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.

Contents

- **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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http://www.gnu.org/licenses/lgpl.html

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: Return Fabric Interconnect A to Primary

Summary: Return the system to its original cluster configuration.

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, SUBORDINATE
B: UP, PRIMARY

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, SUBORDINATE
B: UP, PRIMARY

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 a
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, PRIMARY
B: UP, SUBORDINATE

HA READY
```

Act 7: Visual Confirmation of Firmware Core Activate
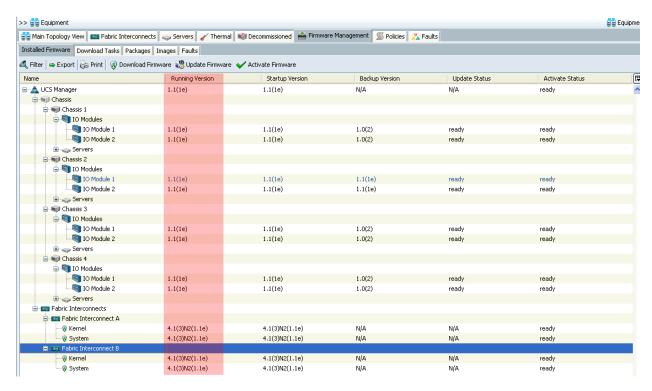
Summary: Use the GUI to confirm the upgrade firmware

Figure 1 - Visual Confirmation of Running new firmware

.