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.

Scheduling an Infrastructure Firmware Policy Update for UCS Domains

Procedure

	Command or Action	Purpose
Step 1	UCSC# **connect policy-mgr**	Enters policy manager mode.
Step 2	UCSC(policy-mgr) # **scope domain-group** *domain-group*	Enters domain group root mode and (optionally) enters a sub-domain group under the domain group root. To enter the domain group root mode, type / as the *domain-group*.
Step 3	UCSC(policy-mgr) /domain-group # **scope fw-infra-pack** *name*	Enters the infrastructure firmware policy mode in the domain group.
Step 4	UCSC(policy-mgr) /domain-group/fw-infra-pack # **set** *infrabundleversion*	Specifies the infrastructure policy version for the update.
Step 5	UCSC(policy-mgr) /domain-group/fw-infra-pack # **commit-buffer**	Commits the transaction to the system.

The following example shows how to schedule an infrastructure firmware policy update for a domain group from Cisco UCS Central CLI:

```
UCSC# connect policy-mgr
UCSC(policy-mgr)# scope domain-group
UCSC(policy-mgr) /domain-group # scope fw-infra-pack default
UCSC(policy-mgr) /domain-group/fw-infra-pack # set infrabundleversion 2.1(0.475)T
UCSC(policy-mgr) /domain-group/fw-infra-pack* # commit-buffer
UCSC(policy-mgr) /domain-group/fw-infra-pack #
```

Acknowledging a Pending Activity

This procedure describes the process to acknowledge an fabric interconnect reboot pending activity from Cisco UCS Central CLI.

Procedure

	Command or Action	Purpose
Step 1	UCSC# **connect operation-mgr**	Enters operations manager mode.
Step 2	UCSC(ops-mgr)# **scope domain-group** *Marketing*	Enters the domain group.

	Command or Action	Purpose
Step 3	UCSC(ops-mgr) /domain-group # **scope schedule fi-reboot**	Enters the scheduled task mode.
Step 4	UCSC(ops-mgr) /domain-group/schedule # **show token-request**	Displays the pending activities in the system.
Step 5	UCSC(ops-mgr) /domain-group/schedule # **scope token-request id sys-fw-system-ack**	Finds the pending activity.
Step 6	UCSC(ops-mgr) /domain-group/schedule/token-request # **acknowledge token-request**	Acknowledges the specified pending activity.
Step 7	UCSC(ops-mgr) /domain-group/schedule/token-request* # **commit-buffer**	Commits the transaction to the system.

The following example shows how to acknowledge a pending activity in Cisco UCS Central CLI:

```
UCSC# connect operation-mgr
UCSC(ops-mgr)# scope domain-group Marketing
UCSC(ops-mgr) /domain-group # scope schedule fi-reboot
UCSC(ops-mgr) /domain-group/schedule # show token-request
Token Request:
ID    Name       Client IP       Admin State     Oper State
----- ---------- --------------- --------------- ----------
1033 sys-fw-system-ack 10.193.23.150   Auto Scheduled  Pending Ack
UCSC(ops-mgr) /domain-group/schedule # scope token-request id sys-fw-system-ack
UCSC(ops-mgr) /domain-group/schedule/token-request # acknowledge token-request
UCSC(ops-mgr) /domain-group/schedule/token-request* # commit-buffer
UCSC(ops-mgr) /domain-group/schedule/token-request #
```

Viewing Infrastructure Firmware Packages

Procedure

	Command or Action	Purpose
Step 1	UCSC# **connect policy-mgr**	Enters policy manager mode.
Step 2	UCSC(policy-mgr) # **scope domain-group** *domain-group*	Enters domain group root mode and (optionally) enters a sub-domain group under the domain group root. To enter the domain group root mode, type **/** as the *domain-group*.
Step 3	UCSC(policy-mgr) /domain-group # **scope fw-infra-pack** *name*	Enters the infrastructure firmware policy mode in the domain group.
Step 4	UCSC(policy-mgr) /domain-group/fw-infra-pack #**show**	Displays the infrastructure firmware packages available in the system.

The following example shows how to view the available infrastructure packages using Cisco UCS Central CLI:

```
UCSC# connect policy-mgr
UCSC(policy-mgr)# scope domain-group
UCSC(policy-mgr) /domain-group # scope fw-infra-pack default
UCSC(policy-mgr) /domain-group/fw-infra-pack # show
Infra Pack:
Name                   Mode     Infra Bundle Version
--------------------- -------- --------------------
root/default           Staged   2.1(0.480)A
UCSC(policy-mgr) /domain-group/fw-infra-pack #
```

Creating a Host Firmware Package

Procedure

	Command or Action	Purpose
Step 1	UCSC# **connect policy-mgr**	Enters policy manager mode.
Step 2	UCSC(policy-mgr) # **scope org** *org-name*	Enters the organizations mode for the specified organization. To enter the root mode type/ as the*org-name*.
Step 3	UCSC(policy-mgr) /org # **create fw-host-pack***policy name*	Creates the specified host firmware pack.
Step 4	UCSC(policy-mgr) /org/fw-host-pack # **set descr** *description*	Specifies the description for the host firmware policy.
Step 5	UCSC(policy-mgr) /org/fw-host-pack # **set bladebundleversion** *version number*	Specifies the blade server bundle version for the host firmware policy.
Step 6	UCSC(policy-mgr) /org/fw-host-pack # **set rackbundleversion** *version number*	Specifies the rack server bundle version for the host firmware policy.
Step 7	UCSC(policy-mgr) /org/fw-host-pack # **set mseriesbundleversion** *version number*	Specifies the M-series modular server bundle version for the host firmware policy.
Step 8	UCSC(policy-mgr) /org/fw-host-pack #**create exclude-server-component** {**adapter** | **board-controller** | **cimc** | **flexflash-controller** | **graphics-card** | **host-hba** | **host-hba-optionrom** | **host-nic** | **host-nic-optionrom** | **local-disk** | **psu** | **raid-controller** | **sas-expander** | **server-bios**}	Creates an excluded component and enters exclude server component mode. **Note** You must repeat the **exclude-server-component** command for each component that you want to exclude from the host firmware package.
Step 9	UCSC(policy-mgr) /org/fw-host-pack/exclude-server-component #**exit**	Returns to host firmware pack mode.

	Command or Action	Purpose
Step 10	UCSC(policy-mgr) /org/fw-host-pack # **commit-buffer**	Commits the transaction to the system.

The following example shows how to create a host firmware pack called FWPack1, add a blade server bundle version, exclude the psu and server-bios, and commit the transaction:

```
UCSC# connect policy-mgr
UCSC(policy-mgr)# scope org
UCSC(policy-mgr) /org # create fw-host-pack FWPack1
UCSC(policy-mgr) /org/fw-host-pack* # create exclude-server-component psu
UCSC(policy-mgr) /org/fw-host-pack* # create exclude-server-component psu
UCSC(policy-mgr) /org/fw-host-pack/exclude-server-component* # exit
UCSC(policy-mgr) /org/fw-host-pack* # create exclude-server-component server-bios
UCSC(policy-mgr) /org/fw-host-pack/exclude-server-component* # commit-buffer
UCSC(policy-mgr) /org/fw-host-pack/exclude-server-component #
```

Viewing Host Firmware Packages

Procedure

	Command or Action	Purpose
Step 1	UCSC# **connect policy-mgr**	Enters policy manager mode.
Step 2	UCSC(policy-mgr) # **scope domain-group** *domain-group*	Enters domain group root mode and (optionally) enters a sub-domain group under the domain group root. To enter the domain group root mode, type / as the *domain-group*.
Step 3	UCSC(policy-mgr) /domain-group # **show fw-host-pack detail**	Displays a list of host firmware packages.

The following example shows how to display available host firmware packages in Cisco UCS Central CLI:

```
UCSC# connect policy-mgr
UCSC(policy-mgr)# scope domain-group
UCSC(policy-mgr) /domain-group # show fw-host-pack detail
Compute Host Pack:

Name: root/Default
Mode: Staged
Blade Bundle Version: 2.1(0.469)B
Rack Bundle Version: 2.1(0.469)C
Description: UCSC

Name: root/default
Mode: Staged
Blade Bundle Version: 2.1(0.474)B
Rack Bundle Version: 2.1(0.474)C
Description: default from UCSC
```

```
Name: root/latest
Mode: Staged
Blade Bundle Version: 2.1(0.469)B
Rack Bundle Version: 2.1(0.469)C
Description: latest

Name: root/Marketing/mytest
Mode: Staged
Blade Bundle Version: 2.1(0.469)B
Rack Bundle Version: 2.1(0.469)C
Description: Test
UCSC(policy-mgr) /domain-group #
```

Scheduling Firmware Upgrades

Firmware Upgrade Schedules

When upgrading the firmware, 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 does not reboot without explicit acknowledgment.

Creating a One Time Occurrence Schedule

Procedure

	Command or Action	Purpose
Step 1	UCSC# **connect policy-mgr**	Enters policy manager mode.
Step 2	UCSC(policy-mgr) # **scope domain-group** *domain-group*	Enters domain group root mode and (optionally) enters a sub-domain group under the domain group root. To enter the domain group root mode, type / as the *domain-group*.
Step 3	UCSC(policy-mgr) /domain-group # **create schedule onetime**	Creates a one time occurrence schedule.
Step 4	UCSC(policy-mgr) /domain-group/schedule* # **set admin-state user-ack**	Specifies user acknowledgment for the specified one time update task.
Step 5	UCSC(policy-mgr) /domain-group/schedule # **create occurrence one-time** *name*	Specifies the time for one time occurrence.
Step 6	UCSC(policy-mgr) /domain-group/schedule/one-time* # **set**	**1** **concur-tasks***Maximum number of concurrent tasks*

	Command or Action	Purpose
		2 **date***Start Date* **3** **max-duration***Max Duration (dd:hh:mm:ss)* **4** **min-interval***Minimum Interval Between Tasks Execution* **5** **proc-cap***Maximum Number of Tasks to Execute* Sets other related details for one time occurrence.
Step 7	UCSC(policy-mgr) /domain-group/schedule/one-time* # **commit-buffer**	Commits the transaction to the system.

The following example shows how to schedule a one time occurrence firmware update in Cisco UCS Central CLI:

```
UCSC# connect policy-mgr
UCSC(policy-mgr)# scope domain-group
UCSC(policy-mgr) /domain-group # create schedule onetime
UCSC(policy-mgr) /domain-group/schedule* # set admin-state user-ack
UCSC(policy-mgr) /domain-group/schedule* # commit-buffer
UCSC(policy-mgr) /domain-group/schedule # create occurrence one-time Nov172012
UCSC(policy-mgr) /domain-group/schedule/one-time* # set
concur-tasks  Maximum Number of Concurrent Tasks
date          Start Date
max-duration  Max Duration (dd:hh:mm:ss)
min-interval  Minimum Interval Between Tasks Execution
proc-cap      Maximum Number of Tasks to Execute
UCSC(policy-mgr) /domain-group/schedule/one-time* # set date nov 17 2012 16 00 00
UCSC(policy-mgr) /domain-group/schedule/one-time* # commit-buffer
UCSC(policy-mgr) /domain-group/schedule/one-time* #
```

Viewing One Time Occurrence Schedule

Procedure

	Command or Action	Purpose
Step 1	UCSC# **connect policy-mgr**	Enters policy manager mode.
Step 2	UCSC(policy-mgr) # **scope domain-group** *domain-group*	Enters domain group root mode and (optionally) enters a sub-domain group under the domain group root. To enter the domain group root mode, type **/** as the *domain-group*.
Step 3	UCSC(policy-mgr) /domain-group/schedule* # **scope schedule one-time**	Enters the schedule mode.
Step 4	UCSC(policy-mgr) /domain-group/schedule/one-time # **show detail**	Displays the one-time schedule.

The following example shows how to display the scheduled one time occurrence in Cisco UCS Central CLI:

```
UCSC#connect policy-mgr
UCSC(policy-mgr)# scope domain-group
UCSC(policy-mgr) /domain-group # scope schedule onetime
UCSC(policy-mgr) /domain-group/schedule/one-time # show detail
One-Time Occurrence:
Name: Friday
Start Date: 2012-11-17T16:00:00.000
Max Duration (dd:hh:mm:ss): None
Max Concur Tasks: Unlimited
Max Tasks: Unlimited
Min Interval (dd:hh:mm:ss): None
Executed Tasks: 0
UCSC(policy-mgr) /domain-group/schedule/one-time #
```