Upgrading Firmware in Cisco UCS Domains through Cisco UCS Central

This chapter includes the following sections:

Firmware Upgrades for Cisco UCS Domains

You can deploy infrastructure and server firmware upgrades for registered Cisco UCS domains from Cisco UCS Central.

If desired, you can upgrade the Cisco UCS domains in each domain group with different versions of firmware. Cisco UCS Central also provides you the option to acknowledge the fabric interconnect reboot globally from Cisco UCS Central or individually from each Cisco UCS domain.

Configuring an Infrastructure Firmware Upgrade for a Cisco UCS Domain

You can create only one infrastructure firmware package for one Cisco UCS Domain group in Cisco UCS Central . The member Cisco UCS domains in a domain group will run the same infrastructure firmware version.

Note   You can configure infrastructure firmware update from domain group root or at the domain group level. When you update the firmware at the domain group root level, all the domain groups under the root will get the same infrastructure firmware version.

Procedure

Step 1   On the menu bar, click **Operations Management**.

Step 2   In the **Navigation** pane, expand **Domain Groups** > **Domain Groups Root** > **Firmware Management**.

Step 3   Click **Infrastructure Firmware**.

Step 4   In the **Work** pane, **Policies** tab, click **Create**.

Step 5   In the **Scheduler** area, specify a schedule to apply the infrastructure firmware on the Cisco UCS domains in the domain group.

Step 6   In the **Version** area, select the infrastructure firmware version.
Impacted Endpoints area displays the endpoints that will get impacted by the infrastructure firmware policy. During a firmware upgrade, these endpoints will be rebooted and will therefore be unavailable during part of the upgrade process.

Step 7   Click **Save**.

What to Do Next

Cisco UCS Central automatically creates two schedules for infrastructure firmware update and fabric interconnect reboot. These schedules are also updated in Cisco UCS Manager. Based on the schedule, the infrastructure firmware upgrade process begins in the registered Cisco UCS domains and generates the first acknowledge pending activities message in Cisco UCS Central. When you acknowledge the first pending activity, the components are updated with the specified infrastructure firmware package.

After the infrastructure firmware is updated, you will receive another pending activity notification. This acknowledgment prevents any accidental reboot of fabric interconnects. You have to acknowledge this pending activity to reboot the fabric interconnect and complete the infrastructure firmware upgrade.

Note   If you have multiple domains in a domain group, you will have acknowledge each pending activity for each Cisco UCS domains to complete the infrastructure firmware upgrade process.

Acknowledging a Pending Activity

if the service profiles in Cisco UCS domains use a global maintenance policy and global host firmware package, Cisco UCS Central provides you an option to enable user acknowledgment before deploying the firmware upgrade.

If you have created a maintenance policy with **User Ack** reboot policy, you must acknowledge the actual firmware upgrade in Cisco UCS Manager. If you have created a maintenance policy with a global schedule

and enabled **User Ack**, you must acknowledge the actual upgrade for all Cisco UCS domains in Cisco UCS Central.

Note   You can view and acknowledge pending activities from **Infrastructure Firmware** and **Host Firmware** sections. This procedure describes the process to acknowledge a pending activity from the host firmware section.

Procedure

Step 1   On the menu bar, click **Operations Management**.

Step 2   In the **Navigation** pane, expand **Domain Groups** > **Domain Groups Root** > **Firmware Management**.

Step 3   In the **Work** pane, click **Pending Activities** tab.

Step 4   Choose the pending activity from the displayed list, right click and click **Acknowledge**.

Deleting an Infrastructure Firmware Package

Procedure

Step 1   On the menu bar, click **Operations Management**.

Step 2   In the **Navigation** pane, expand **Domain Groups** > **Domain Groups Root** > **Firmware Management**.

Step 3   The **Work** pane displays a list of all created infrastructure firmware packages.

Step 4   Click **Delete**.

Step 5   If Cisco UCS Central GUI displays a confirmation dialog box, click **Yes**.

Creating a Host Firmware Package

Procedure

Step 1   On the menu bar, click **Servers**.

Step 2   In the **Navigation** pane, expand **Servers** > **Policies** > **root**.

Step 3   Click **Host Firmware Packages**.

Step 4   In the **Work** pane, click **Create a Host FW Pack**.

Step 5   In **Create a Host FW Pack** dialog box, fill in the following fields:

   a)   Fill in **Name** and **Description**.

   b)   In the **Blade Version** area, choose the blade server version.

    c) In the **Rack Version** area, choose the rack server version.

    d) In the **Modular Version** area, choose the modular server version.

Step 6 The **Impacted Endpoints** dialog box displays the list of end points that will be affected by this host firmware policy.
During a firmware upgrade, these endpoints will be rebooted and will therefore be unavailable during part of the upgrade process

Step 7 Click **OK**.

What to Do Next

The host firmware policy you create in Cisco UCS Central will be available for association to a service profile in a Cisco UCS Domain registered to a domain group.

Deploying a Host Firmware Upgrade

You can update all host firmware policies defined in Cisco UCS Central to specific B, C, and M bundles using the **Install Servers**.

Before You Begin

You must have created a host firmware package.

Procedure

Step 1 On the menu bar, click **Operations Management**.

Step 2 In the **Navigation** pane, expand **Domain Groups** > **Domain Groups Root** > **Firmware Management**.

Step 3 Click **Host Firmware**.

Step 4 In the **Work** pane, from the displayed list of host firmware packages, choose the firmware version you want to deploy.

Step 5 Click **Install Servers** on the table header.

Step 6 In the **Install Servers** dialog box, select **Blade Version**, **Rack Version**, **Modular Version** and **Impacted Endpoints**.

Step 7 In **Upgrade host Firmware Warning** message dialog box, click **Yes**.
If the servers in the selected endpoints use the global host firmware upgrade policy, they will be upgraded with the host firmware package.

Deleting a Host Firmware Package

Procedure

Step 1	On the menu bar, click **Servers**.
Step 2	In the **Navigation** pane, expand **Servers** > **Policies** > **root**.
Step 3	Click **Host Firmware Packages**.
Step 4	The **Work** pane displays a list of all created host firmware packages.
Step 5	Click and choose the host firmware package name you want to delete. The table header area shows action icons.
Step 6	Click **Delete**.
Step 7	If Cisco UCS Central GUI displays a confirmation dialog box, click **Yes**.

Scheduling Firmware Upgrades

Firmware Upgrade Schedules

To upgrade firmware by domain groups in registered Cisco UCS domains, you can schedule upgrades from Cisco UCS Central in the following ways:

- As a one time occurrence

- As a recurring occurrence that recurs at designated intervals

If you configure the schedules for user acknowledgment, the fabric interconnect will not reboot without explicit acknowledgment.

Creating a Maintenance Policy

You can create the following types of maintenance policies for host firmware update in Cisco UCS Central:

- **Immediate** — The immediate option reboots the servers immediately without any user acknowledgment.

- **Timer-automatic** — In timer-automatic option, the server reboot will happen based on the schedule you select for this maintenance policy.

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> **Important** If you use the timer automatic option, you must create a schedule in Cisco UCS Central to specify in the maintenance policy. When you create a schedule in Cisco UCS Central, you can acknowledge this scheduled maintenance policy only in Cisco UCS Central.Servers using this maintenance policy will reboot only during the maintenance window defined in the schedule. If user-ack is enabled in the schedule, then you must acknowledge the server reboot.

• **User-acknowledgment —** The user-ack option sends a pending activity notification in each Cisco UCS Domain before rebooting servers.

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> **Important** The user-ack option provides Cisco UCS domains administrators the option to decide on rebooting servers in individual Cisco UCS domains at different times.

Procedure

Step 1 On the menu bar, click **Operations Management**.

Step 2 In the **Navigation** Pane, expand **Domain Groups** > **Domain Group Root** > **Maintenance**.

Step 3 In the **Work** pane, click **Create Maintenance Policy**.

Step 4 In the **Create Maintenance Policy** dialog box, do fill in the required fields.

Step 5 Click **OK**.

What to Do Next

Associate the maintenance policy to a service profile in Cisco UCS Manager.

Creating a One Time Occurrence Schedule

Procedure

Step 1 On the menu bar, click **Operations Management**.

Step 2 In the **Navigation** pane, expand **Domain Groups** > **Domain Groups Root** > **Schedules**.

Step 3 In the **Work** pane, click **Create Schedule**.

Step 4 In the **Create Schedule** dialog box, enter the details in the **Properties** area.

Step 5 Choose **One Time Occurrences** tab and click **Create One Time Occurrence**.

Step 6 In the **Create One Time Occurrence** dialog box, fill in the details.

Step 7 Click **OK**.

Step 8 Click OK in the **Create Schedule** dialog box.
The one time schedule you created is added to the **Schedules** table.

Creating a Recurring Occurrence Schedule

Procedure

Step 1	On the menu bar, click **Operations Management**.
Step 2	In the **Navigation** pane, expand **Domain Groups** > **Domain Groups Root** > **Schedules**.
Step 3	In the **Work** pane, click **Create Schedule**.
Step 4	In the **Create Schedule** dialog box, enter the details in the **Properties** area.
Step 5	Choose **Recurring Occurrences** tab and click **Create Recurring Occurrence**.
Step 6	In the **Create Recurring Occurrence** dialog box, fill in the details.
Step 7	Click **OK**.
Step 8	Click OK in the **Create Schedule** dialog box. The recurring schedule you created is added to the table.

Deleting a Firmware Upgrade Schedule

Procedure

Step 1	On the menu bar, click **Operations Management**.
Step 2	In the **Navigation** pane, expand **Domain Groups** > **Domain Groups Root** > **Schedules**.
Step 3	The **Work** pane displays a list of all scheduled firmware events.
Step 4	Click and choose the schedule name you want to delete. The table header area shows action icons.
Step 5	Click **Delete**.
Step 6	If Cisco UCS Central GUI displays a confirmation dialog box, click **Yes**.