



Customizing Cisco UCS Management Pack

This chapter contains the following sections:

- [Overview of Customizing Cisco UCS domain Management Pack, on page 1](#)
- [Cisco UCS Instance Object Discoveries, on page 1](#)
- [Rules, on page 3](#)
- [Severity Mapping, on page 4](#)
- [Viewing List of Rules in the Management Pack, on page 5](#)
- [Overriding a Rule, on page 5](#)
- [Migrating the UCS Domain to a Different Monitoring Service, on page 5](#)

Overview of Customizing Cisco UCS domain Management Pack

For each UCS domain added for monitoring in Operations Manager, a Management Pack Template is created in the Management Pack Templates tab of the Cisco Unified Computing System. It is important to understand the components of the Management Pack to perform any customization.

Cisco UCS Instance Object Discoveries

All the object discoveries are interval based and they can be periodically run to get the discovery data from monitoring service. To view the list of object discoveries in the pack, complete the following steps:

-
- Step 1** In the **Operations Manager** console, click the **Go** tab in the menu bar.
 - Step 2** From the drop-down list, select **Authoring**.
 - Step 3** Select **Management Pack Templates > Cisco UCS Manager**
 - Step 4** Select the template pack for which you want to view the object discoveries.
 - Step 5** Right click and select **View Management Pack Objects > Object Discoveries**.
-

Cisco UCS Instance (Object Discovery)

This is the top level Object Discovery and the first discovery to run for an UCS domain . It discovers an instance of Cisco UCS domain into Operations Manager. This discovery runs to fetch the inventory and monitoring information from Cisco UCS domain using the Cisco UCS Monitoring Service. These discoveries can be overridden. The later sections shows how to override the object discoveries.

The following are the set of Overrides available for this Object Discovery:

- **CacheClass**–Defines the managed object for an inventory or monitoring information to be collected from the UCS domain
- **Discovery Level**–Defines the level up to which Organizations and Service Profiles from the UCS domain should be discovered in the Operations Manager
- **Enabled**–Defines the enabled state of the object discovery
- **Interval Seconds**–Defines the interval of execution
- **ShowUnassociatedProfiles**–Defines whether or not the associated or unassociated Service Profiles should be discovered in Operations Manager. The default value is **True** which means an unassociated service profile is shown
- **Logging Level**–Defines if the logging is enabled or disabled for this object discovery
- **Timeout Seconds**–Defines the timeout period for the discovery script to execute



Note By default the Cisco UCS Instance discovery is programmed to execute every two hours (7200 seconds) to get any modifications from the Cisco UCS domain .

Overriding Object Discoveries

-
- Step 1** Go to **Object Discovery** page of the Cisco UCS domain instance.
- Step 2** Select the object for which you want to override the properties.
- Step 3** Right-click and select **Override > Override the Object Discovery > For All Objects of Class**.
- Step 4** In the **Override Properties** dialog box, complete the following:
- Check the Override check box
 - Modify the override values
 - Click **OK > Apply**.

Note When an object discovery is enabled using override, all its target class discoveries up to the top level (Cisco UCS Instance) must be enabled. If not, enable them. When disabled, all the class discoveries targeted at this class to the leaf levels are not monitored by the Operations Manager.

Note If you enabled an object discovery from the Disabled state, for all such object discoveries, discovery events must be generated using the Generate Discovery Event task from Cisco UCS Instance Tasks. This is used to retrieve old updates from the Management Service when the discovery was turned off.

Overriding Object Discoveries using PowerShell Cmdlets

You can disable or override object discoveries using PowerShell Cmdlets. For more details, see Retrieving, enabling, or disabling UCS Central Object Discoveries

Rules

Cisco UCS Core Library Management Pack has rule or rules for each UCS fault . The rules are inherited whenever the UCS Central templates instance is create from **Add Monitoring Wizard**.



Note Rules are included for faults with Severity equal to Critical, Major, Minor, Warning, and Type, and not equal to FSM or Configuration.

Depending on the UCS Central component on which a fault can occur, there can be one or multiple rules defined per UCS fault.

For example, Fault F0174 can occur on the following UCS components:

```
"sys/chassis-[id]/blade-[slotId]/board/cpu-[id]">
```

```
"sys/rack-unit-[id]/board/cpu-[id]">
```

In the given example, parsing from the back side of the DN, rack-unit, and blade are the discovered components. They are from the same base class, so one rule is available. For example, Fault Rule: Server.F0174.

Now, consider fault F0371, which can occur on the following UCS Components:

```
"sys/chassis-[id]/fan-module-[tray]-[id]/fan-[id]">
```

```
"sys/fex-[id]/fan-[id]">
```

```
"sys/rack-unit-[id]/fan-module-[tray]-[id]/fan-[id]">
```

```
"sys/switch-[id]/fan-[id]">
```

```
"sys/switch-[id]/fan-module-[tray]-[id]/fan-[id]">
```

In the above example, parsing each DN from back side, chassis, FEX, rack-unit, fabric interconnect are the discovered components which are of different base class. So, the list of rules available for the above UCS fault is as follows:

- Fault Rule: Chassis.F0371
- Fault Rule: Fex.F0371
- Fault Rule: FabricInterconnect.F0371

- Fault Rule: Server.F0371

Rules are event-based. Each rule can generate multiple alerts in the Operations Manager based on the event raised by the Cisco UCS Monitoring Service.



Note Currently, the Cisco UCS Central Management Pack does not support display of informational faults from the Cisco UCS domain in Operations Manager.



Note UCS Manager FSM faults are transient faults. So, the running version of the management pack does not support such faults.

For a complete list of FSM faults not supported in the Management Pack, see [FSM Faults](#).

PreConfigure Rule

When all the Management Packs are imported, before Cisco UCS Manager templates are created, configure (Enable/Disable) the rule from UI or Cmdlets. Once configured, you can import the templates and the configuration takes effect on all the templates which are added later. If you want to change the configuration of rules after the templates are imported, re-configure the rule. This automatically takes effect on the existing templates and for all the future templates they are to be added.

Enabling Rules using PowerShell Cmdlets

You can enable rules using PowerShell Cmdlets. For more details, see retrieving, enabling or disabling UCS Central Fault Rules.

Severity Mapping

This section describes the mapping between the severity of faults in the UCS domain and the alert severity rules in Operations Manager console.

The following table shows the mapping of severity levels between the Cisco UCS domain and rules.

Severity Level	Cisco UCS (Severity)	Rules (Alert Severity)
2	Critical, Major	Critical
1	Minor, Warning	Warning



Note All Rules are enabled by default.

Viewing List of Rules in the Management Pack

- Step 1** From the Operations Manager menu bar, click **Go** and select **Authoring**.
 - Step 2** From the navigation pane, select **Management Pack Templates**.
 - Step 3** Select **Cisco UCS Manager**.
 - Step 4** Right-click the Cisco UCS instance, and select **View Management Pack Objects > Rules**.
-

Overriding a Rule

- Step 1** From Operations Manager menu bar, click **Go** and select **Authoring**.
 - Step 2** From the navigation pane, select **Management Pack Templates**.
 - Step 3** Select **Cisco UCS Manager**.
 - Step 4** Right-click the Cisco UCS instance, and select **View Management Pack Objects > Rules**.
 - Step 5** On the **Rules** page, select the rule which you want to override.
 - Step 6** Right-click the rule and click **Overrides > Override the Rule > For all objects of class**.
 - Step 7** On the **Override Properties** page, check the parameter you want to override and then modify the override value.
 - Step 8** Click **OK** to close the Override page.
 - Step 9** Close the **Rules** page.
-

Migrating the UCS Domain to a Different Monitoring Service

In a deployment where multiple Operations Manager Management Servers and Agent Managed Computers are present, Cisco UCS Monitoring Service could be installed on more than one computer to monitor multiple Cisco UCS domain . This helps in sharing the load of monitoring multiple Cisco UCS domain among different Management Servers and Agent Managed Computers. While doing so, sometimes it may be required to assign the monitoring of Cisco UCS domain from one Cisco UCS Monitoring Service to another Monitoring Service.

- Step 1** From the menu bar of the Operations Manager console, click the **Go** tab.
 - Step 2** From the drop-down menu, select **Authoring**.
 - Step 3** Select **Management Pack Templates**.
 - Step 4** Select **Cisco UCS Manager**.
 - Step 5** Right-click one of the Cisco UCS instances and click **Properties**.
 - Step 6** From the drop-down list, Select a different machine type or service machine or both.
 - Step 7** Click **OK > Apply**.
-

