Status (V3, cpqDaPhyDrvStatus) and Serial Number (V9, cpaDaPhySerialNum) are customized to this specific trap.

Using the preceding example and adding the \$!

```
--#MSG_FORMATTER "$! $V1V#System Name: # $V3V#Drive Status: # $V9V#Serial Number: #"
```

The e-mail or pager output would be:

System Name: CRONUS

Drive Status: FAILED

Serial Number: WS7000134715

Using the `$Hdr` keyword in conjunction with `$!` to further customize the display could be as follows:

```
--#MSG_FORMATTER "$! $Hdr#The # $V1V#system # $Hdr#had the following # $V3V#Drive
Status:# $Hdr#. The system Serial Number # $V9V#is # $Hdr#.#"
```

The e-mail or pager output would be:

```
The system Cronus had the following Drive Status: failed. The system
Serial Number is WS7000134715.
```

Important: For the `TYPE`, `CATEGORY`, and `MSG_FORMATTER` keywords described above, the value for these keywords must be encapsulated in quotes, such as "xxx" for the `mxmib` to successfully register the MIB in question. Other keywords such as `SEVERITY` and `ENABLE` do not require quoted values.

SNMP Trap Settings page

The **SNMP Trap Settings** graphical page has the capability to modify the attributes of any trap that has been registered with the HP SIM database. The attributes that are available for modification include the short and long descriptions, severity, category, and the trap enable/disable flag. Use the interface on this page to first select the registered MIB containing the trap in which you are interested, and then select the specific trap you wish to modify.

Fields can be modified as follows:

- The **Description** field is the long description stating the nature of the trap. The **Description** field is used on the Event detail page and can be included in paging and e-mail notifications. This field corresponds to the `DESCRIPTION` keyword in the CFG files.
- The **Type** field is the short description and is used as the display string when viewing a list of events. The **Type** can also be used as part of a paging or e-mail notification. **Type** fields have been custom-created for all of the HP ProLiant hardware events. However, for many other MIBs they have not been customized. Tailoring this field to present a clear message is crucial to presenting meaningful Event data in HP SIM. This field corresponds to the `#TYPE` keyword in the CFG files.
- The **Severity** field can be set to `CRITICAL`, `MAJOR`, `MINOR`, or `INFORMATIONAL`. The default is `INFORMATIONAL` when no other severity has been set by the base MIB. Many vendors have different severities specified in their MIBs such as `Normal`, `Warning`, `Degraded`, `Broken`, etc. These severities need to be changed in the base MIB or CFG to one that matches HP SIM. For example, `Degraded` can be mapped to `Minor` or `Major`, depending on the degradation. Editing the MIB or CFG and doing a search/replace on the severities is the easiest way to tweak the MIB. This field corresponds to the `#SEVERITY` keyword in the CFG files.

- The **Category** field is used to logically group similar events for display purposes in HP SIM. These groups are shown when you create event lists and when configuring Automatic Event Handling. This is extremely helpful when wanting to group specific networking, storage, and other traps to be easily found in the user interface. This field corresponds to the #CATEGORY keyword in the CFG files.
- The **Enable/Disable** field can be toggled to support or suppress events on a per-trap basis. HP recommends that all traps remain Enabled and are only disabled when they are well-understood and can be ignored without any impact. By disabling a specific trap, you are telling HP SIM to ignore that trap once received. If a trap is disabled, then the trap is dropped and not logged in the database. This field corresponds to the #ENABLE keyword in the CFG files.

Troubleshooting MIB compilation issues

Important: Most MIB compilation issues are caused by syntactical errors in the source MIB from the original hardware vendor. Due to the vast number of MIBs available, HP is able to only test and certify the set of MIBs that ship by default with HP SIM. Other MIBs might need to be edited to compile with HP SIM.

Troubleshooting mcompile

- If the MIB file being compiled includes `IMPORTS` from other MIBs, the imported MIB files should also be located in the same directory as the MIB file being compiled.
- Comment lines in MIB files start with `--` and end with a new line or the next occurrence of `--`. Beware of MIBs with `--` characters across the entire line. These lines are intended to be comments. However, extra dashes have cancelled the first set of `--` characters. As a general rule, for comment lines, only use `--` to denote the comment. No further `--` are allowed on that line.

For example:

```
-- xyz comments out xyz
```

However

```
-- -- xyz effectively uncomments xyz
```

- **mcompile** expects the `END` keyword at the end of a module on a line by itself. Be sure there is a new line in the MIB file after the `END` keyword.
- **mcompile** does not allow redefinition of standard data types. If the MIB file being compiled contains such redefinitions, they must be commented out before running **mcompile**.

Troubleshooting mxmib

- For the CLI to list a MIB file as registered, the MIB file must reside in the MIBs directory and have the same name as the MIB file that was registered.
- `mxmib -a <file.cfg>` relies on `file.cfg` being in the MIBs directory.
- Re-registering a previously registered MIB can be slow. HP recommends un-registering first and then re-registering.

Appendix

Out-of-the-box MIB support in HP SIM

The following table represents the key MIBs that ship with HP SIM. Those MIBs that are marked as preloaded are registered as part of every HP SIM installation. The remaining MIBs are in the MIB directory for you to compile, if necessary, for managing those types of systems in your environment.

MIB name	Supports	HP SIM 5.3 preload
asmib.mib	ARC Serve	X
atmf.mib	ATM device	X
avsnmpv1.mib	Availant Manager	X
bkupexec.mib	General Backup	X
bladetype2-network.mib	HP Proliant BL p-Class GbE2 Interconnect Switch	X
bladetype2-physical.mib	HP Proliant BL p-Class GbE2 Interconnect Switch	X
bladetype2-switch.mib	HP Proliant BL p-Class GbE2 Interconnect Switch	X
bladetype2-trap.mib	Proliant BL P-class GbE2 Interconnect Switch	X
bladetype4-switch.mib	hpSwitchProliant	X
bridge.mib	Cisco bridge	X
cisco-cdp.mib	cisco products	X
cisco-cluster.mib	cisco products	X
cisco-config-copy.mib	cisco products	X
cisco-config-man.mib	cisco products	X
cisco-entity-fru-control.mib	cisco products	X
cisco-entity-vendortype-oid.mib	cisco products	X
cisco-envmon.mib	cisco products	X
cisco-flash.mib	cisco products	X
cisco-ftp-client.mib	cisco products	X
cisco-igmp-filter.mib	cisco products	X

MIB name	Supports	HP SIM 5.3 preload
cisco-image.mib	cisco products	X
cisco-ip-stat.mib	cisco products	X
cisco-l2l3-interface-config.mib	cisco products	X
cisco-lag.mib	cisco products	X
cisco-mac-notification.mib	cisco products	X
cisco-memory-pool.mib	cisco products	X
cisco-pae.mib	cisco products	X
cisco-pagp.mib	cisco products	X
cisco-ping.mib	cisco products	X
cisco-port-security-mib.mib	cisco products	X
cisco-process.mib	cisco products	X
cisco-products.mib	cisco products	X
cisco-rttmon.mib	cisco products	X
cisco-stack-mib.mib	cisco products	X
cisco-stackmaker.mib	cisco products	X
cisco-stp-extensions.mib	cisco products	X
cisco-syslog.mib	cisco products	X
cisco-tc.mib	cisco products	X
cisco-tcp.mib	cisco products	X
cisco-udldp.mib	cisco products	X
cisco-vlan-iftable-relationship.mib	cisco products	X
cisco-vlan-membership.mib	cisco products	X
cisco-vtp.mib	cisco products	X
compaq-agent.mib	HP Rack and Enclosure	X
compaq-id-rec.mib	HP ProLiantBLpClassGbE series Product	X

MIB name	Supports	HP SIM 5.3 preload
cpq-traps.mib	HP Proliant BL P-class GbE Interconnect Switch	X
cpq54nn.mib	Giga Switch	X
cpqclus.mib	HP Proliant Cluster	X
cpqcmc.mib	HP Proliant remote management	X
cpqcr.mib	HP Proliant Cluster	X
cpqdsccs.mib	Cpqdsccs	X
cpqfca.mib	HP Proliant Storage	X
cpqgen.mib	HP Proliant Miscellaneous	X
cpqhlth.mib	HP Proliant System and Environmental	X
cpqhost.mib	HP Proliant Application	X
cpqhsv110v3.mib	HP StorageWorks HSV Controller	X
cpqida.mib	HP Proliant Storage	X
cpqide.mib	HP Proliant Storage	X
cpqidrec.mib	HP proLiant BL pClass GbE Device	X
cpqn5226a.mib	Giga Switch	X
cpqnic.mib	HP Proliant NIC	X
cpqpower.mib	Power Device	X
cpqrack.mib	HP Proliant Rack	X
cpqrecov.mib	HP Proliant Cluster	X
cpqrpm.mib	HP Proliant UPS	X
cpqsanapp.mib	SAN Appliance	X
cpqsanevent.mib	SAN Appliance	X
cpqscsi.mib	HP Proliant Storage	X
cpqservice.mib	HP Service	X
cpqsinfo.mib	HP Proliant System and Environmental	X

MIB name	Supports	HP SIM 5.3 preload
cpqsm2.mib	HP Proliant remote management	X
cpqsrvmn.mib	HP Proliant System and Environmental	X
cpqstdeq.mib	HP Proliant System and Environmental	X
cpqstsys.mib	HP Proliant Storage	X
cpqswcc.mib	HP StorageWorks Command Console	X
cpqthrsh.mib	HP Proliant threshold	X
cpqups.mib	HP Proliant UPS	X
cpqwcrm.mib	System and Environmental	X
cpqwinos.mib	HP Proliant Operating System	X
dataprotector.mib	Data protector	X
dlghwinf.mib	Dialogic Hardware	X
ems.mib	HP-UX EMS	X
emsmibax.mib	Tandem EMS	X
fa-mib40.mib	HP StorageWorks SAN Switch	X
fddi-smt73.mib	FDDI subsystems	X
fe-mib.mib	Fibre Channel Fabric Element	X
gbe2c-1-10g-l2l3.mib	hpProLiant-GbE2c-1-10G-InterconnectSwitch	
gbe2c-10g-l2l3.mib	hpProLiant-GbE2c-10G-InterconnectSwitch	
h22agent.mib	HP StorageWorks Command Console	X
hp-mccluster.mib	HP Serviceguard	X
hp-switch-pl.mib	HP Blade Network switch	X
hpeccmib.mib	NetServer	X
hpipf02trap.mib	HP Integrity Server	X
hpipftrap.mib	HP Integrity Server	X
hpn.mib	NetServer	X

MIB name	Supports	HP SIM 5.3 preload
hpnetctz.mib	CommandView	X
hpnr.mib	NetServer	X
hpov-nnm.mib	HPOV	X
hpovsam.mib	HP OVSAM	X
hpovsam_im.mib	HP STORAGE	X
hprfmib.mib	HP Netserver	X
hpsgcluster.mib	HP ServiceGuard	X
hpswa.mib	HP Netserver	X
hptat.mib	HP Netserver	X
hs_agent.mib	SWCC	X
lsf001.mib	LSF product	X
msa2000traps.mib	MSA2000 Array(HPMSA)	X
nsadimm.mib	HP Netserver	X
nsaevent.mib	HP Netserver	X
nsainfo.mib	HP Netserver	X
nsapci.mib	HP Netserver	X
nsascsi.mib	HP Netserver	X
nsavolcp.mib	HP Netserver	X
old-cisco-chassis.mib	cisco products	X
old-cisco-flash.mib	cisco products	X
old-cisco-interfaces.mib	cisco products	X
old-cisco-ip.mib	cisco products	X
old-cisco-sys.mib	cisco products	X
old-cisco-tcp.mib	cisco products	X
old-cisco-ts.mib	cisco products	X

MIB name	Supports	HP SIM 5.3 preload
ovis-v2.mib	HP Open View Internet Services	X
pcisnet.mib	ServerNet	X
pfc.mib	PATROL	X
rfc1213.mib	RFC MIB	X
rfc1215.mib	RFC MIB	X
rfc1514.mib	RFC MIB	X
rmon-mib.mib	RFC MIB	X
smsagent.mib	Unisys Configuration Agent	X
svrclu.mib	Common Cluster	X
switch.mib	ServerNet	X
symtrap.mib	Integrity Server	X
truclu.mib	TruCluster	X
ucd-snmp-mib.mib	Numerical Management	X
v5_0ficon.mib	FICON in Fabos	X
v5_1ha.mib	Brocade Communications Systems	X
v5_3sw.mib	Fibre Channel Switch	X
wbt3mib.mib	WYSE Events	X
xp1024trapmib.mib	Hitachi RAID450 SNMP Agent	X
zesa.mib	ZESA	X
zhrm.mib	ZHRM	X
zsmp.mib	Tandem's Subsystem Control Facility (SCF):	X
ztmx.mib	Tandem SNMP Trap Multiplexer	X
ztsa.mib	Tandem TCP/IP Subagent	X

For more information

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