Using the Cisco UCS Provider for Proactive High Availability (HA)

This chapter includes the following sections:

Cisco UCS Provider for Proactive HA

Cisco UCS Provider for Proactive HA feature allows the system to assess the health of the server running the ESXi host. It assess if the server is healthy, moderately or severely degraded. Any fault which occurs from the Cisco approved predefined list of faults with critical or major severity is reported to the vCenter. For more information on Proactive HA feature and providers, see VMware documentation.

Prerequisites and User Privileges

To use Cisco UCS Provider for the Proactive HA, we recommend that you enable the following:

- vSphere DRS

- Proactive HA

You must have the following privileges to use Cisco UCS Provider for the Proactive HA:

- **Health Update Provider**

    - Register

    - Unregister

    - Update

- **Host**
    - Inventory
        - Modify Cluster
    - Configuration
        - Quarantine
        - Maintenance
- **Storage Views**
    - View

Registering Cisco UCS Manager Provider and Enabling Proactive HA Feature

Before you begin

- The default username is admin.

Procedure

Step 1   Log into **Cisco UCS Manager Plug-in Appliance** Web UI. Enter the username as admin and provide the password.

The list of registered VMware vCenter servers is displayed in the **Registered VMware vCenter Servers** table.

Step 2   Click **Register**.

The **Add VMware vCenter Servers** pop-up window is displayed.

Step 3   Enter the required information of a VMware vCenter server in the **Add VMware vCenter Servers** pop-up window.

a)   Enter the following details:

Field	Description
FQDN/Server IP	FQDN or Server IP of the VMware vCenter server.
Port	The port to use for communication. The default is 443.
Username	Enter the user name for the VMware vCenter server.
Password	Enter the password for the VMware vCenter server.

b) Select the **Proactive HA** checkbox to enable Proactive HA in the vCenter server.

c) Click **Next**.

The vCenter server details are validated and added in the **Registered VMware vCenter Servers** table.

The field **Proactive HA Status** displays **Enabled** for the respective vCenter server.

Alternatively, you can enable Proactive HA in a VMware vCenter server by performing the below given steps:

Step 4   Launch the vSphere HTML Client.

Step 5   Click the **Proactive HA Registration** tab.

Step 6   In the **Register Cisco UCS Manager Provider** area, select the VMware vCenter server.

Step 7   Click **Register**.

Enabling Cisco UCS Manager Provider

Procedure

Step 1   Click **Hosts and Clusters** > **Cluster** > **Configure** > **vSphere Availability** > **Proactive HA** > **Edit**.

Step 2   On the **Proactive HA Failures and Responses** tab, complete the following:

Name	Description
Automation Level drop-down list	Whether to migrate the VMs automatically or manually in case of hosts failure. This can be one of the following: • **Manual** • **Automated** We recommend that you select **Automated** level.
Remediation drop-down list	The action to be taken depending on the severity of the failure, This can be one of the following: • **Quarantine mode for all failures** • **Quarantine mode for moderate and Maintenance Mode for sever failures (Mixed)** • **Maintenance mode for all failures** We recommend that you select **Mixed** mode.

Step 3   From the list, check the **Cisco UCS Manager Provider** check box, and click **OK**.

Unregistering a UCS Manager Provider

Before you begin

Before you unregister, perform the following step if **Proactive HA Provider** is enabled:

- Disable the HA provider and turn off **Proactive HA** from **vSphere Availability** in the **vCenter Cluster Configure** page.

Procedure

Step 1   Launch the vSphere HTML Client.

Step 2   Click **Proactive HA Registration** tab.

Step 3   Click **Unregister**.

Modifying Cisco UCS Failure Conditions

Procedure

Step 1   Click **Hosts and Clusters** > **Cluster** > **Configure** > **vSphere Availability** > **Proactive HA** > **Edit**.

Step 2   From the list of providers under **Providers** tab, check the **Cisco UCS Provider** check box, and click **Edit**.

A list of Cisco UCS Provider failure conditions appears.

Step 3   To block a failure condition on a host in the cluster, check the failure condition and the associated host check box.

Step 4   To select all current and future hosts in the cluster, check the **Cluster-level** check box.

Step 5   Click **OK**.

List of Cisco UCS Provider Failure Conditions for Proactive HA

Table 1: Fault Conditions in Cisco UCS Provider

Sl. No.	Fault ID	Component Type	Description
1.	F0190	Memory	Memory array voltage exceeds the specified hardware voltage

Sl. No.	Fault ID	Component Type	Description
2.	F0539	Network	IO controller temperature is outside the upper or lower critical threshold
3.	F0185	Memory	Memory Unit Inoperable
4.	F0313	Power	Compute Physical BIOS POST Timeout
5.	F0317	Storage	Compute Physical Inoperable
6.	F0373	Fan	Equipment Fan Inoperable
7.	F0374	Power	Equipment PSU Inoperable
8.	F0484	Fan	Equipment Fan Performance Threshold Lower Non Recoverable
9.	F0187	Memory	Memory Unit Thermal Threshold Critical
10.	F0188	Memory	Memory Unit Thermal Threshold Non Recoverable
11.	F0312	Storage	Compute Physical Thermal Problem
12.	F0382	Fan	Equipment Fan Module Thermal Threshold Critical
13.	F0384	Fan	Equipment Fan Module Thermal Threshold Non Recoverable
14.	F0383	Power	Equipment PSU Thermal Threshold Critical
15.	F0385	Storage	Equipment PSU Thermal Threshold Non Recoverable
16.	F0540	Network	Compute IOHub Thermal Threshold Non Recoverable

Sl. No.	Fault ID	Component Type	Description
17.	F0191	Memory	Memory Array Voltage Threshold Non Recoverable
18.	F0389	Power	Equipment PSU Voltage Threshold Critical
19.	F0391	Power	Equipment PSU Voltage Threshold Non Recoverable
20.	F0425	Power	Compute Board CMOS Voltage Threshold Non Recoverable
21.	F0310	Power	Compute Board Power Error
22.	F0311	Power	Compute Physical Power Problem
23.	F0369	Power	Equipment PSU Power Supply Problem
24.	F37600	Memory	Memory temperature beyond threshold
25.	F35962	Power	Motherboard power consumption beyond threshold
26.	F0174	Power	Processor is inoperable
27.	F0181	Power	Local disk has become inoperable
28.	F1004	Power	Storage controller is inaccessible
29.	F0209	Network	Network facing adapter interface is down
30.	F1007	Power	Virtual drive has become inoperable
31.	F1706	Memory	ADDDC Memory RAS Problem

Adding Custom Faults for Proactive HA Monitoring

Before you begin

You must unregister the proactive HA in the domains, before you add a custom fault. See Unregistering a UCS Manager Provider, on page 4.

Before you unregister, perform the following step if **Proactive HA Provider** is registered:

- Disable the HA provider and turn off **Proactive HA** from **vSphere Availability** in the **vCenter Cluster Configure** page.

Procedure

Step 1	Launch the vSphere HTML Client.
Step 2	From the **Shortcuts** page, launch Cisco UCS plug-in.
Step 3	Click **Proactive HA Registration** tab.
Step 4	Click **ADD**.
Step 5	In the **Fault Monitoring Details** area, enter the following:

Name	Description
Fault Code	Fault code
Description	Description for the fault
Component Type	Component type of the fault

Deleting Custom Faults for Proactive HA Monitoring

Before you begin

You must unregister the proactive HA in the domains, before you delete a custom fault. See Unregistering a UCS Manager Provider, on page 4.

Before you unregister, perform the following step if **Proactive HA Provider** is registered:

- Disable the HA provider and turn off **Proactive HA** from **vSphere Availability** in the **vCenter Cluster Configure** page.

Procedure

Step 1	Launch the vSphere HTML Client.

Step 2   From the **Shortcuts** page, launch Cisco UCSManager plug-in appliance.

Step 3   Click **Proactive HA Registration** tab.

Step 4   Select the custom fault that you want to delete.

Step 5   Click **Delete**.

The confirmation pop-up window is displayed.