Dell OpenManage Essentials MIB Import

Monitoring HP Servers and Third-Party Hardware

OME Engineering

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Introduction

Dell OpenManage Essentials (OME) is a hardware management application that provides a comprehensive view of Dell systems, devices, and components in the enterprise's network. Health monitoring in OME has two parts to it:

- SNMP traps received from the remote device.

- Health poll to retrieve the latest status of the remote device.

The *Dell OpenManage Essentials MIB Import* option allows you to extract trap definitions from SNMP supported device MIB files. The extracted traps can be viewed and edited before they are imported. The imported trap definitions help OME to properly classify the incoming traps. To know more about the benefits of importing trap definitions, see About Importing Traps.

Note: From OpenManage Essentials version 2.2 onwards, the MIB Import functionality is integrated within the OpenManage Essentials user interface.

Scope

This document provides an overview of the *OME MIB Import* functionality and the benefits of importing trap definitions in OME.

About Importing Traps

If you want to monitor (classify incoming SNMP traps) an SNMP supported device that is not currently supported by OME, use the *MIB Import* option to import that device's SNMP trap definitions.

Ensure the following before using the *MIB Import* option:

- The remote device supports SNMP v1 or v2 protocol
- SNMP services on the remote device are working as expected and the trap destination points to OME system
- You have the device-specific SNMP MIB files (main MIB and its reference MIBs)
- Validate the device-specific MIBs by using a standard MIB compiler tool

The following table provides a comparison of the traps both before and after the definitions are imported to the OME database.

Table 1.   Benefits of importing trap definitions in OME

Feature	Before Importing the Trap	After Importing the Trap
Can I see traps coming from the device in the OpenManage Essentials Alerts portal?	Yes	Yes
Will traps have a severity value?	No, the severity is unknown.	Yes
Will traps have a valid name?	No, the name is unknown.	Yes, the trap name is defined in the MIB

Will traps have a valid event category name?	No, the event category name is unknown.	Yes, a new category is created by default.
Will the traps have a description?	Yes, all the description details are present. However, the details are not formatted	Yes, the description is formatted according to the trap definition
Will the traps display the trap variable values?	Yes	Yes
Will the traps display the Enterprise OID, Specific OID, and Generic OID?	Yes	Yes
Will the traps display additional trap variables which can be used for debugging?	Yes, however, the details are not formatted.	Yes
Will the traps display the host name or IP address of the device?	Yes	Yes
Can I use the traps in various alert actions to forward the trap to another management console, execute a task, or filter the unwanted traps?	Yes, but the features are limited. Rules specific to severity, event category, event name, and so on are not possible	Yes, the traps are defined so all the alert actions are supported based on the trap name, category, severity, and so on
Can I perform various UI actions (such as acknowledge, delete and so on) on the traps?	Yes	Yes
Will purging of alerts work on the traps?	Yes	Yes

Note:

> ➢ The MIB Import option will not accurately determine the severity from the MIB. You will need to add severity context to each trap.

Prerequisites

The *MIB Import* functionality is included within OME version 2.2 and later.

Using MIB Import Functionality

The Import MIB functionality is available in the alert management section. The **Manage MIBs** view has the following options that are accessible in the left panel:

- **Import MIB** — This option allows you to:
  - Select a MIB file to import
  - Parse the selected MIB
  - View or update the extracted trap definitions of the MIB
  - Import the trap definitions to OME

- Remove MIB — This option allows you to:
  - View the imported MIBs
  - Remove those MIBs (traps definitions) from OME

Figure 1.Manage MIBs View
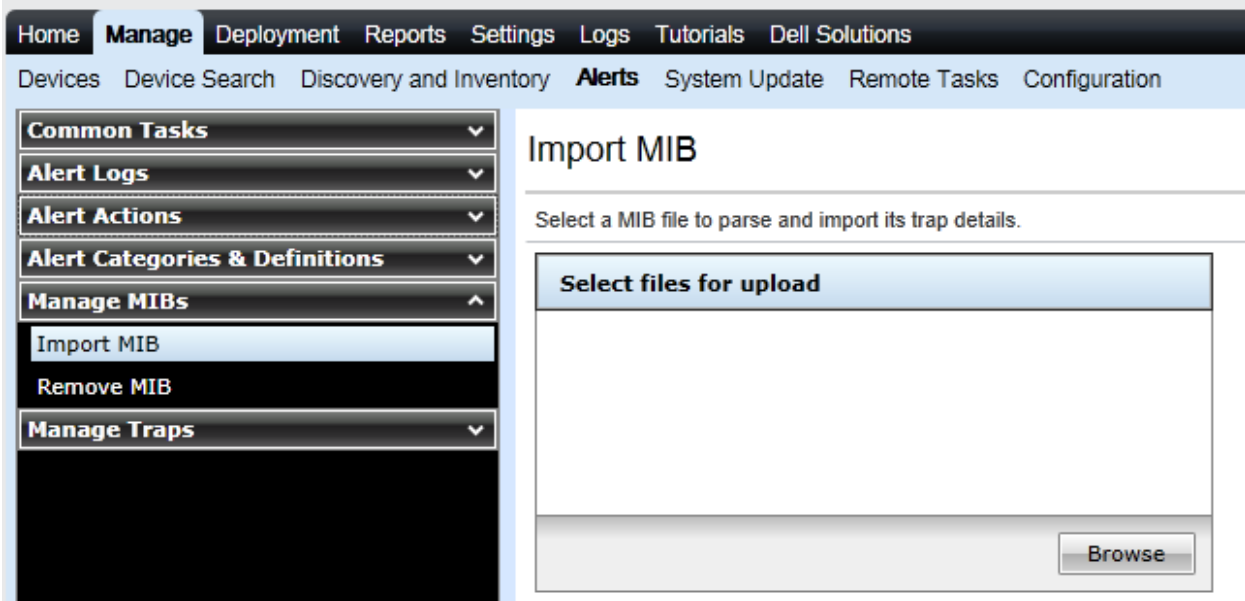
Import MIB

To import the trap definition of a device, browse and select the SNMP supported device MIB that has the required trap definitions. For example, if you want to import the trap definitions of a HP server to OME, select the **CPQIDA-MIB.mib** (Module name: CPQIDA-MIB, Intelligent Drive Array Management SNMP MIB) file.

Note:

> This white paper refers to some of the HP ProLiant server MIBs. You can also refer to http://h18013.www1.hp.com/products/servers/management/hpsim/mibkit.html for information on HP servers MIBs. The examples included in this white paper refer to certain HP MIBs (CPQSINFO-MIB, CPQHLTH-MIB, CPQHOST-MIB, and CPQNIC-MIB).

You can select *.mib, *.txt and *.my files. If you have a MIB file with any other file name extension, you can rename the file to .mib, .txt, or .my and then select it.

Figure 2.Selecting a MIB for parsing

When you parse the earlier mentioned HP server MIB for the first time, it will display the message shown in Figure 3, prompting you to add the required reference MIBs to the MIB repository. OME bundles various standard reference MIBs which help parsing any MIB which refers to them. In this example, only one MIB file is listed in the message because the rest of the required MIBs are already part of the MIB repository. To parse the specific HP MIB, ensure you have added the required reference MIBs to the MIB repository. In this example, it is **CPQ_HOST_M14.mib** (Module name: CPQHOST-MIB) Host Operating System Information MIB. For information on adding MIBs to the MIB repository, see MIB Repository.

For information on the HP server MIB dependency, see HP Server MIB Module definition and reference MIBs.

Figure 3.HP Server MIB Dependencies
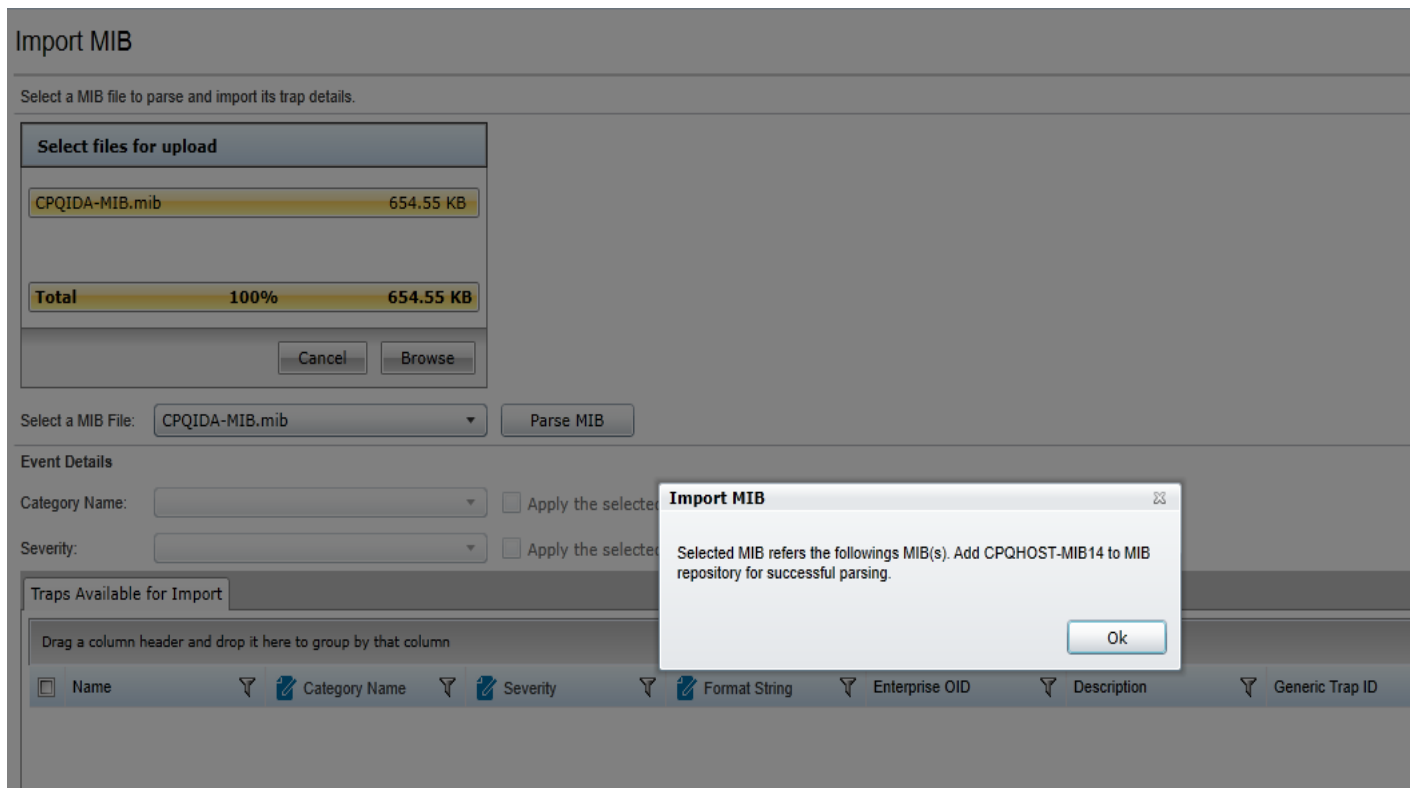
While browsing for the MIB, select referred MIB along with required MIB to parse and store in OME, and then parse the required MIB. OME will parse the MIB and populate the grid with the parsed trap definitions and add the reference MIB in the repository. The number of traps that were parsed is displayed below the grid. The following figure shows the parsed CPQIDA-MIB.mib file.

Figure 4. Parsed HP Server MIB Trap Definitions

Import MIB

Select a MIB file to parse and import its trap details.

Select files for upload	
CPQIDA-MIB.mib	654.54 KB
Total 100%	654.54 KB

Cancel Browse

Select a MIB File: CPQIDA-MIB.mib ▾   Parse MIB

Event Details

Category Name: CPQIDA-MIB ▾   ☐ Apply the selected event category to all traps

Severity: Normal ▾   ☐ Apply the selected severity to all traps

Traps Available for Import

Drag a column header and drop it here to group by that column

☐ Name	Category Name	Severity	Format String	Enterprise OID	Description	Generic Trap ID	Specific Trap ID
☐ cpqSDCardDeviceFailure	CPQIDA-MIB	Critical	$3	.1.3.6.1.4.1.674.0.1	SD card device has detected a failure.	6	1
☐ cpqBatteryFailure	CPQIDA-MIB	Critical	$3	.1.3.6.1.4.1.674.0.1	Battery has detected a failure.	6	1704
☐ cpqBatteryWarning	CPQIDA-MIB	Warning	$3	.1.3.6.1.4.1.674.0.1	Battery has detected a warning.	6	1703
☐ cpqBatteryNormal	CPQIDA-MIB	Info	$3	.1.3.6.1.4.1.674.0.1	Battery has returned to normal.	6	1702
☐ cpqDeviceConfigError	CPQIDA-MIB	Critical	$3	.1.3.6.1.4.1.674.0.1	Device configuration error detected.	6	1653
☐ cpqDeviceRemove	CPQIDA-MIB	Info	$3	.1.3.6.1.4.1.674.0.1	Device removed from system.	6	1652
☐ cpqDeviceAdd	CPQIDA-MIB	Info	$3	.1.3.6.1.4.1.674.0.1	Device added to system.	6	1651
☐ cpqProcessorDeviceStatusFailure	CPQIDA-MIB	Critical	$3	.1.3.6.1.4.1.674.0.1	Processor device status has detected a failure.	6	1604
☐ cpqProcessorDeviceStatusWarning	CPQIDA-MIB	Warning	$3	.1.3.6.1.4.1.674.0.1	Processor device status has detected a warning.	6	1603
☐ cpqProcessorDeviceStatusNormal	CPQIDA-MIB	Info	$3	.1.3.6.1.4.1.674.0.1	Processor device status has returned to normal.	6	1602
☐ cpqLogFull	CPQIDA-MIB	Critical	$3	.1.3.6.1.4.1.674.0.1	Log size is at capacity.	6	1554
☐ cpqLogWarning	CPQIDA-MIB	Warning	$3	.1.3.6.1.4.1.674.0.1	Log size is near capacity.	6	1553
☐ cpqLogNormal	CPQIDA-MIB	Info	$3	.1.3.6.1.4.1.674.0.1	Log size is no longer near or at capacity.	6	1552

Reset All   Import Traps

☑ Number of traps parsed: 52 from MIB file "CPQIDA-MIB.mib"

The following figure shows the first trap defined in the CPQIDA-MIB.mib file.

Figure 5. HP Server MIB Trap Definition


```
cpqSDCardDeviceFailure                          TRAP-TYPE
    ENTERPRISE   baseboardGroup
    VARIABLES { cpqSystem,
                cpqTableIndexOID,
                cpqMessage,
                cpqCurrentStatus,
                cpqPreviousStatus,
                cpqData }
    DESCRIPTION
"SD card device has detected a failure."

    --HP trap annotation
    --#TYPE       "Server SD Card Device Failure"
    --#SUMMARY    "%s"
    --#ARGUMENTS  {2}
    --#SEVERITY   CRITICAL
    --#TIMEINDEX  99
    --#STATE      DEGRADED

    ::= 1
```

For the earlier trap definition, the information extracted in OME is shown in Figure 6. Some information is added to the MIB definition which is required for proper classification. For example, the MIB module name will be the new event category and the trap severity is critical. If necessary, you can change both these values.

You can change the event category, severity and format string of these parsed traps before importing them. For more information about editing the default values, see Import View Components. Notice that this specific trap severity can also be selected as "By VarBind Value" because the "cpqSDCardDeviceFailure" variable is enumeration based. The following figures show the possible values in the MIB and the Severity Configuration window in OME.

Severity Configuration by Value : cpqSDCardDeviceFailure

Severity Configuration by Value

Select the Variable: $4

Drag a column header and drop it here to group by that column

Trap Variable	Severity	Object ID	Object Value
$4	Normal	1	other
$4	Unknown	2	unknown
$4	Normal	3	ok
$4	Critical	4	nonCritical
$4	Critical	5	critical
$4	Normal	6	nonRecoverable
$5	Normal	1	other
$5	Unknown	2	unknown
$5	Normal	3	ok
$5	Critical	4	nonCritical
$5	Critical	5	critical
$5	Normal	6	nonRecoverable

OK   Reset   Cancel

After performing the required updates, click **Import Traps**.

Note:

➢ Multiple selections are allowed in the grid and the check boxes allow you to change the category name and severity of multiple selected trap records at a time. You can also modify the individual rows based on your preference.

➢ Ensure that you have not selected the event category or severity check boxes if you do not want to override the changes done in the grid for these two columns. If you want to import with the changes (Event Category and Severity) performed in the grid, then select these check boxes.
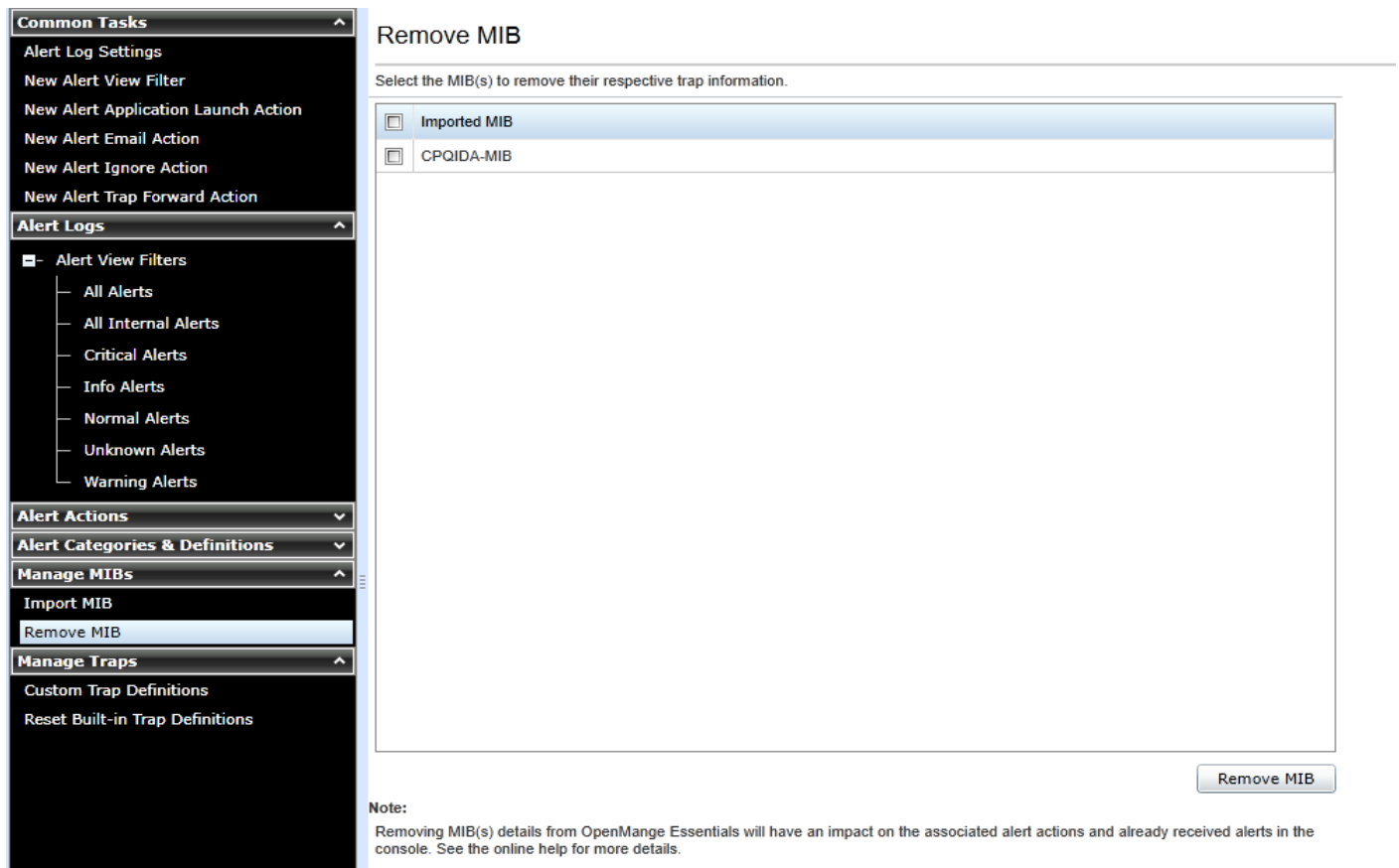
Important:

1. In the earlier figure, OME is able to parse the NMS comments and calculate the recommended severity. If you want to take these severities values available in the grid, then deselect the **Apply the selected severity to all traps** check box.

2. If you do not want to take the NMS-based severity, you can select the **By Varbind Value** based severity for those specific traps. For an example, see Figure 6.

3. The Format String field does not contain the desirable values, therefore %d must be replaced with $1 for these trap definitions.

➢ Reimport the same MIB: If you want to import trap definitions from a newer version of a previously imported MIB, this option allows you to do so. You need not remove that MIB.

➢ Reimport only updates to the previously imported trap definitions. It does not remove the extra trap definitions which may not be part of the newer version of the MIB file.

Remove MIB

After you have imported the trap definitions from the CPQIDA-MIB.mib file to OME, the MIB file is listed in the **Imported MIB** list of the **Remove MIB** view. If you no longer want these chassis trap definitions in OME, you can remove them. To remove the trap definitions, select the appropriate MIB files from the list and click **Remove MIB**.

Common Tasks
- Alert Log Settings
- New Alert View Filter
- New Alert Application Launch Action
- New Alert Email Action
- New Alert Ignore Action
- New Alert Trap Forward Action

Alert Logs
- Alert View Filters
  - All Alerts
  - All Internal Alerts
  - Critical Alerts
  - Info Alerts
  - Normal Alerts
  - Unknown Alerts
  - Warning Alerts

Alert Actions
Alert Categories & Definitions
Manage MIBs
- Import MIB
- Remove MIB
Manage Traps
- Custom Trap Definitions
- Reset Built-in Trap Definitions

Remove MIB

Select the MIB(s) to remove their respective trap information.

| ☐ | Imported MIB |
| ☐ | CPQIDA-MIB |

Remove MIB

Note:
Removing MIB(s) details from OpenMange Essentials will have an impact on the associated alert actions and already received alerts in the console. See the online help for more details.

Note:

- ➢ If necessary, you can select multiple MIBs for removal.

- ➢ After you remove the trap definitions, all the associated alert actions, filters, and views for the traps will not work. For more details, see About Importing Traps.

- ➢ All classified and received traps (from this specific SNMP device and traps related to this MIB) in OME will be deleted. Before you remove the MIB, ensure you have acknowledged or resolved all the problems reported in the OME events console for this device or component.

Custom Trap Definitions

You can use the Add Trap view to search for unknown traps received in OME and manually define trap definitions and import them to OME. For example, you may want to manually define trap definitions in the following scenarios:

- When you may not want to import the entire MIB file

- The MIB file for the device which is sending traps to OME is not available

- The MIB file cannot be compiled due to formatting issues

The following figure shows the cpqDaLogDrvStatusChange trap from CPQIDA-MIB received in OME which is categorized as unknown (CQPIDA-MIB has not been imported to OME using Import MIB view).

Figure 8.Unknown Trap Received in OME From HP CPQIDA-MIB
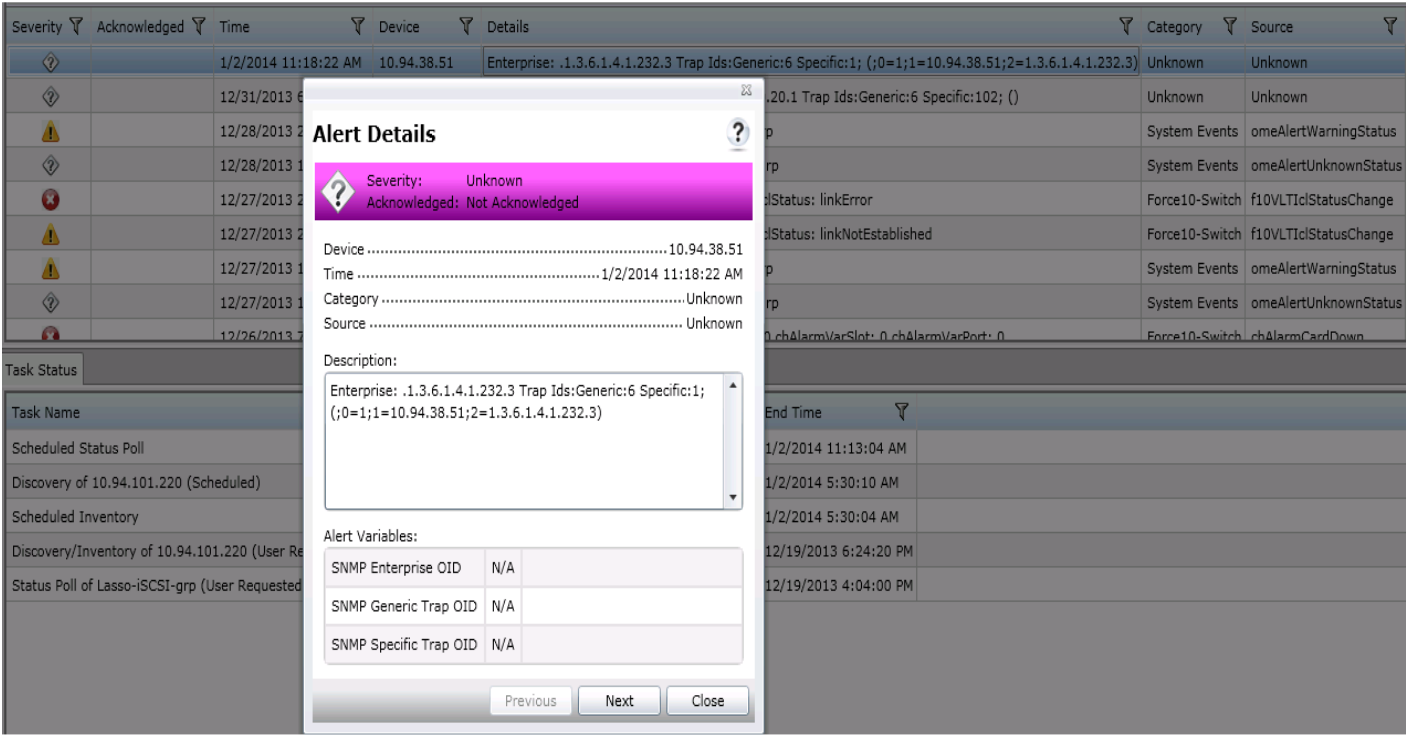
The Add Trap view allows searching for unknown traps that are received in OME, and automatically populates the Enterprise OID, Generic ID, and Specific ID fields for the selected unknown trap. This allows you to add the trap definition manually.

15

The following figure shows the **Unknown Traps** window which is displayed when you click **View Unknown Traps.**

Figure 9.Unknown Traps – Custom Trap Definition View
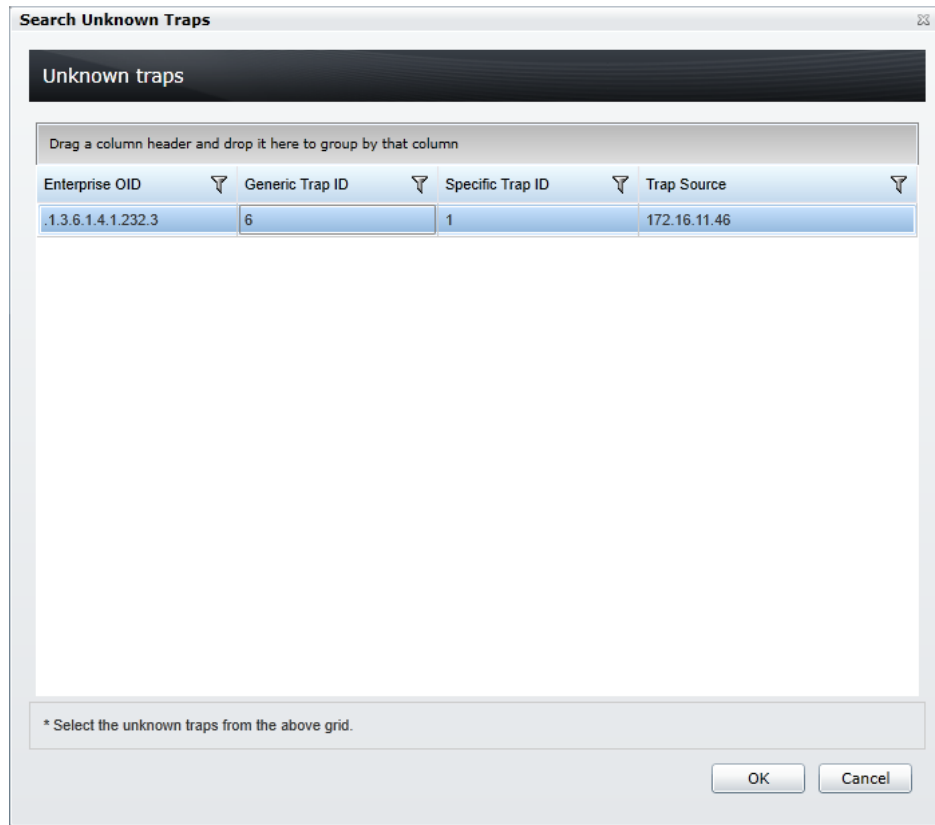
After the unknown trap is selected, you can manually define the trap definition in the **Add Trap** view by selecting an existing category or defining a new category, entering details for the Trap Name, Description, Format String, and selecting Severity. Refer to the trap definition in the MIB file to accurately define the trap using Add Trap view.

The following figure shows the manual definition of cpqDaLogDrvStatusChange trap in the **Add Trap** pane and the values in the **Trap(s) Available for Import** grid after you click **Add Trap**. As seen in the figure, a new category is defined instead of selecting an existing category, and the Enterprise OID, Generic ID, and Specific ID fields are automatically populated. After you click **Add Trap**, the trap definitions displayed in the grid are imported and the status of the import is displayed in the status bar.

Figure 10. Custom trap definition add view

The **Delete User-Defined Traps** pane allows you to delete only the user-defined traps that were imported to OME by using the **Add Trap** pane. The **Delete User-Defined Traps** lists all the user-defined traps in the grid. You can filter the traps list in the **Delete User-defined Traps** grid by entering Trap Name, Enterprise OID, and so on by clicking filter icon of grid as shown in Figure 11. The grid allows multiple traps to be selected for deletion as shown in Figure 12. When you click **Delete Trap**, the selected trap definitions in the grid will be deleted from OME after your confirmation. The status bar will display a message indicating successful deletion of the traps from OME.

Note:

➢ After deleting the trap definition, the associated alert actions and already received alerts will also be deleted from OME.

➢ If the deleted trap definition is the last trap being deleted in the user-defined category, then that specific user-defined category will also be deleted from OME.

➢ The **Delete User-Defined Trap** pane does not allow the deletion of predefined trap definitions and trap definitions that are imported from MIB files by using **Import MIB** view.

Figure 11. Trap Filter

Figure 12. Delete Trap View

Alert Categories & Definitions

The **Alert Categories & Definition**s view allows you to view all alert categories and edit traps. The **Edit Trap** view allows you to modify the Category Name, Severity, and Format String of the following:

- All traps available in OME (predefined traps)

- Imported traps – Traps imported using the **Import Trap** view

- Manually defined traps – Traps defined using the **Add Trap** view

Figure 13 and Figure 14 show the **Edit Trap** view where you can search for the trap that you want to edit based on Trap Name or Enterprise OID or by using the filter option provided by grid. Alternatively, you can select the traps by selecting a specific event category or trap from the expandable Event Categories tree view on the left.

Figure 13. Alert Category View

Figure 14. Edit Trap View

The **Edit Traps** grid shows all the traps that match the filter criteria and allows modification of multiple traps in the grid before saving the changes to OME.

You can also add severity configuration for By Varbind Value severity or edit severity of variables for traps which already have severity as By Varbind Value. Once the edited changes are saved to OME, you can see the modified trap definition by navigating to **Manage >> Alerts >> Alert Categories**.

Note:

Events received in OME prior to editing the trap definition by using **Edit Trap** view will not be affected. Events received after the edited trap definition is saved will be classified based on the modified trap definition in OME.

Reset Built-In Trap Definitions

The **Reset Trap** view allows you to revert the trap definitions of predefined traps, which were edited using the **Edit Trap** view, to their original state. The **Reset Trap** view grid lists all the pre-defined traps that were edited. You can filter the traps list in the **Edited Trap**s grid by entering the Trap Name or Enterprise OID in the Trap Name or Enterprise OID field of respective column filter option. The grid allows the selection of multiple traps for reverting their trap definition as shown in Figure 15. When you click **Revert Traps**, the selected trap definitions will be reverted in OME to their original state after your confirmation. The status bar will display a message indicating the number of traps that were successfully reverted in OME. After the selected traps are reverted in OME, you can see the reverted (original) trap definition by navigating to **Manage >> Alerts >> Alert Categories & Definitions**.

Note:

- ➢ Events received in OME prior to reverting the trap definition by using **Reset Trap** view will not be affected. OME will classify the events received thereafter using the reverted trap definition.

- ➢ Only predefined traps in OME can be reverted using **Reset Trap** view. The history of edited traps is not maintained and the traps can be reverted to their original state only.

Figure 15. Reset Trap View

Imported HP Server Traps in OME

After you import the trap definitions in OME, you can view them by navigating to **Manage >> Alerts >> Alert Categories & Definitions**.

Figure 16. Imported Trap

Import View Components

Figure 17. Import View

- **Browse** and **Select files for upload**: To choose the specific MIB.

- **Parse MIB**: To parse the MIB and extract trap definitions.

- **Category Name:** This list includes all the category names present in the OME. It allows you to change category names of the parsed trap definitions before you import them in OME. You can select any of the predefined categories or use the newly created category name (default selection). The MIB module will be new category name (in the earlier example it is CPQIDA-MIB).

- **Apply the selected event category to all traps:** This check box (selected by default) will help you to change the category name for the parsed trap definitions. The "Traps" grid allows multiple row selections. If you have selected a few rows in the grid and this check box is not selected, changing the category name from the drop-down list will change category name only for the selected rows. If this check box is selected, then changing category name from the list box will update category name for all the rows.

Note: This check box overrides any selection/modification you have done in the grid. If you want to keep those changes ensure that this check box is deselected before you import data to OME.

- **Severity:** This list contains all the severity levels defined in OME. It allows you to change the severity of the parsed traps before you import them in OME.

- **Apply the selected severity to all traps:** This check box (selected by default) helps you to change the severity for the parsed trap definitions. The "Traps" grid allows multiple row selections. If you have selected a few rows in the grid and this check box is not selected, changing the severity by using the drop-down list will change the severity only for the selected traps. If this check box is selected, then changing the severity by using the drop-down list will update the severity for all the rows.

Note: This check box overrides any individual selection/modification you have done in the grid. If you want to keep those changes ensure that this checkbox is unselected before you import data to OME.

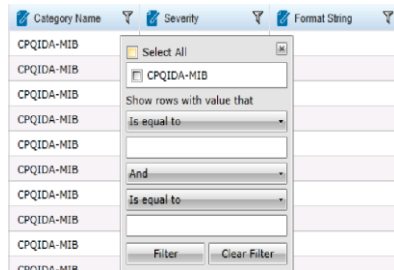- **Trap:**
  - **Various Grid Columns**

Figure 18. Traps Grid

- o **Name:** Trap name.

- o **Category Name:** Event categories where you want to define the trap definitions. This is an editable field. You can change the category name by using this drop-down list or use the earlier mentioned generic drop-down list.

- o **Severity:** Event severity which you want to be displayed in the OME event console when the specific trap is received from the remote SNMP device. This is an editable field. You can change the severity using the drop-down list or use the earlier mentioned **Severity** drop-down list. You may see a new entry (**By Varbind Value**) in this drop-down list and selected by default if the MIB traps are enumeration-based variables. For additional information, see the "**Severity Configuration by Value**" section.

- o **Format String:** This field helps OME to display the event description for the incoming SNMP alerts. OME parses the trap variables and replace those values in this format string. This is an editable field and you can remove the unwanted contents or variables from this field.

- o **Enterprise OID:** Event SNMP Enterprise OID.

- o **Generic Trap ID:** Event SNMP Generic OID.

- o **Specific Trap ID:** Event SNMP Specific OID.

- o **Category ID:** Unique number which is used internally.

- o **Package ID:** Unique number which is used internally.

- o **Description:** Trap description which is obtained from the MIB. This is different from Format String and OME does not use this to display the description for the received SNMP traps in the event console.

- **Filters:** Every column header has a built-in filter which can be used to view specific trap definitions.

- **Import traps:** This will import all of the updated values in the grid and "Severity Configuration by value" for the specific traps.

- **Status Bar:** The status bar is displayed at the bottom of the window. The status of the last operation that was performed is reported by the status bar.

Severity Configuration By Value

Note: This specific HP Server MIB (CPQIDA-MIB) has traps having trap variable-based severity. The **Severity Configuration By Value** window can be used for MIBs which have such trap definitions. The following is an example to explain this behavior.

An SNMP trap definition may have trap variables which determine the severity for that particular trap. This attempts to parse those trap variables and gives you the option to select one of those variables. After the trap is imported to OME, OME uses these specific trap variable values to determine the trap severity and classifies it in the console.

Example:

Figure 20. SNMP Trap Definition Example Showing Trap Variable Based Severity

```
DellStatus                      ::= INTEGER {
    other(1),                   -- status is not one of the following:
    unknown(2),                 -- status of object is unknown (not known or monitored)
    ok(3),                      -- status of object is OK (normal)
    nonCritical(4),             -- status of object is noncritical (warning)
    critical(5),                -- status of object is critical (failure)
    nonRecoverable(6)           -- status of object is non-recoverable (dead)
}

alertCurrentStatus                              OBJECT-TYPE
    SYNTAX      DellStatus
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION
"5000.0010.0004 Current status of object causing the alert."
    ::= { alertVariables 4 }


alertSystemUp                       TRAP-TYPE
    ENTERPRISE   baseboardGroup
    VARIABLES { alertSystem,
                alertTableIndexOID,
                alertMessage,
                alertCurrentStatus,
                alertPreviousStatus,
                alertData }
    DESCRIPTION
"Server Administrator has completed its initialization."

    ::= 1001
```

In Figure 20, the *alertSystemUp* trap has 6 variables. The *alertCurrentStatus* variables have 6 possible status values (defined by DellStatus. By default, the "By Varbind value" severity is selected instead of "Normal". To open the **Severity Configuration by Value** window, double-click the severity grid cell. In Figure 21, the *alertSystemUp* trap has 2 possible trap variables which have associated status values. The trap variables are available in the **Select the variable** drop-down list. By default, the first variable ($4 → alertCurrentStatus) is selected. The grid in the **Severity Configuration by Value** window displays the possible variable values (DellStatus enumeration values). By default, the severity for all these values is set to "Normal", but you can change the severity as required and click "Ok" to save the changes.

Figure 21. Severity Configuration By Value Dialog Box – Trap Variables

➢ **Severity**: Displays the severity of the trap variable values.

  o For example, for the "$4" trap variable and Object Id "1", you can update the severity to "Warning" and then imported the data to OME.

  o When *alertSystemUp* trap is received from the remote device by OME, OME will read the 4th variable of this trap, in this case *alertCurrentStatus*, and reads its value. If the value is "1" then OME displays the trap as a "Warning".

➢ **Object Value**: Displays the possible enumerations string values. For example, DellStatus.

➢ **Object ID**: Displays the possible enumerations integer values. For example, values mentioned in (n) for DellStatus.

➢ **Trap Variable**: Displays the enumerations based variables that are part of the trap. For example, *alertCurrentStatus* and *alertPreviousStatus*.

Figure 22. Severity Configuration By Value Dialog Box – Severity Selection

Note:

➢ Only one variable can be selected for *By Varbind value* based severity.

➢ The last saved values will be consumed while importing the trap definitions in OME.

➢ Re-opening the window will show the default values and not the last saved values. The last saved values are present in the background unless you reopen the severity window.

➢ Severity values changes between various variables on this window will not be saved if you select different variables from the list box.

Parsing MIBs Containing Novel NMS Comments

Note: This specific HP Server MIB (CPQIDA-MIB) contains NMS comments for its trap definitions. This section can be used for MIBs which have NMS comments. The following section includes an example to explain this behavior.

Some of the SNMP MIBs may contain NMS comments along with the trap definitions. This will consume them to select the default severity for those traps and format string. In Figure 23, NMS comments can be seen between DESCRIPTION and specific trap Id (::= 1001).

Note: If you have traps having both NMS comments and enumeration-based trap variables, NMS will take the priority. You can still select *By Varbind value* severity for those traps from the **Severity** drop-down list for those specific traps.

Figure 23. Trap Definition Containing NMS Comments

```
alertSystemUp                                    TRAP-TYPE
    ENTERPRISE  baseboardGroup
    VARIABLES { alertSystem,
                alertTableIndexOID,
                alertMessage,
                alertData }
    DESCRIPTION
"Server Administrator has completed its initialization."

    --Novell NMS trap annotation
    --#TYPE      "Server Administrator Startup Complete"
    --#SUMMARY    "%s"
    --#ARGUMENTS  {2}
    --#SEVERITY   CRITICAL
    --#TIMEINDEX  99
    --#STATE      OPERATIONAL

    ::= 1001
```

OME decides the severity based on the "--#SEVERITY" field and the format string is formed with the "--#SUMMARY" and "--#ARGUMENTS" fields.
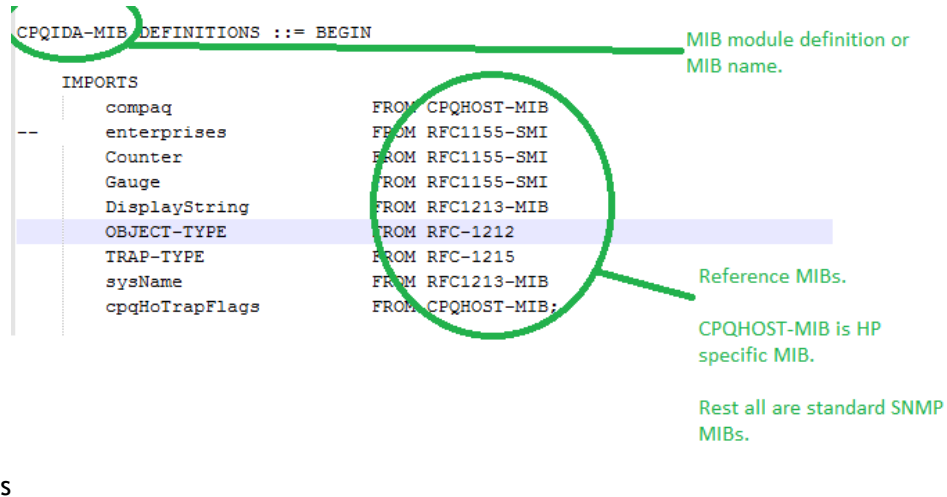
Note:

> ➢ Currently, OME considers only 1 variable in the format string.

> ➢ 2nd argument means $3 for OME (refer to the earlier snapshot).

HP Server MIB Module Definition and Reference MIBs

If you open the CPQIDA-MIB.mib file in a text editor, the following contents are displayed at the top section.

s

- ➢ **MIB Module Name:** This is the actual MIB name for CPQIDA-MIB.mib file. This becomes the new Event Category name when you parse this MIB.

- ➢ **Reference MIBs:** These are the MIBs that are required to compile and parse the CPQIDA-MIB.mib.

Learn More

Visit www.delltechcenter.com/ome