

UCS STP004 Firmware Core Activation

When a new release of UCS code is released you need to do a few things in sequence, and add these all together you get something called "UCS Upgrade Standard Operating Procedure".

STP001	Notification of Release
STP002	Research and Plan the Release
STP003	Download the Release
STP004	Firmware Core Activation
STP005	Firmware Component Activation
STP006	Backup the Release

Table 1 - List of Standard Technical Procedures in the UCS Upgrade Standard Operating Procedure"

This document describes how to execute STP004 Firmware Core Activation, which will result in your Fabric Interconnects, UCS Manager and IOMs being updated to a new release.

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- **Location** – This document is on the web at <https://supportforums.cisco.com/docs/DOC-8584>
- **Prerequisites** - Before starting this procedure you should have completed steps 1-3 of the "UCS Upgrade Standard Operating Procedure" and have a verified release package available on UCSM.
- **Author** – Steve Chambers, Unified Computing, [Cisco Advanced Services](#), Europe.
- **Advanced Services** – [Do it right, first time, every time, with Cisco.](#)

Act 1: Stage the FEX/IOMs Upgrade

Summary: Update and ready the FEX/IOMs for activation, which is triggered when each FI is activated.

First, SSH directly into the Primary Fabric Interconnect IP instead of the VIP (save time later). Then, once logged on, the following commands will upgrade.

```
BRUTAC-A /firmware # scope chassis 1
BRUTAC-A /chassis # scope iom a
BRUTAC-A /chassis/iom # show firmware
IOM      Fabric ID Running-Vers      Update-Status      Activate-Status
-----
      2 A          1.0(1f)          Ready              Ready
BRUTAC-A /chassis/iom # show firmware detail
IOM 2 (Fabric A):
  Running-Vers: 1.0(1f)
  Update-Status: Ready
  Activate-Status: Ready
  Backup-Vers: 1.0(1f)
  Startup-Vers: 1.0(1e)
  Bootloader-Vers: 1.62
BRUTAC-A /chassis/iom # activate firmware 1.0(2d) ignorecompcheck set-
startup-only
BRUTAC-A /chassis/iom* # commit-buffer
BRUTAC-A /chassis/iom # show firmware
IOM      Fabric ID Running-Vers      Update-Status      Activate-Status
-----
      2 A          1.0(1f)          Ready              Pending Next Boot
BRUTAC-A /chassis/iom # show firmware detail
IOM 2 (Fabric A):
  Running-Vers: 1.0(1f)
  Update-Status: Ready
  Activate-Status: Pending Next Boot
  Backup-Vers: 1.0(1f)
  Startup-Vers: 1.0(2d)
  Bootloader-Vers: 1.62
BRUTAC-A /chassis/iom # exit
BRUTAC-A /chassis # scope iom b
```

Now repeat the above process for IOM B

```
BRUTAC-A /chassis # exit
BRUTAC-A# scope chassis 2
```

Now repeat the above process for all the remaining chassis

Act 2: Update UCS Manager

Summary: Update and activate the new UCS Manager code: this only disrupts administration/GUI.

```
BRUTAC-A /chassis/iom # scope system
BRUTAC-A /system # show firmware detail
UCSM:
  Running-Vers: 1.0(1f)
  Activate-Status: Ready
  Startup-Vers: 1.0(1f)

BRUTAC-A /system # activate firmware 1.0(2d) ignorecompcheck
As part of activation, all vsh sessions will be terminated.
Continue with activation? (yes/no) yes
Update Started
Pinning primary role to prevent cluster failover
Successfully pinned primary role
Setting boot variables on subordinate Fabric interconnect
Successfully set boot variables on subordinate Fabric interconnect
Setting boot variables on local Fabric interconnect
Successfully set boot variables on local Fabric interconnect
Updating UCS Manager on subordinate Fabric interconnect
Successfully updated UCS Manager on subordinate Fabric interconnect
Updating UCS Manager on local Fabric interconnect
Successfully scheduled update of UCS Manager on local Fabric interconnect
Activation Successful
Waiting for system initialization to complete
System initialization complete
Activation complete

Broadcast Message from root@BRUTAC-A
  (/dev/pts/4) at 6:21 ...

All shells being terminated due to system update
```

You will lose your SSH connection.

Close any Java and Browser session to the “old” UCSM and start a new browser session.

Check that the Version at the bottom of the UCSM splash screen (where you click Launch) is at the correct version.

Act 3: Upgrade the Subordinate Fabric Interconnect

Summary: This will also reset all the IOMs on that fabric.

First determine the subordinate fabric

```
BRUTAC-A /system # show cluster state
Cluster Id: 0x9ee987cadfb11de-0x98c5000decdecf44
```

```
A: UP, PRIMARY
B: UP, SUBORDINATE
```

```
HA READY
```

Then activate the upgrade on the subordinate fabric

```
BRUTAC-A* # scope fabric-interconnect b
BRUTAC-A /fabric-interconnect # show firmware
Fabric Interconnect B:
```

```
Running-Kern-Vers: 4.0(1a)N2(1.1f)
Running-Sys-Vers: 4.0(1a)N2(1.1f)
Startup-Kern-Vers: 4.0(1a)N2(1.1f)
Startup-Sys-Vers: 4.0(1a)N2(1.1f)
```

```
Act-Kern-Status: Ready
```

```
Act-Sys-Status: Ready
```

```
Bootloader-Vers: v1.2.0(06/19/08)
```

```
BRUTAC-A /fabric-interconnect # activate firmware kernel-version
4.0(1a)N2(1.2d) system-version 4.0(1a)N2(1.2d) ignorecompcheck
```

NOTE: The above is all one-line command!

Warning: When committed this command will reset the end-point

```
BRUTAC-A /fabric-interconnect* # commit-buffer
BRUTAC-A /fabric-interconnect # show firmware
```

```
Fabric Interconnect B:
Running-Kern-Vers: 4.0(1a)N2(1.1f)
Running-Sys-Vers: 4.0(1a)N2(1.1f)
Startup-Kern-Vers: 4.0(1a)N2(1.2d)
Startup-Sys-Vers: 4.0(1a)N2(1.2d)
```

```
Act-Kern-Status: Activating
```

```
Act-Sys-Status: Activating
```

```
Bootloader-Vers: v1.2.0(06/19/08)
```

After Approximately 3-5 Minutes Status will go to ready

```
BRUTAC-A /fabric-interconnect # show firmware
Fabric Interconnect B:
```

```
Running-Kern-Vers: 4.0(1a)N2(1.2d)
Running-Sys-Vers: 4.0(1a)N2(1.2d)
Startup-Kern-Vers: 4.0(1a)N2(1.2d)
Startup-Sys-Vers: 4.0(1a)N2(1.2d)
```

```
Act-Kern-Status: Ready
```

```
Act-Sys-Status: Ready
```

```
Bootloader-Vers: v1.2.0(06/19/08)
```

Act 4: Make the Upgrade Subordinate the Cluster Primary

Summary: This will reduce the impact of the change in terms of network outage and time to complete.

After you've upgraded the subordinate, it takes time for the HA cluster to return to READY state.

```
BRUTAC-A /fabric-interconnect # show cluster state
Cluster Id: 0x9ee987cadfb11de-0x98c5000decdecf44
```

```
A: UP, PRIMARY
B: UP, SUBORDINATE
```

HA DOWNGRADED
HA not ready on peer switch

Be patient, keep checking, and eventually you'll see HA READY:
BRUTAC-A /fabric-interconnect # show cluster state
Cluster Id: 0x9ee987cadfb11de-0x98c5000decdecf44

```
A: UP, PRIMARY
B: UP, SUBORDINATE
```

HA READY

```
BRUTAC-A /fabric-interconnect # connect local-mgmt
```

Cisco UCS 6100 Series Fabric Interconnect

TAC support: <http://www.cisco.com/tac>

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```
BRUTAC-A(local-mgmt)# cluster lead b
Cluster Id: 0x9ee987cadfb11de-0x98c5000decdecf44
```

Did you SSH to the Primary IP or the VIP? If VIP, SSH will close ☺

```
BRUTAC-A# show cluster state
Cluster Id: 0x9ee987cadfb11de-0x98c5000decdecf44
```

```
A: UP, SUBORDINATE
B: UP, PRIMARY
```

HA READY

Act 5: Upgrade the remaining Subordinate Fabric Interconnect

Summary: This will also reset all the IOMs on that fabric.

```
BRUTAC-A* # scope fabric-interconnect a
BRUTAC-A /fabric-interconnect # show firmware
Fabric Interconnect A:
  Running-Kern-Vers: 4.0(1a)N2(1.1f)
  Running-Sys-Vers: 4.0(1a)N2(1.1f)
  Startup-Kern-Vers: 4.0(1a)N2(1.1f)
  Startup-Sys-Vers: 4.0(1a)N2(1.1f)
  Act-Kern-Status: Ready
  Act-Sys-Status: Ready
  Bootloader-Vers: v1.2.0(06/19/08)
```

```
BRUTAC-A /fabric-interconnect # activate firmware kernel-version
4.0(1a)N2(1.2d) system-version 4.0(1a)N2(1.2d) ignorecompcheck
```

NOTE: The above is all one-line command!

Warning: When committed this command will reset the end-point

```
BRUTAC-A /fabric-interconnect* # commit-buffer
BRUTAC-A /fabric-interconnect # show firmware
Fabric Interconnect A:
  Running-Kern-Vers: 4.0(1a)N2(1.1f)
  Running-Sys-Vers: 4.0(1a)N2(1.1f)
  Startup-Kern-Vers: 4.0(1a)N2(1.2d)
  Startup-Sys-Vers: 4.0(1a)N2(1.2d)
  Act-Kern-Status: Activating
  Act-Sys-Status: Activating
  Bootloader-Vers: v1.2.0(06/19/08)
```

After Approximately 3-5 Minutes Status will go to ready

```
BRUTAC-A /fabric-interconnect # show firmware
Fabric Interconnect A:
  Running-Kern-Vers: 4.0(1a)N2(1.2d)
  Running-Sys-Vers: 4.0(1a)N2(1.2d)
  Startup-Kern-Vers: 4.0(1a)N2(1.2d)
  Startup-Sys-Vers: 4.0(1a)N2(1.2d)
  Act-Kern-Status: Ready
  Act-Sys-Status: Ready
  Bootloader-Vers: v1.2.0(06/19/08)
```

Act 6: Visual Confirmation of Firmware Core Activate

Summary: Use the GUI to confirm the upgrade firmware

Name	Running Version	Startup Version	Backup Version	Update Status	Activate Status
UCS Manager	1.1(1e)	1.1(1e)	N/A	N/A	ready
Chassis					
Chassis 1					
IO Modules					
IO Module 1	1.1(1e)	1.1(1e)	1.0(2)	ready	ready
IO Module 2	1.1(1e)	1.1(1e)	1.0(2)	ready	ready
Servers					
Chassis 2					
IO Modules					
IO Module 1	1.1(1e)	1.1(1e)	1.1(1e)	ready	ready
IO Module 2	1.1(1e)	1.1(1e)	1.1(1e)	ready	ready
Servers					
Chassis 3					
IO Modules					
IO Module 1	1.1(1e)	1.1(1e)	1.0(2)	ready	ready
IO Module 2	1.1(1e)	1.1(1e)	1.0(2)	ready	ready
Servers					
Chassis 4					
IO Modules					
IO Module 1	1.1(1e)	1.1(1e)	1.0(2)	ready	ready
IO Module 2	1.1(1e)	1.1(1e)	1.0(2)	ready	ready
Servers					
Fabric Interconnects					
Fabric Interconnect A					
Kernel	4.1(3)N2(1.1e)	4.1(3)N2(1.1e)	N/A	N/A	ready
System	4.1(3)N2(1.1e)	4.1(3)N2(1.1e)	N/A	N/A	ready
Fabric Interconnect B					
Kernel	4.1(3)N2(1.1e)	4.1(3)N2(1.1e)	N/A	N/A	ready
System	4.1(3)N2(1.1e)	4.1(3)N2(1.1e)	N/A	N/A	ready

Figure 1 - Visual Confirmation of Running new firmware