



Cisco Support Community Expert Series Webcast

Cisco Unified Computing System (UCS) B series Upgrade & Troubleshooting

VARUN MEHTA , ANUPAM ASTHANA

CSE, SERVER VIRTUALIZATION TAC

Q&A PANEL : AVINASH SHUKLA

16th SEPTEMBER '2014

Cisco Support Community – Expert Series Webcast

- Today's featured experts is Cisco Support Engineers
- Ask questions now, about Unified Computing System, Upgrade & Troubleshooting



Varun Mehta

Customer Support Engg.



Anupam Asthana

Customer Support Engg.

Topic: Cisco Unified Computing System (UCS) B series Upgrade & Troubleshooting

Event Date: 16th Sep '2014

Panel of Experts



Avinash Shukla
CSE

Thank You For Joining Us Today!

Today's presentation will include audience polling questions.
We encourage you to participate!



Thank You For Joining Us Today!

If you would like a copy of the presentation slides, click the PDF file link in the chat box on the right or go to:

<https://supportforums.cisco.com/document/12302516/cisco-ucs-b-series-upgrade-troubleshooting-slides-live-webcast>



Polling Question 1

Do you use UCS in your company infrastructure?

- a. Yes, I am using it.
- b. Not yet, but I plan to use in future.
- c. No, I am not using it.
- d. Not Applicable.

Submit Your Questions Now!

Use the Q & A panel to submit your questions and the panel of experts will respond.



Cisco Support Community Expert Series Webcast

Cisco Unified Computing System (UCS) B series Upgrade & Troubleshooting

VARUN MEHTA , ANUPAM ASTHANA,

CSE, SERVER VIRTUALIZATION TAC

Q&A PANEL : AVINASH SHUKLA

DATE : 16th SEPTEMBER '2014

Agenda

- Introduction to Unified Computing System, Upgrade & Troubleshooting
 - UCS Architecture in brief
 - Manual Upgrade Process
 - Upgrade using Auto-Install
 - Live Demo of the Upgrade
 - UCS Troubleshooting
 - Q&A Session

UCS Architecture

UCS Building Blocks

UCS Manager

Fabric Interconnect

IO Modules

Endpoints

- CIMC
- BIOS
- Adapter
- Storage Controller
- Board Controller



UCS Manager (XML and CLI),
NXOS, Physical Connections
to Chassis & Core SAN/LAN
network, Cluster Operations



Cisco UCS Manager
Embedded in Fabric Interconnect

Cisco UCS 6100 Series Fabric Interconnects

UCS 6120XP 20 Port Fabric Interconnect
UCS 6140XP 40 Port Fabric Interconnect



Chassis Management
Controller (CMC) Operations,
Chassis Discovery, Physical
Connections to Fabric
Interconnect (FI) and Logical
Connections to Adaptor
Cards

Cisco UCS 2100 Series Fabric Extenders

Logically part of Fabric Switch
Inserts into Blade Enclosure



Cisco UCS 5100 Series Blade Chassis

Flexible bay configurations
Logically part of Fabric Interconnect



Baseboard Management
Controller (BMC) of
Compute nodes, All Compute
node Components (memory,
proc, mezz cards, disk

Cisco UCS B-Series Blade Servers

UCS B-200 M1 Blade Server
UCS B-250 M1 Extended Memory Blade Server

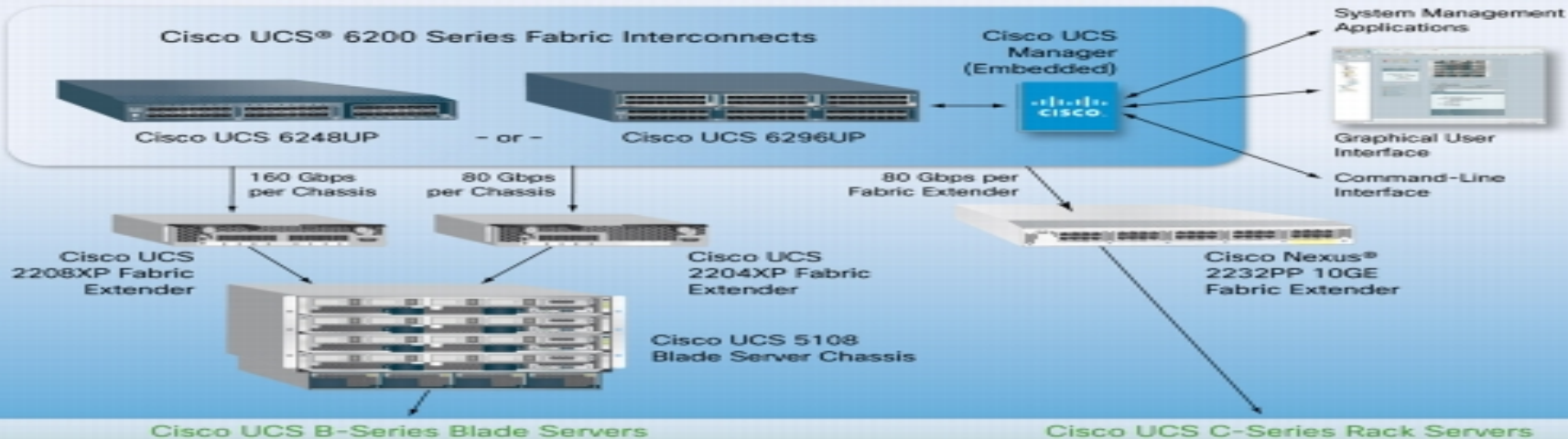


Power, Fans, Connectors

Cisco UCS Network Adapters

Three adapter options
Mix adapters within blade chassis

Cisco Unified Computing System™



Cisco UCS B-Series Blade Servers

Cisco UCS C-Series Rack Servers

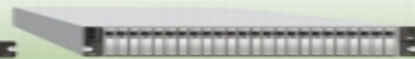


Cisco UCS B22 M3

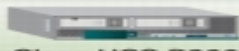
Scale Out
- and -
Web 2.0



Cisco UCS C22 M3



Cisco UCS C24 M3



Cisco UCS B200 M3

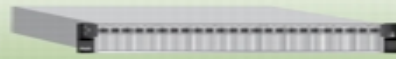


Cisco UCS B420 M3

Enterprise
- Class -



Cisco UCS C220 M3

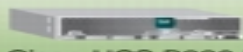


Cisco UCS C240 M3

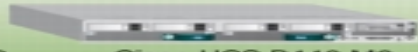


Cisco UCS B250 M2

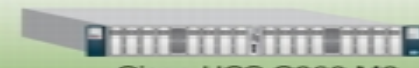
Mission
- Critical -



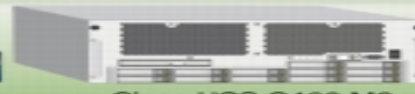
Cisco UCS B230 M2



Cisco UCS B440 M2



Cisco UCS C260 M2



Cisco UCS C460 M2



Fabric Interconnect (FI)



UCS Fabric Interconnect Overview

- Each UCS system has 2 independent single switch fabrics called UCS 6x00 (Fabric Interconnects)
 - based on Nexus 5K switch, but running different software
- In addition to NXOS runs UCS Manager (UCSM)
- “Server” ports connect to IO Modules in the blade chassis
- “Network” ports connect via Fibre Channel or Ethernet to the upstream SAN or LAN
- One “Management” port connects to the customer’s Out-Of-Band management network
- Two “Clustering” ports connect the UCS Manager instances in peered 6x00s (active/passive)
- RS-232 serial port (Console)

UCS 6248 Fabric Interconnect



Double+

32 x Fixed ports: 1/10 GE or 1/2/4/8 FC

Expansion Module (GEM)

Fabric Interconnect Cluster Connectivity

Out of Band Mgmt 10/100/10



Console

Fan Module

Fan Module

Power Entry

Power Entry

N + N Redundant FANs

N + N Power Supplies

Cisco UCS Fabric Infrastructure

Cisco UCS 6200 and 2200 with Unified Ports

UCS Fabric Interconnects

Typical Deployments

48 Port Fabric Interconnect



- Performance for typical deployments
- 1TB throughput
- 48 ports in 1RU
- Infrastructure agility with Unified Ports

High End Deployments

96 Port Fabric Interconnect



- High Application performance
- 2TB throughput
- High workload density 96 ports in 2RU
- Infrastructure agility with Unified Ports

UCS FEX I/O Modules

2204XP I/O Module



- 80G per chassis
- 20Gb to the Blade per I/O Module
- 40Gb total per blade
- Improved Utilisation with Port Channels

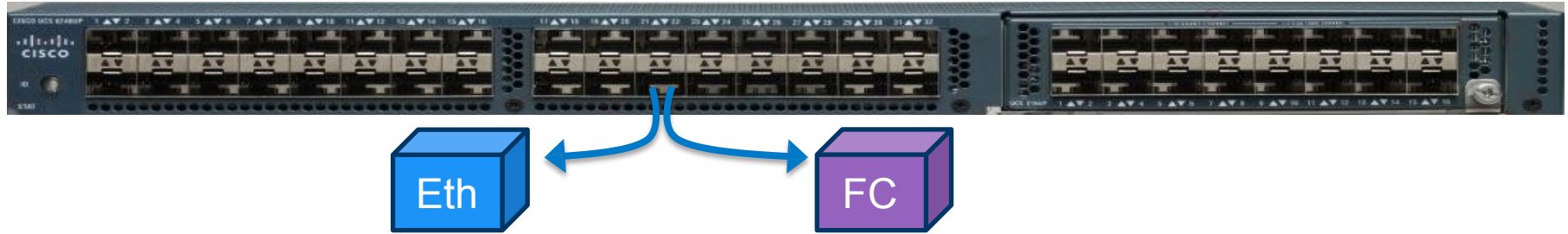
2208XP I/O Module



- 160G per chassis
- 40Gb to the Blade per I/O Module
- 80Gb total per blade, for burst traffic
- Improved Resiliency
- Improved Utilisation with Port Channels

UCS 6200: Unified Ports

Dynamic Port Allocation: Lossless Ethernet or Fiber Channel



Lossless Ethernet

1GbE or 10GbE, FCoE, iSCSI, NAS

Native Fibre Channel

Supported Speeds: 1 / 2 / 4 / 8 Gb FC

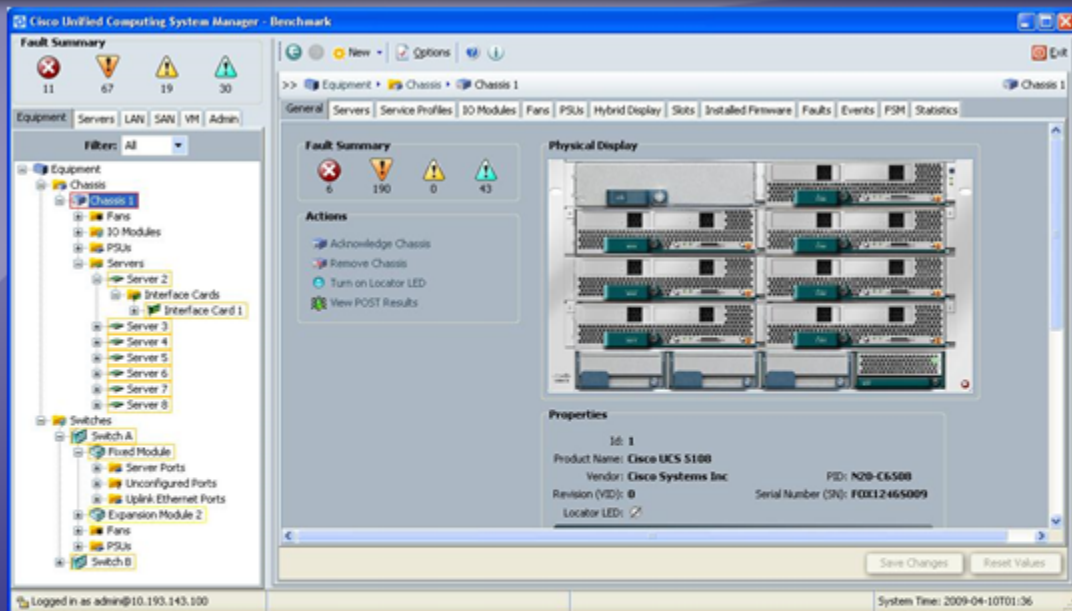
Benefits

- Simplify switch purchase. Removes ports:ratio guess work
- Increases design flexibility
- Remove specific protocol bandwidth bottlenecks

Use-cases

- Flexible LAN & storage convergence based on business needs
- Service can be adjusted based on the demand for specific traffic

Unified Computing System Manager



- Embedded device manager for family of UCS components
- Enables stateless computing via Service Profiles
- Efficient scale: Same effort for 1 or N blades

UCSM

- Single point of device management
 - Adapters, blades, chassis, LAN and SAN connectivity
 - Embedded manager
 - GUI & CLI
- Standard APIs for systems management
 - XML, SMASH-CLP, WSMAN, IPMI, SNMP
 - SDK for commercial and custom implementations
- Designed for multi-tenancy
 - RBAC, organizations, pools and policies

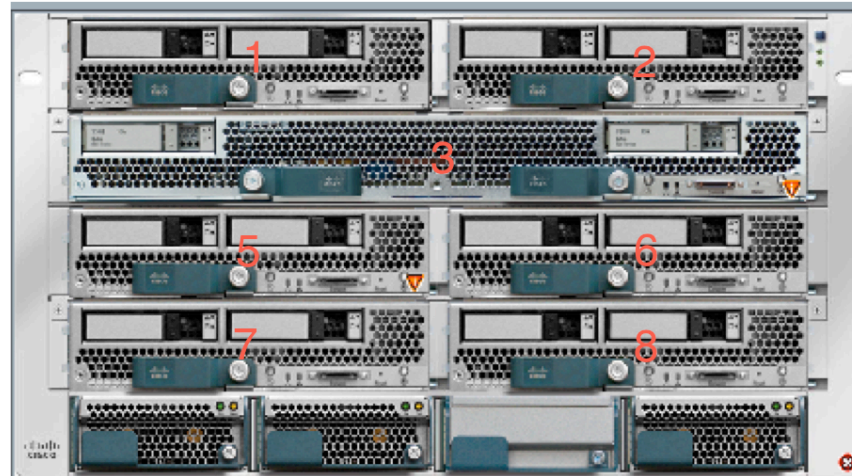


Chassis

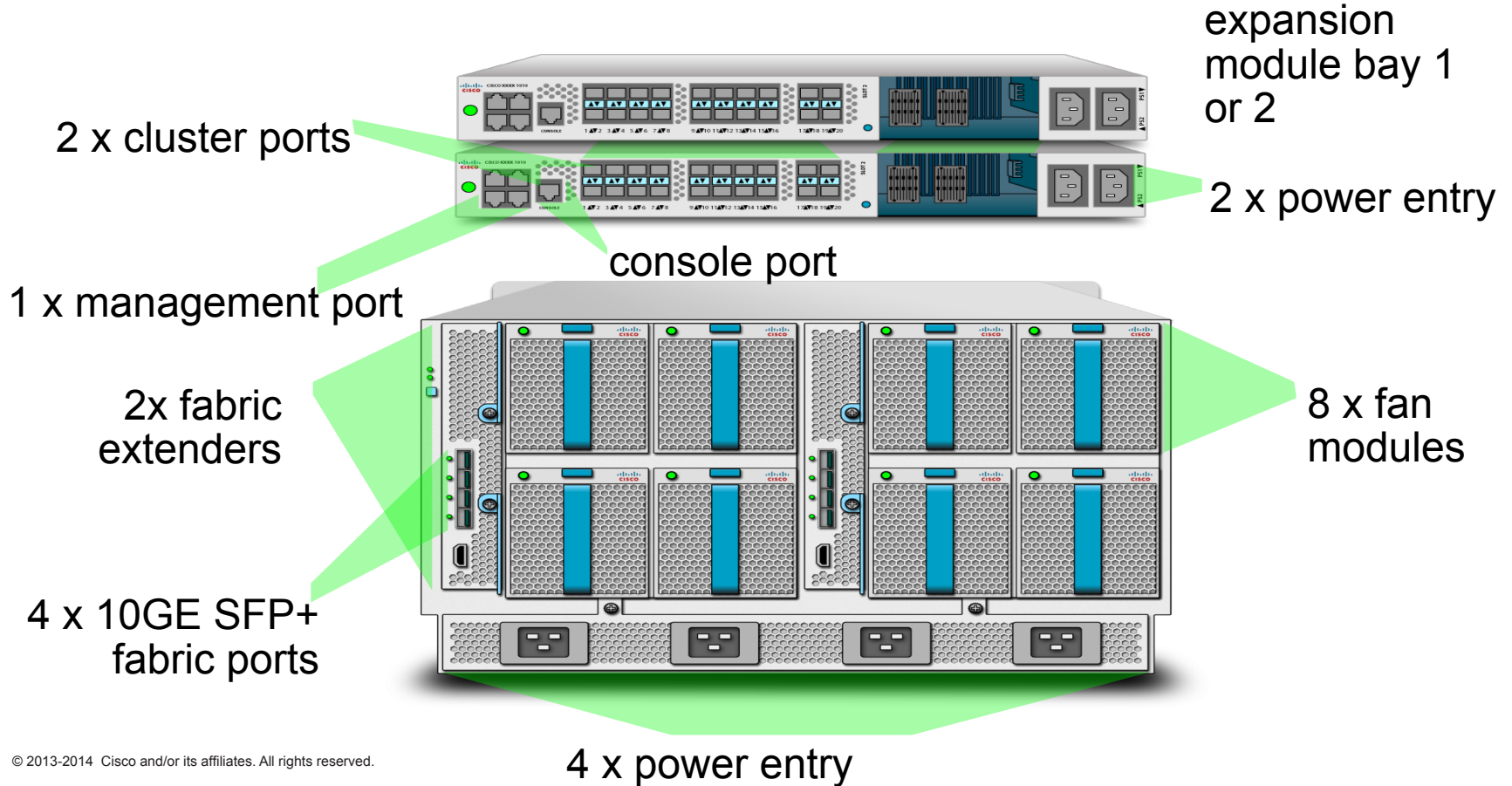


UCS Blade Slots

- Blades are numbered from 1-8, going left to right across rows if looking at the front of the chassis
- Can mix half-width blades with full-width blades
- If a full-width blade is in the system, it will be assigned the odd number associated with the left most slot



Rear View of UCS – Exhaust Air

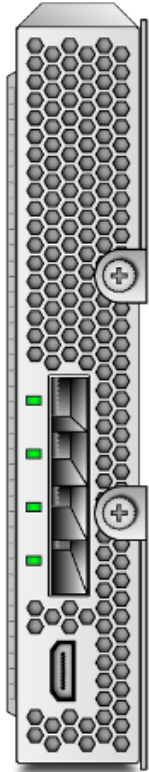




IO Module (IOM / FEX)



Fabric Extender (IOM)



- **Part of the FI: “distributed line card”**
 - Extends the I/O fabric into the blade chassis
 - Transparent to the user – managed completely by FI’s
 - Direct 10Gb connectivity between blades and Interconnect
- **Contains (CMC) – Chassis Management Controller**
 - Proxy for mgmt control plane – UCSM interface to blades
 - Key part of HW discovery process
- **I/O bandwidth**
 - 10Gb/port
 - 4 or 8 ports to FI – 8 or 32 ports to blades
 - Blade connects to both Fabric Extender slots in chassis

I/O Modules (Fabric Extender)



2104-XP

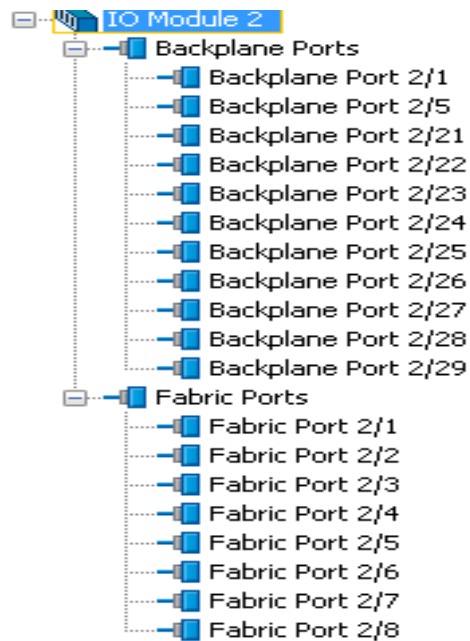
- 8x 10GE HIFs
- 4x 10GE NIFs
- 40Gbps



2208-XP

- 32x 10GE HIFs
- 8x 10GE NIFs
- 80Gbps

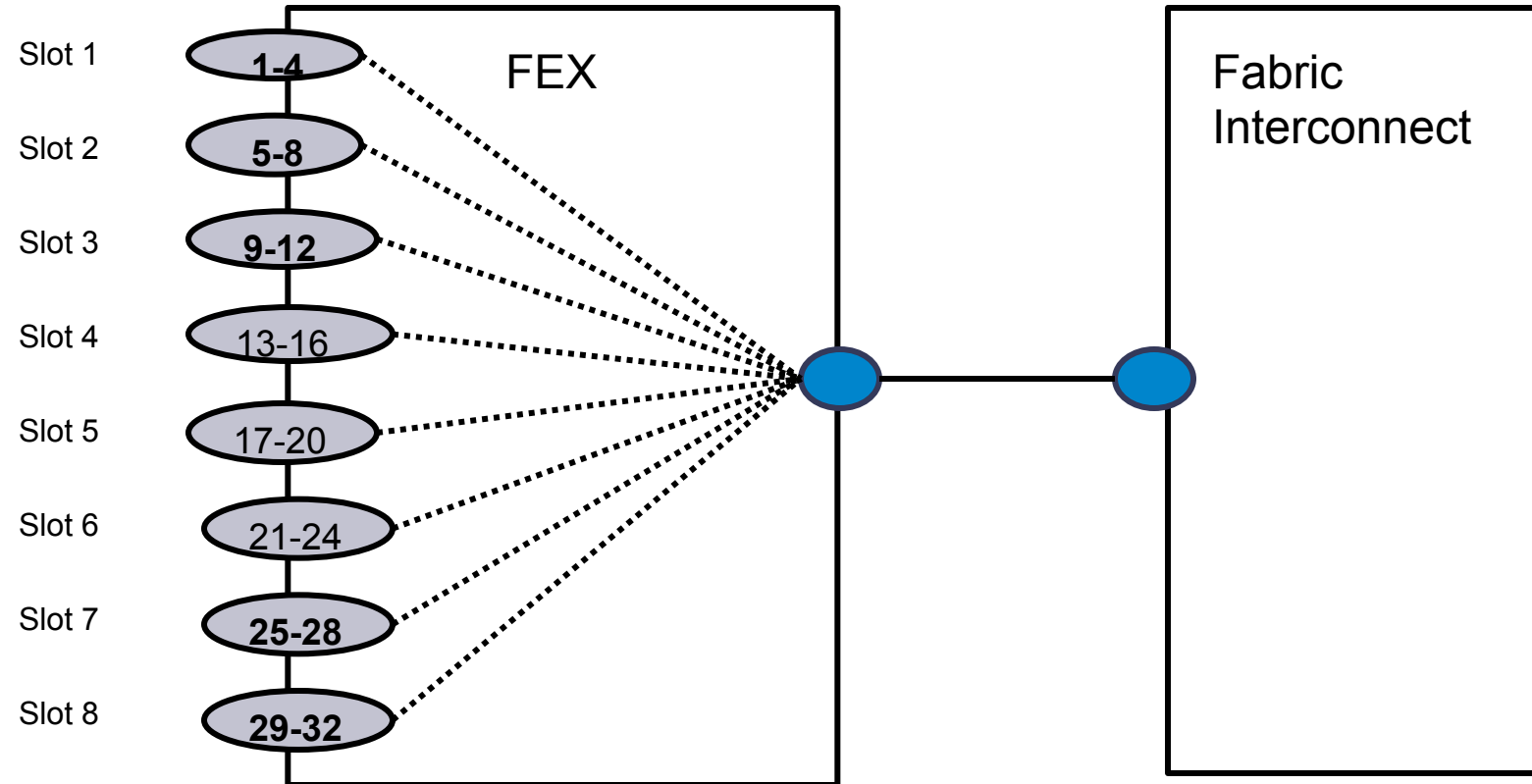
Soquel – Cisco UCS 2208XP



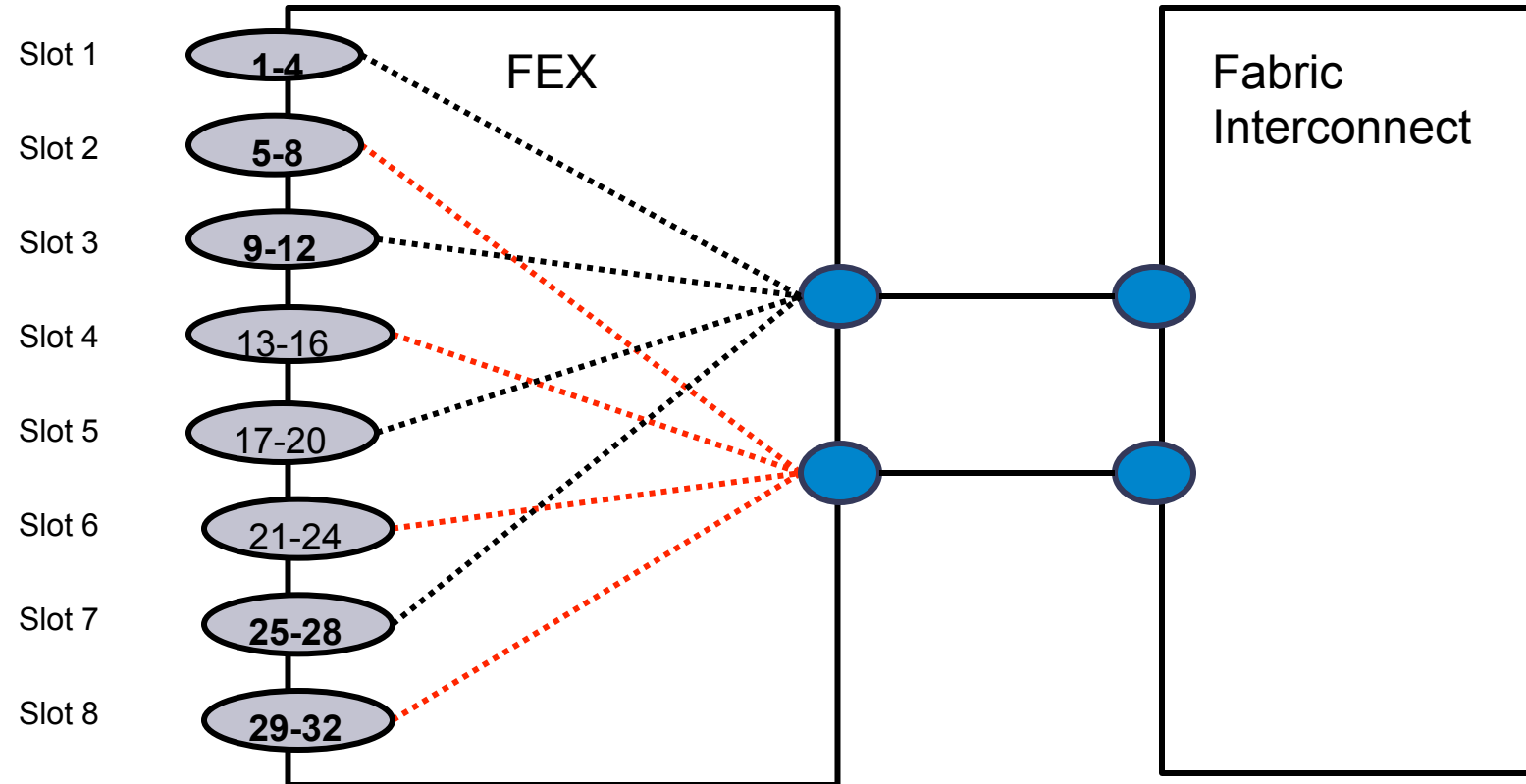
Properties

ID: 2	PID: UCS-IOM-2208XP
Fabric ID: B	Product Name: Cisco UCS 2208XP
Side: Right	Vendor: Cisco Systems Inc
Revision: 0	Serial Number (SN): FHH14300DN

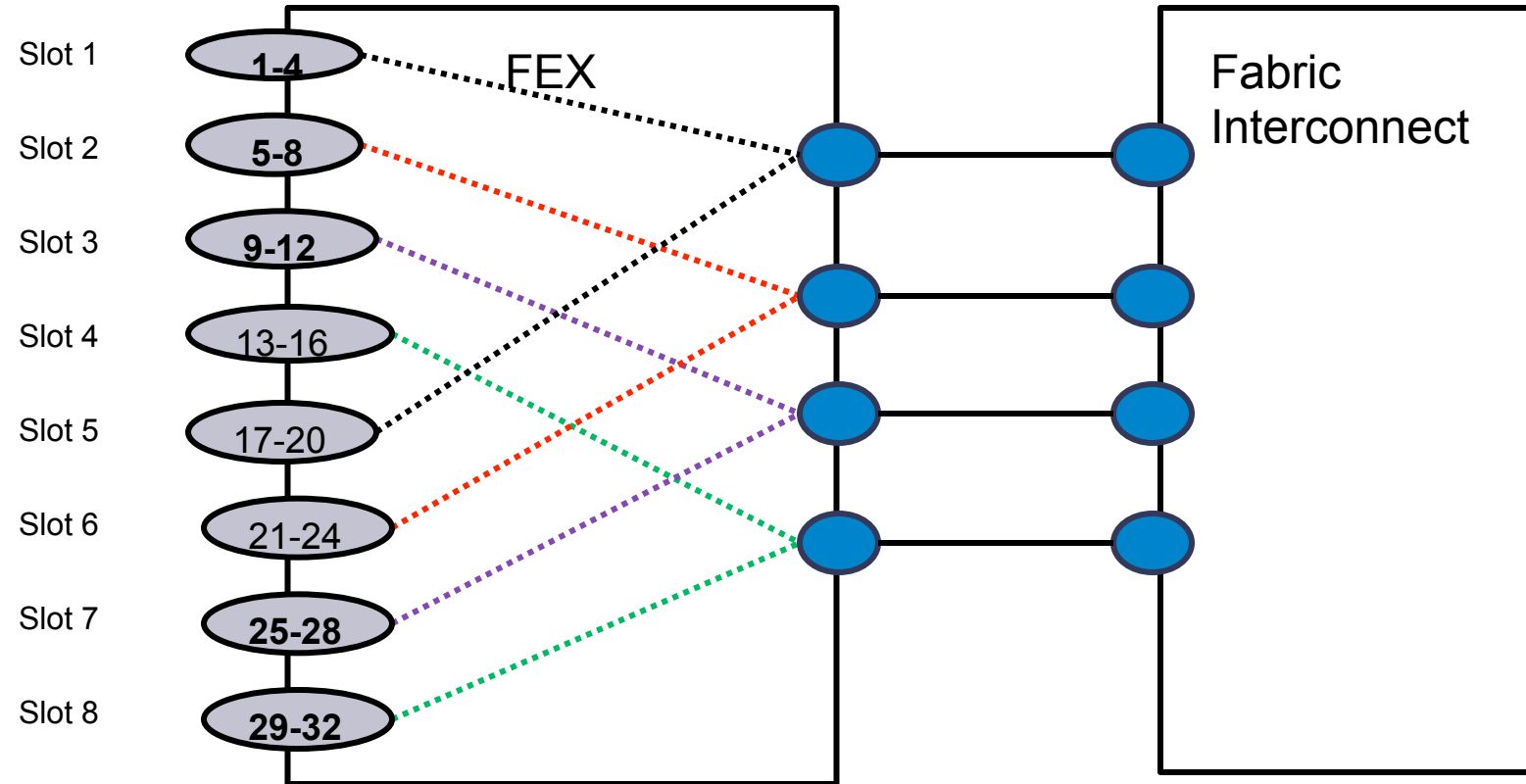
IO Module HIF to NIF Pinning (2208XP)



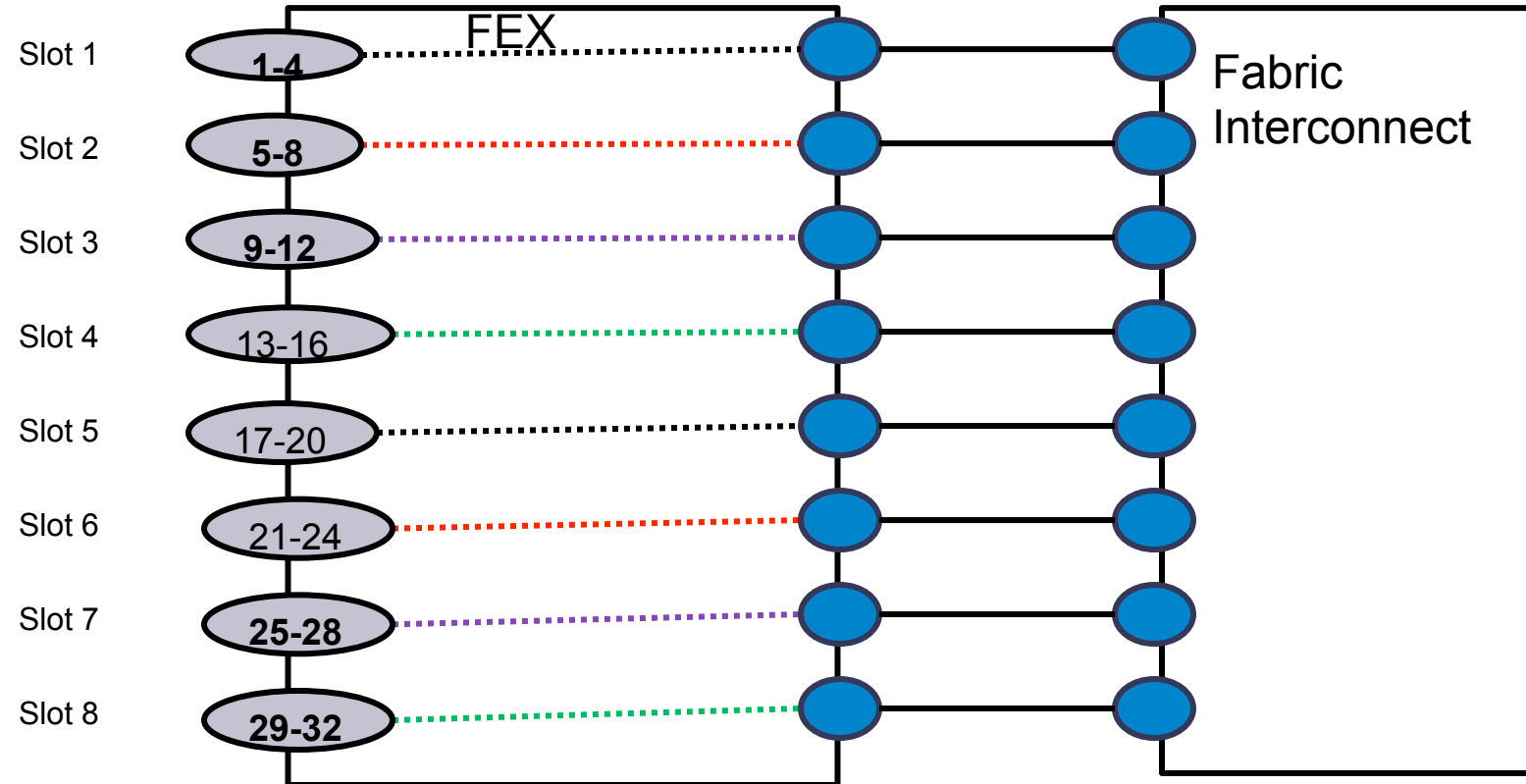
IO Module HIF to NIF Pinning (2208XP)



IO Module HIF to NIF Pinning (2208XP)



IO Module HIF to NIF Pinning (2208XP)



IOM and Failover

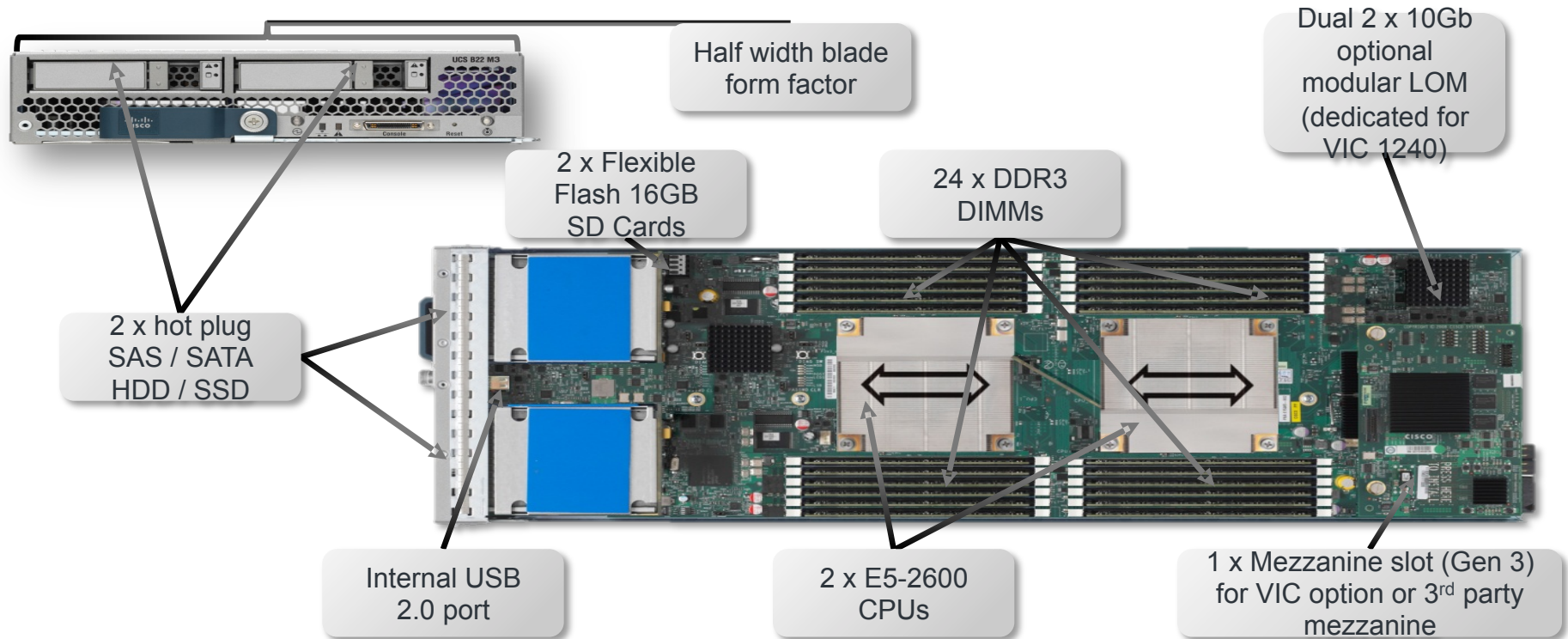
- What happens in a 4-link topology when you loose 1 link?
 - Server on that link will lose a data path
 - Since we only support 1, 2, 4 and 8 link topologies the UCS will fall back to 2 links with regards to blade to fabric port mapping if re-ack'd.
 - Since we don't support 3 links, and fall back to a 2 link topology you need to re-acknowledge the chassis (manual intervention) in order to re-map the fabric ports.
 - If 1 link failed out of 4 links and you haven't re-acknowledged the chassis, no pinning is changed, so, the remaining 3 links will still pass traffic. After re-acknowledge is done, 2-link policy will apply.
 - The servers VNICs mapped to the failed link will remain down unless failover has been configured



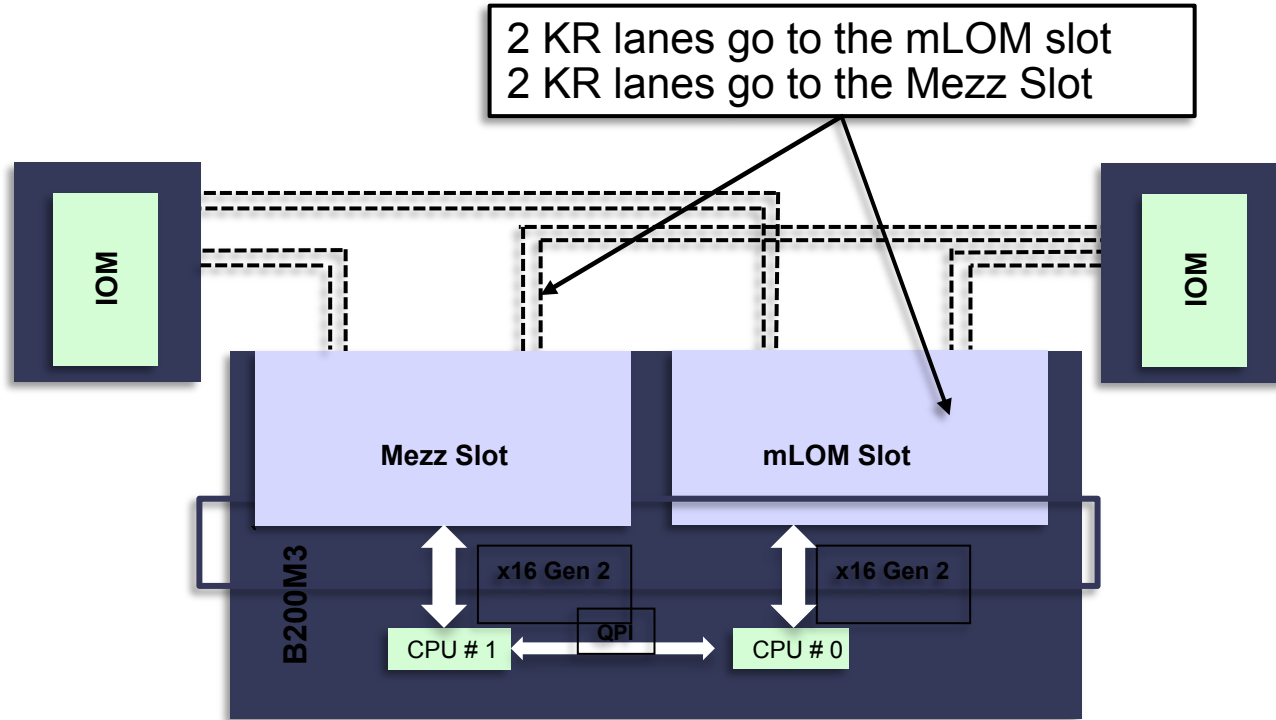
Blades and Adapters



Blades



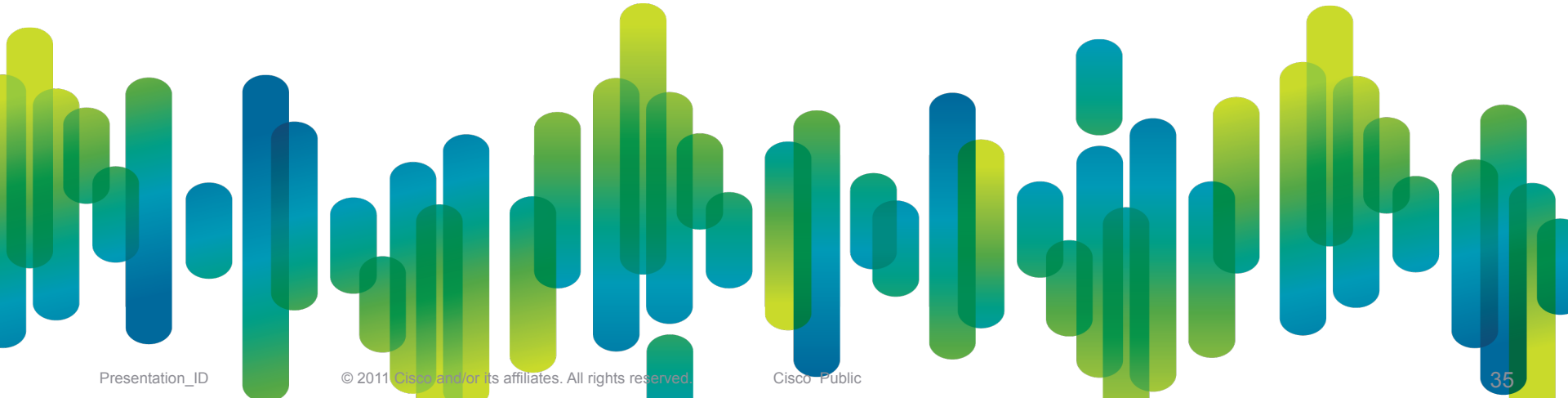
Backplane lanes for B200 M3



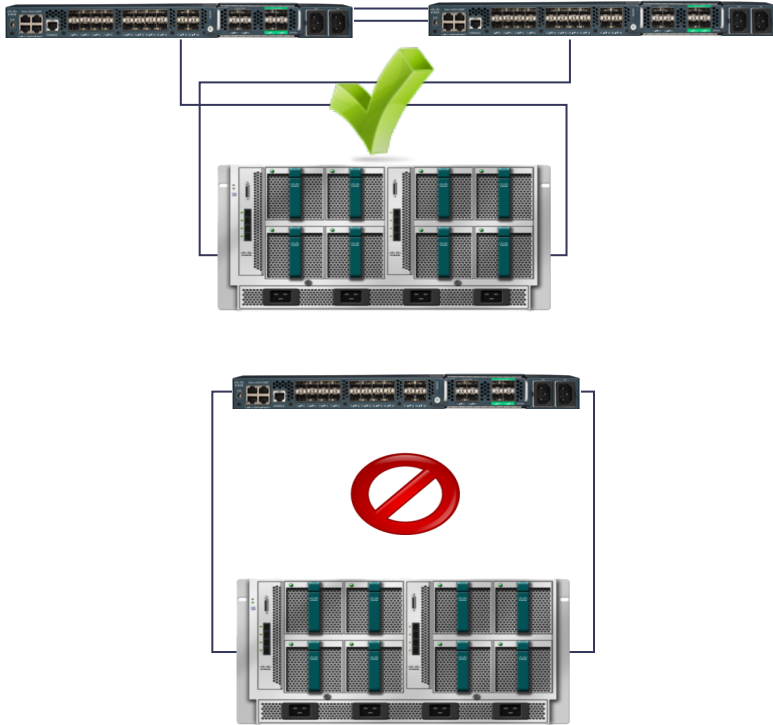
UCS VIC-1280 Features

- PCIe x16 Gen2 Host Interface
- Eight 10G DCE ports i.e. ports to IOM
- When paired with a UCS 6248UP switch and a UCS 2208XP IOM:
 - 4x10G mode
 - 128 VIFs (116 user VIFs)
- When paired with a UCS 6120XP/6140XP switch and a UCS 2104XP IOM:
 - 10G mode
 - 64 VIFs (58 user VIFs)

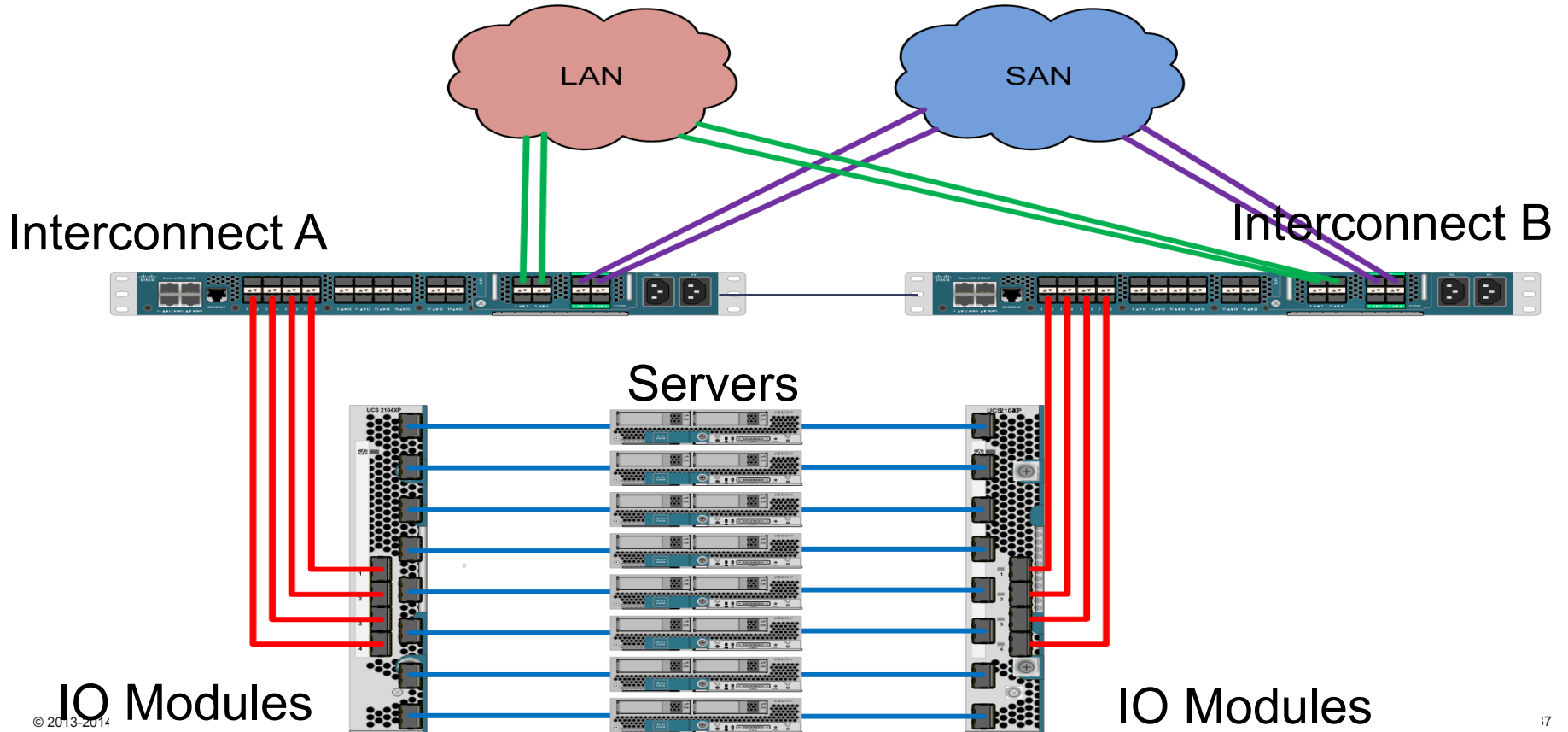
UCS Connectivity & Environmental



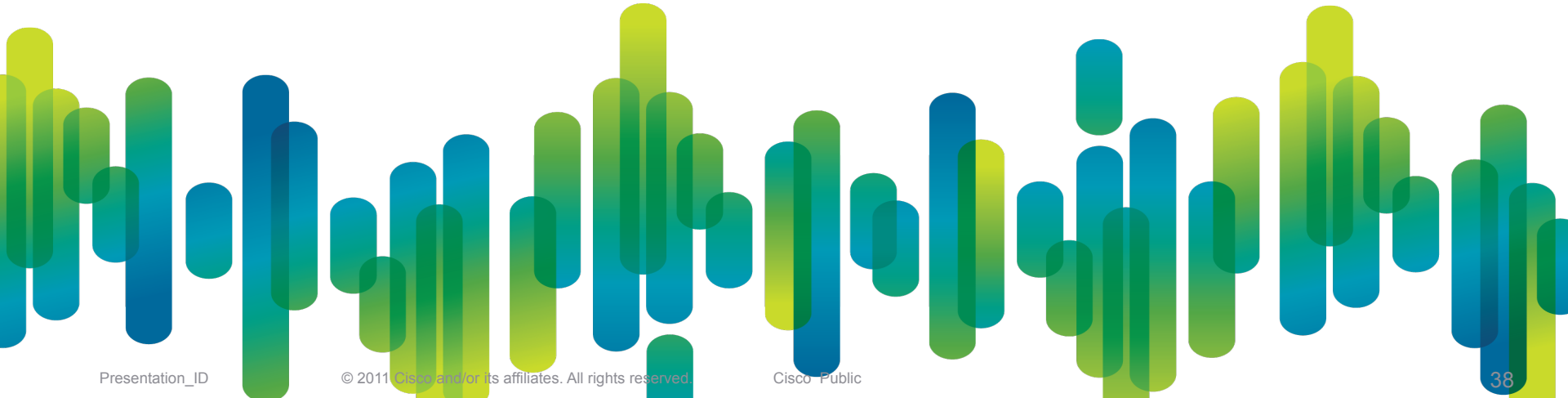
IOM to Fabric Interconnect Connectivity



Connectivity From Servers Upstream



Service Profiles & Stateless Computing



Traditional Server Deployment



Storage Administrator:

- **Configure LUN access**
 - Masking, binding, boot LUN
- **Configure switch**
 - Zoning, VSANs, QoS

Server Administrator:

- **Configure management LAN**
- **Upgrade firmware versions**
 - Chassis, BMC, BIOS, adapters
- **Configure BIOS settings**
- **Configure NIC settings**
- **Configure HBA settings**
- **Configure boot parameters**

Network Administrator:

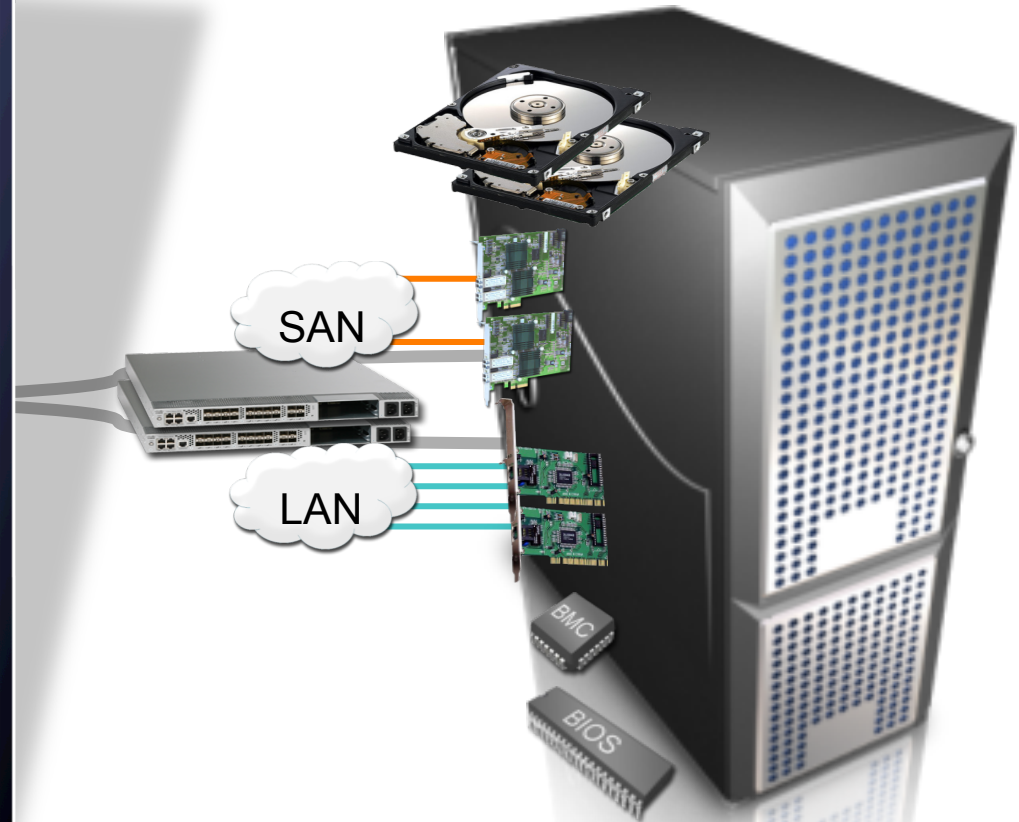
- **Configure LAN access**
 - Uplinks, VLANs
- **Configure policies**
 - QoS, ACLs

- Perform tasks for each server
- Inhibits “pay-as-you-grow” incremental deployment
 - Needs admin coordination every time
 - May incur downtime during deployments
- Complex server replacement, upgrade, migration process
 - Most of these tasks need to be performed for replacement server

UCS Serv Workload Centric

Cisco UCS Service Profile

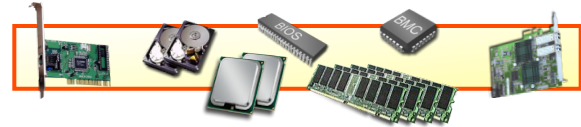
- NIC MACs
- HBA WWNs
- Server UUID
- VLAN Assignments
- VLAN Tagging
- FC Fabrics Assignments
- FC Boot Parameters
- Number of vNICs
- Boot order
- PXE settings
- IPMI Settings
- Number of vHBAs
- QoS
- Call Home
- Template Association
- Org & Sub Org Assoc.
- Server Pool Association
- Statistic Thresholds
- BIOS scrub actions
- Disk scrub actions
- BIOS firmware
- Adapter firmware



Service Profiles: Upgrades/Maintenance



Old Server
Chassis 1 Blade 1



New Server
Chassis 10 Blade 2

- Disassociate service profile from old server
- Associate service profile to new server
- Old server can be upgraded, retired or re-purposed

Service Profile Creation

The screenshot displays the Cisco Unified Computing System Manager interface. The main window title is "Cisco Unified Computing System Manager - cae-sj-ca3". The left-hand pane shows a navigation tree with "Servers" expanded, and "Service Profile Templates" selected. A context menu is open over the "rc" folder, with "Create Service Profile (expert)" highlighted. The right-hand pane shows the "Service Profile Templates" configuration page for the "root" node. It includes a "Fault Summary" section with four status icons (red X, orange exclamation mark, yellow exclamation mark, green exclamation mark) and their respective counts (0, 0, 5, 0). Below this is an "Actions" list with various creation options. A "Properties" section on the right shows "Name: root", "Description:" (empty), and "Level: root".

Left Pane (Navigation Tree):

- Servers
 - Service Profiles
 - Service Profile Templates
 - rc (Context Menu Open)

Context Menu (Open over rc):

- Show Navigator
- Create Service Profile
- Create Organization
- Create Service Profile (expert) (Highlighted)
- Create Service Profile Template
- Create Server Pool
- Create UUID Suffix Pool
- Create Service Profiles From Template
- Create Server Pool Policy Qualification
- Create Boot Policy
- Create BIOS Policy
- Create Ethernet Adapter Policy

Right Pane (Service Profile Templates - root):

Fault Summary:

Icon	Count
Red X	0
Orange !	0
Yellow !	5
Green !	0

Actions:

- Create Organization
- Create Service Profile
- Create Service Profile (expert)
- Create Service Profile Template
- Create Service Profiles From Template
- Create Server Pool
- Create UUID Suffix Pool
- Create Server Pool Policy Qualification
- Create Boot Policy

Properties:

- Name: root
- Description: [Empty]
- Level: root

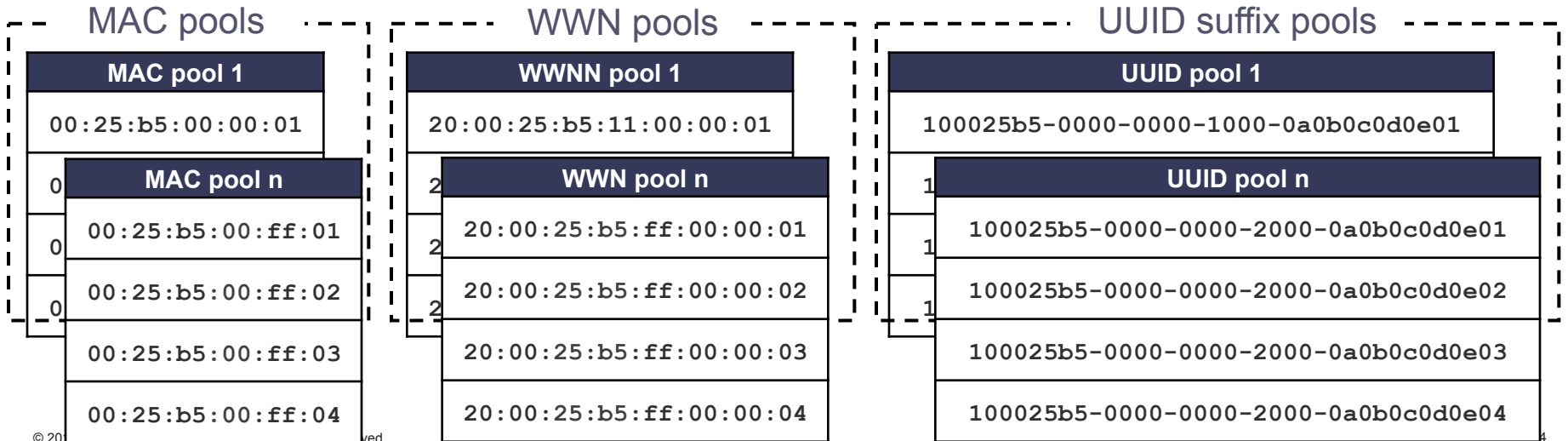
Pools, Policies, Templates

- Building block before we configure or build a server by using service profiles
- Pools – Predefined Resources
- Policies – Rules to be followed
- Templates – Common configuration built using pools and policies that can be applied for a specific OS, hypervisor, db, application.

Identity Resource Pools

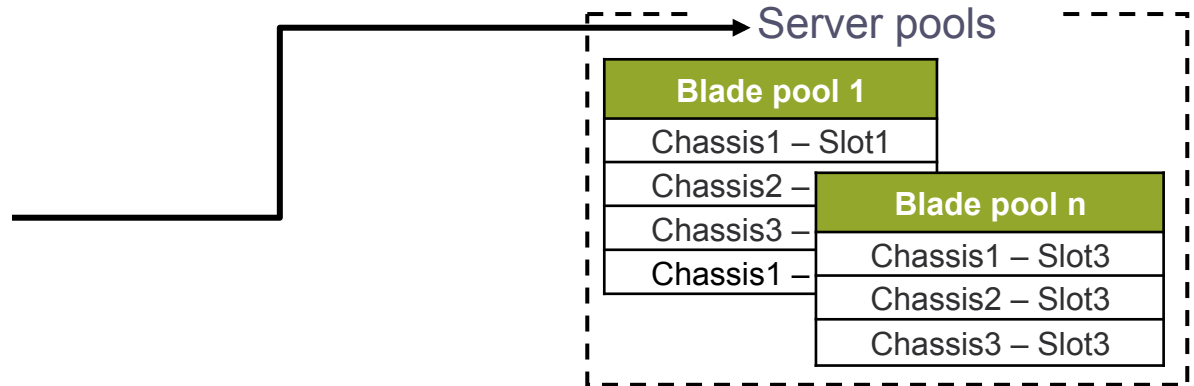
Managing server identity

- Used to automatically assign identities to server and interfaces
- Basis for stateless computing
- Incorporate Cisco OUI 00:25:b5 where appropriate



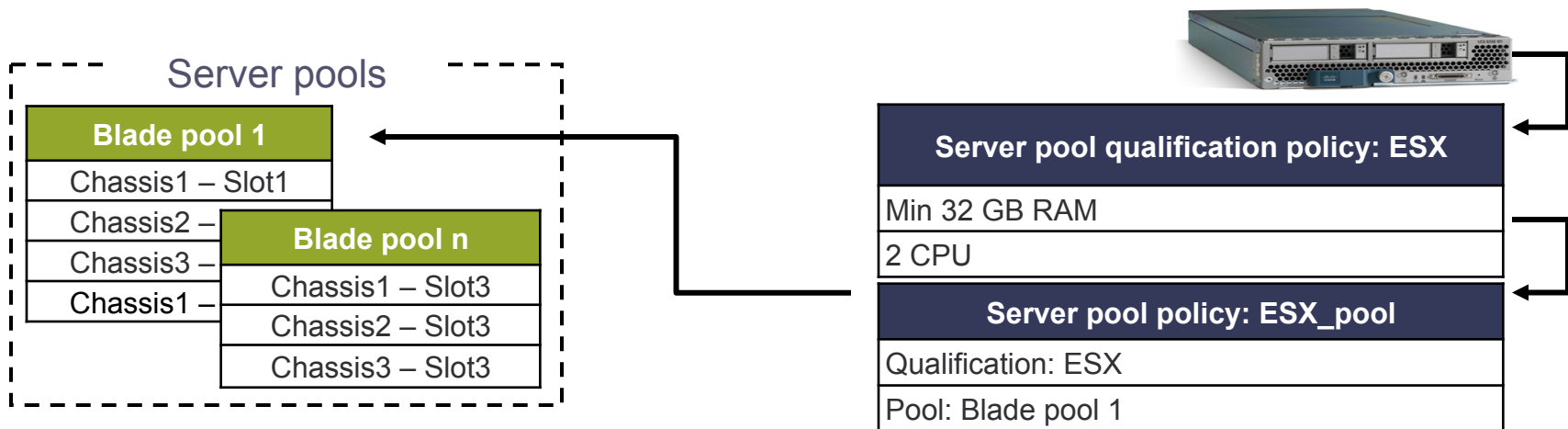
Server Pools

- Population of server pools
 - Manual – administratively defined
 - Automatic – using policies upon discovery
- Assigned to a service profile
 - Discovered, not-associated blades can be assigned



Automatic Server Pool Population

- Upon server blade discovery only
- Using policies
 - Server pool qualification policy – defines qualification criteria
 - Server pool policy – ties together qualification and pool

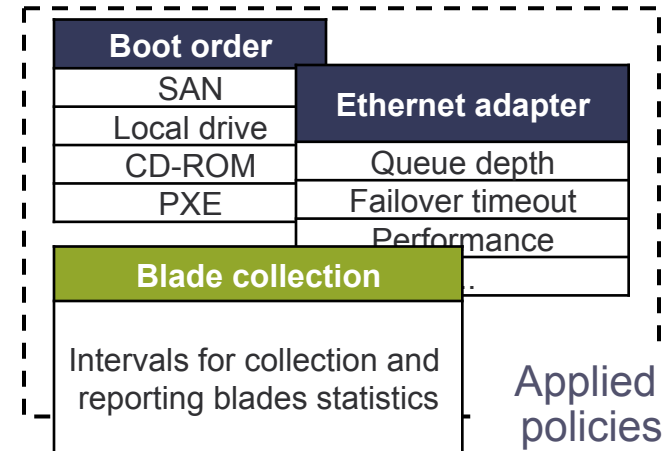


Policies Overview

- Policy driven management of UCS components
 - Ensures consistent computing environment
- Policy
 - Determines how UCS component act in a given circumstances
 - Separates functions within a system
 - Different polices defined for network, storage, server
- Used within service profiles



Service profile



Operational Policies

Policy Type	Policy description
Adapter	Assign/Customize adapter Tx/Rx Queues, TCO, RSS, TCP Offload
BIOS	BIOS settings - Turbo Boost, HT, SpeedStep, VT, RAS Memory, Console
Boot	Local Disk, LAN, SAN, CD/DVD
Host Firmware	Assign specific version of firmware to hardware devices, CIMC, Adapters, Storage Controller, BIOS version
IPMI profile	Server IPMI capability and ro/rw access type
Maintenance	Reboot policy, timer or user-ack
Power Control	Power Capping attributes
Scrub	Defines if servers state to be kept during discovery
Serial over LAN	Serial over LAN server capabilities
Server Pool	Auto-assign hardware to pools based on pre-defined qualifications

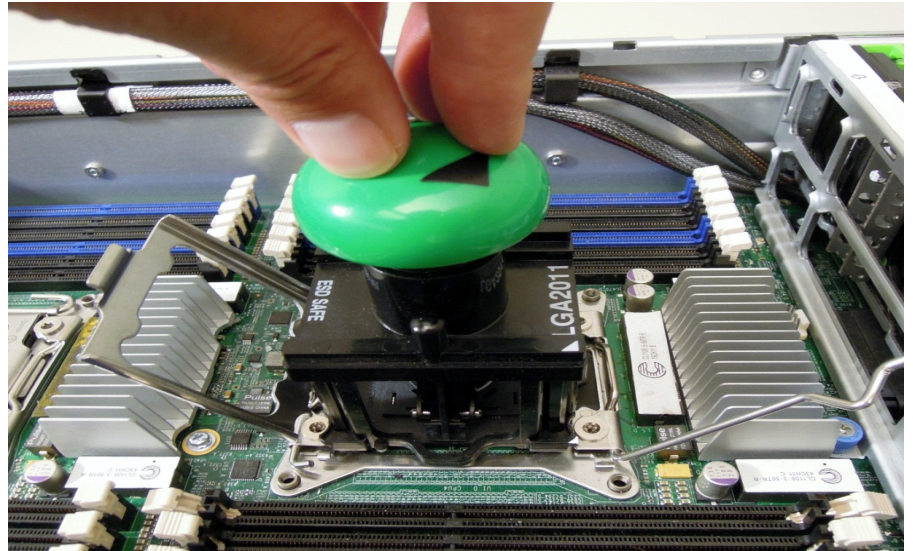
Part Identification and RMA

Part replacement / RMA

- TAC needs to troubleshoot before sending an RMA
- Follow proper ESD measures while replacing
- Let the cisco Field Engineer replace the parts if possible
- The SLA for the part replacement starts from the time the RMA is booked
- There is a cut off period for the NBD SLA
- Few parts need special considerations while replacing

Part replacement / RMA (Special Inst.)

- Parts with special consideration
 - CPUs on M3 server – have multiple pins. There is a special tool to replace the CPUs.
- <http://www.intel.com/support/motherboards/desktop/sb/CS-032579.htm>



Polling Question 2

Which topic would you like us to cover next on UCS session?

- a. Performance Troubleshooting
- b. LAN/Network Troubleshooting
- c. SAN/Storage Troubleshooting
- d. Server troubleshooting



UCS Upgrades



Things to consider


- Always consult Release Notes as they will cover gotchas and concerns in the upgrade process
- Upgrades from one version back will always work
- Check release notes about prior versions
 - If customer is really far behind it might require two upgrades to get to current code
- Schedule an maintenance window
 - FI and IOM will reboot during upgrade
 - Make sure network and storage fabric are redundant
- Highly recommended to backup UCSM configuration
- Upgrade Guides and videos located at:
http://www.cisco.com/en/US/products/ps10281/prod_installation_guides_list.html
- Upgrade process is not quick
- Impossible for QA to test every combination during testing

Downgrading

- Not always tested
- Generally done to 'rollback' in event of issues during upgrade
- Can be disruptive : New features may get activated and that will stop working if downgraded
- UCSM Backup is always recommended


Downloading UCS Firmware

Download Software

 Download Cart (0 items) [\[-\] Feedback](#) [Help](#)

[Downloads Home](#) > [Products](#) > [Servers - Unified Computing](#) > [Cisco UCS B-Series Blade Server Software](#) > [Unified Computing System \(UCS\) Server Software Bundle-2.2\(1d\)](#)

Cisco UCS B-Series Blade Server Software





[Expand All](#) | [Collapse All](#)

▼ Suggested
[2.2\(1d\)](#) ★
[2.1\(3c\)](#) ★
[2.0\(5f\)](#) ★

▼ Latest
[2.1\(3e\)](#)
[2.2\(3a\)](#)
[3.0\(1c\)](#)
[1.4\(4i\)](#)

▶ All Releases
▶ Deferred Releases

Release 2.2(1d)

[Release Notes for 2.2\(1d\)](#)  [Add Devices](#)
 [Add Notification](#)

File Information	Release Date	Size	
Software for the UCS B-Series blade server products ucs-k9-bundle-b-series.2.2.1d.B.bin	10-APR-2014	430.18 MB	Download Add to cart Publish
Related Software			
Software for the UCS C-Series rack-mounted servers. This is software for U CS Manager based C-Series management. ucs-k9-bundle-c-series.2.2.1d.C.bin	10-APR-2014	527.35 MB	Download Add to cart Publish
The UCS Infrastructure Software Bundle contains: - NX-OS software for the U CS 6xxx Fabric Interconnects - Firmware for the fabric extenders and I/O mo dules - UCS Manager - Chassis Management Controller - UCSM Capability Ca talog. ucs-k9-bundle-infra.2.2.1d.A.bin	10-APR-2014	491.22 MB	Download Add to cart Publish

Bundles

- Bundles are downloaded from the “Download Tasks” tab
- Downloads can be through desktop or using ftp/scp/sftp/tftp

The screenshot shows the Cisco Unified Computing System Manager interface. The main window is titled "Cisco Unified Computing System Manager - bgl-sv-6140-test-A". The "Download Tasks" tab is active, displaying a table of downloaded bundles. The table has columns for "Filename", "Path", "Transfer State", and "FSM Status".

Filename	Path	Transfer State	FSM Status
ucs-dplug.5.0.3.N2.2.03b.gbin		Downloaded	Nop
ucs-dplug.5.2.3.N2.2.21b.gbin		Downloaded	Nop
ucs-k9-bundle-b-series.2.0.5f...		Downloaded	Nop
ucs-k9-bundle-b-series.2.1.1e...		Downloaded	Nop
ucs-k9-bundle-b-series.2.1.3b...		Downloaded	Nop

Below the table, the "Details" section is expanded to show the "FSM" tab. The "Actions" section includes "Delete" and "Restart Download". The "Properties" section shows:

- Protocol: **Local**
- Server: **local**
- Filename: **ucs-dplug.5.0.3.N2.2.03b.gbin**

The "Status" section shows:

- Transfer State: **Downloaded**
- Downloaded Image Size (KB): **2252**
- Progress Status: **100%** (indicated by a blue progress bar)
- Remote Invocation Result: (empty)
- Remote Invocation Description: (empty)

At the bottom of the interface, the status bar shows "Logged in as admin@10.76.78.109" and "System Time: 2014-09-15T16:00".

Bundles

Packages can be viewed/deleted from “Packages” tab

The screenshot displays the Cisco Unified Computing System Manager (UCSM) interface. The main window is titled "Cisco Unified Computing System Manager - bgl-sv-6140-test-A". The left sidebar shows a "Fault Summary" with 2 critical, 52 warning, 5 error, and 43 info faults. Below this are tabs for "Equipment", "Servers", "LAN", "SAN", "VM", and "Admin". The "Equipment" tab is active, showing a list of equipment items.

The main content area is titled "Equipment" and contains several sub-tabs: "Main Topology View", "Fabric Interconnects", "Servers", "Thermal", "Decommissioned", "Firmware Management", "Policies", and "Faults". The "Firmware Management" sub-tab is active, showing a list of installed firmware and bundles. The "Packages" sub-tab is selected, displaying a table of installed packages.

Name	Type	State	Vendor	Version	Deleted on Fabric
ucs-b200-m3-bios.B200M3.2.1.3a.0_PCH_.030920141	Image	Active			
ucs-dplug.4.1.3.N2.1.3n.gbin	Image	Active			
ucs-dplug.5.2.3.N2.2.21b.gbin	Image	Active			
ucs-k9-bundle-b-series.2.0.5f.B.bin	B Series Bundle	Active		2.0(5f)B	
ucs-k9-bundle-b-series.2.1.1b.B.bin	B Series Bundle	Active		2.1(1b)B	
ucs-k9-bundle-b-series.2.1.1e.B.bin	B Series Bundle	Active		2.1(1e)B	
ucs-k9-bundle-b-series.2.1.3b.B.bin	B Series Bundle	Active		2.1(3b)B	
ucs-k9-bundle-b-series.2.1.3c.B.bin	B Series Bundle	Active		2.1(3c)B	
ucs-k9-bundle-b-series.2.2.1b.B.bin	B Series Bundle	Active		2.2(1b)B	
ucs-k9-bundle-b-series.2.2.1d.B.bin	B Series Bundle	Active		2.2(1d)B	
ucs-k9-bundle-infra.2.0.5f.A.bin	Infrastructure Bundle	Active		2.0(5f)A	
ucs-k9-bundle-infra.2.1.1b.A.bin	Infrastructure Bundle	Active		2.1(1b)A	
ucs-k9-bundle-infra.2.1.3b.A.bin	Infrastructure Bundle	Active		2.1(3b)A	
ucs-k9-bundle-infra.2.2.1b.A.bin	Infrastructure Bundle	Active		2.2(1b)A	
ucs-k9-bundle-infra.2.2.2c.A.bin	Infrastructure Bundle	Active		2.2(2c)A	

At the bottom of the interface, there are buttons for "Save Changes" and "Reset Values". The status bar at the very bottom shows "Logged in as admin@10.76.78.109" and "System Time: 2014-09-15T16:01".

Upgrade Types

MANUAL UPGRADE

- Manually update each component/endpoint
- Manually activate each component/endpoint
- Not system controlled : Each operation has to be done manually in the order specified by the Upgrade Guide(s)

AUTO-INSTALL

- This is system controlled
- Components do not require to be updated/activated individually
- System takes care of the order of operations

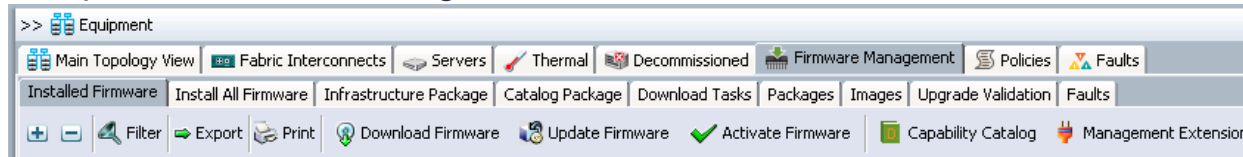
- Much easier than manual install but offers lesser granularity

Upgrade Process-Manual Install

- Again always consult release notes
- Upgrade through GUI is easiest
- General Process is
 - Backup UCS Config (Full & All Config)
 - Download code
 - Update components
 - Activate components in order of (Check RN cause order can change)
 - Interface cards – Set Startup Only
 - CIMC
 - IOM – Set Startup Only
 - UCSM
 - FI

Firmware Management Definition

- Update
 - –Copies the firmware to the backup partition on an endpoint
 - –Not disruptive
 - –Can be done to all devices at the same time
- Activate
 - –Firmware in the backup partition is set to active (startup version)
 - –Activates the startup version on the endpoint
 - –Disruptive
 - –Follow specific order according to documentation





UCS Upgrade Live Demo



Updating Components

- Update means copy new code to backup location of all UCSM components
- Simply stages the new code
- Can update all components at once

Update Firmware

Filter: ALL | Select: Version Bundle | Set Version: | Set Bundle: 1.4(2b)A

Name	Model	Running Version	Startup Version	Backup Version	Update Status
Chassis					
Chassis 1	Cisco UCS 5108				
IO Modules					
IO Module 1	Cisco UCS 2104XP	2.0(1m)	2.0(1m)	2.0(0.276)	Ready
IO Module 2	Cisco UCS 2104XP	2.0(1m)	2.0(1m)	2.0(0.276)	Ready
Servers					
Server 1	Cisco UCS B200 M1				
Adapters					
Adapter 1	Cisco UCS M8 1KR	2.0(1m)	2.0(1m)	2.0(0.276)	Ready
CIMC Controller	Cisco UCS B200 M1	2.0(1m)	2.0(1m)	2.0(0.276)	Ready
Server 2	Cisco UCS B200 M1				
Adapters					
Adapter 1	Cisco UCS M8 1KR	2.0(1m)	2.0(1m)	2.0(0.276)	Ready
CIMC Controller	Cisco UCS B200 M1	2.0(1m)	2.0(1m)	2.0(0.276)	Ready
Server 8	Cisco UCS B200 M1				
Adapters					
Adapter 1	Cisco UCS M71KR-E	2.0(0.276)	2.0(0.276)	2.0(0.239)	Ready

OK Apply Cancel Help

Updating Components

- Time to update will vary based off component
- IOMs take a long time. Up to 5 minutes
- If any component has issues check FSM for that component
- Update process does not work on FI
- Once everything is in “Ready” state you can move to Activate

Activate Blade Components

- Recommended Method is to use Policies
 - Host Firmware Policy to apply latest BIOS, Board Controller, Adapters, etc.



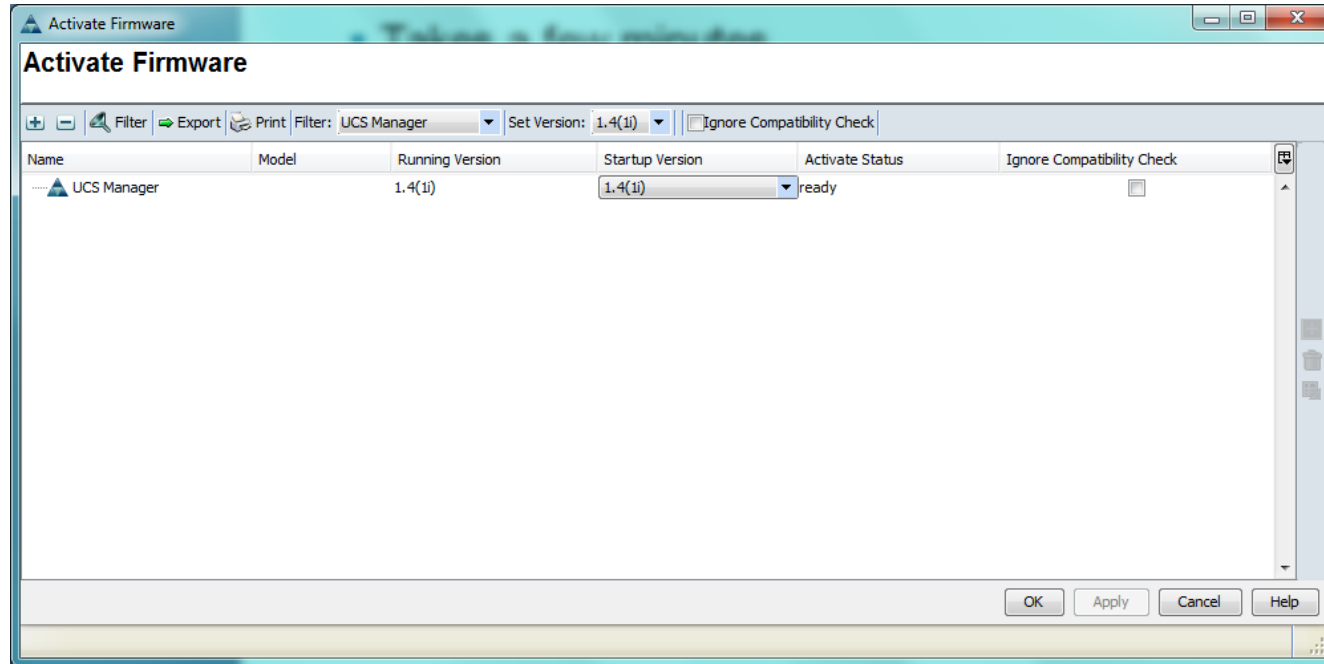
The image cannot be displayed. Your computer may not have enough memory to open the image, or the image may have been corrupted. Restart your computer, and then open the file again. If the red x still appears, you may have to delete the image and then insert it again.



The image cannot be displayed. Your computer may not have enough memory to open the image, or the image may have been corrupted. Restart your computer, and then open the file again. If the red x still appears, you may have to delete the image and then insert it again.

Activate UCSM

- Will cause UCSM to disconnect
- Takes a few minutes



Activate Fabric Interconnect

- Recommended to activate one FI at a time
- A complete maintenance will not occur
 - All traffic via one Fabric will fail as the FI reboots to complete the Upgrade
 - All Network and FC traffic should failover to second Fabric
- Highly recommended to have an maintenance window
 - Part of the process is to reboot connected IOM as well
 - Can take up to 10-15 minutes for FI and all IOM to come back online
- If any failure during first FI upgrade **STOP!** Do not attempt to upgrade second FI
- Activate the other FI

Important Note : Before proceeding to Activate the other FI, please check if all Ethernet and FC traffic has come UP via the first Fabric. If that is not the case, please **STOP** and call TAC

Firmware Auto-Install

- Firmware Auto-Install implements package version based upgrades for both UCS Infrastructure components and Server components
- Firmware Auto-Install can not be used to upgrade Management Extensions and Capability Catalog. These are simple occasional updates in UCSM and hence left under user control.
- It is a two step process - “Install Infrastructure Firmware” and “Install Server Firmware”.
- It is recommended to run “Install Infrastructure Firmware” first and then “Install Server Firmware”
- Firmware Auto-Install is available UCSM 2.1 onwards. However it can be used for 1.4/2.0 to 2.1 upgrade. User has to manually upgrade UCS Manager to 2.1 and then start using the feature. This manual upgrade of UCS Manager is not required for upgrade from 2..1 to post-2.1 versions.
- All existing firmware upgrade mechanisms are retained. For users who do not want to use Auto-Install, they can continue to use existing documented way of doing firmware upgrades.

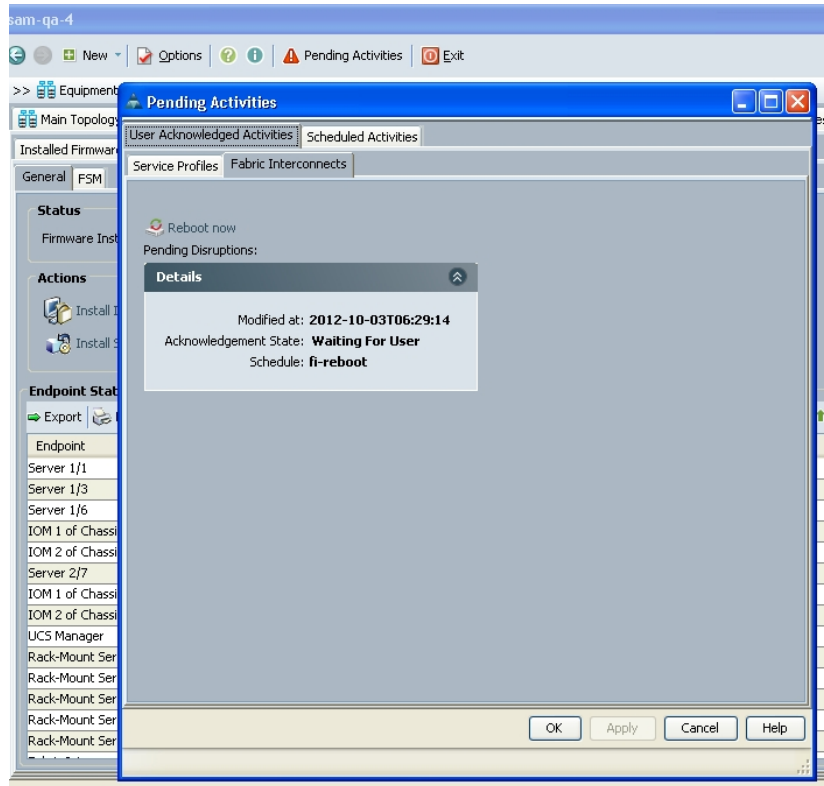
Install Infrastructure Firmware

- Install Infrastructure Firmware
- This is the sequence followed by “Install Infrastructure Firmware”
 1. Upgrade UCSM
 2. Update backup image of all IOMs
 3. Activate all IOMs with set startup option
 4. Activate secondary Fabric Interconnect
 5. Wait for User Acknowledgement***
 6. Activate primary Fabric Interconnect

Install Infrastructure Firmware – User Acknowledgement for primary FI

- “Install Infra” expects an explicit permission from user to start firmware upgrade on primary Fabric Interconnect.
- This is necessary to protect the data path for servers.
- As part of “Install Infra”, secondary FI’s firmware is upgraded first.
- Secondary FI reboots as part of firmware activation.
- After secondary FI comes online, users are expected to check if the data path is ready for a reboot of primary FI
- **When users have ensured that the data path is ready, they can acknowledge reboot of primary FI.**
- **Auto-Install will NOT check if paths/traffic is UP before it brings up the option for Primary FI Reboot**

Acknowledge Primary FI reboot



Install Server Firmware – Screen 1

Status

Firmware Installer: **Ready**

Actions

- Install Infrastructure Firmware
- Install Server Firmware

Infrastructure Firmware

Running Version: **2.1(0.455)A, 2.1(0.413)A**
Startup Version: **2.1(0.413)A**
Owner: **Local**

Endpoint Status

Export Print

Show: All Ready Upgrading Pending

Endpoint	Package Version	Oper State	Maintena
Server 1/1	2.0(2q)B, 2.1(0.406)B	Ready	
Server 1/3		Ready	
Server 1/5	2.0(2a)B, 2.1(0.406)B	Ready	

Install Server Firmware – Screen 3

Install Server Firmware

Unified Computing System Manager

Install Server Firmware

- ✓ Prerequisites
- ✓ **Select Package Versions**
- ✗ Select Host Firmware Packages
- ✗ Host Firmware Package Dependencies
- ✗ Impacted Endpoints Summary

Select Package Versions

It is recommended to choose both **B-Series Blade Server Software** version and **C-Series Rack-Mount Server Software** version, if you have both blade servers and rack-mount servers managed by UCSM. You will have the option to control firmware upgrade on individual servers by choosing appropriate host firmware packages in the next screen.

B-Series Blade Server Software

New Version: 2.1(0.406)B

C-Series Rack-Mount Server Software

New Version: 2.1(0.404)C

If the desired packages are not found then click [here](#) to go to the download firmware screen.

< Prev Next > Install Cancel

Install Server Firmware – Screen 4

Install Server Firmware

Unified Computing System Manager

Select Host Firmware Packages

Install Server Firmware

- ✓ Prerequisites
- ✓ Select Package Versions
- ✓ **Select Host Firmware Packages**
- Host Firmware Package Dependencies
- Impacted Endpoints Summary

Warning

You have selected version **2.1(0.406)B** of B-Series Blade Server Software.
You have selected version **2.1(0.404)C** of C-Series Rack-Mount Server Software.
All selected host packs below will be **modified** with images from the above mentioned package(s).
Selecting **default** host firmware package may result in reboot of associated service profiles without explicit host firmware package and also firmware upgrade of un-associated servers.

Host Firmware Packages

- ✓ root
 - ✓ 406B [2.0(2q)B]
 - ✓ default [2.1(0.406)B]
- ✓ suborg
 - ✓ hfp-in-sub-org [2.0(4a)B]
 - ✓ test [2.0(4a)B]
 - ✓ testnew [2.0(4a)B]

< Prev Next > Install Cancel

Install Server Firmware – Screen 5

Install Server Firmware

Unified Computing System Manager

Host Firmware Package Dependencies

1. ✓ Prerequisites
2. ✓ Select Package Versions
3. ✓ Select Host Firmware Packages
4. ✓ **Host Firmware Package Dependencies**
5. Impacted Endpoints
Summary

Print

Name	Host Pack DN	Service Profile DN
Host Firmware Package - 406B	org-root/fw-host-pack-406B	
Service Profile - test		org-root/ls-test
Service Profile - varun		org-root/ls-varun
Host Firmware Package - default	org-root/fw-host-pack-default	
Service Profile - qlogic		org-root/ls-qlogic

< Prev Next > Install Cancel

Install Server Firmware – Screen 6

Install Server Firmware

Unified Computing System Manager

Install Server Firmware

- ✓ Prerequisites
- ✓ Select Package Versions
- ✓ Select Host Firmware Packages
- ✓ Host Firmware Package Dependencies
- ✓ **Impacted Endpoints Summary**

Impacted Endpoints Summary

Activate - These endpoints will be activated to specified packages and reset (updated if needed).
Reset - These endpoints will be rebooted after applying the packages.
No Impact - Already running required firmware versions.

Firmware Upgrade Configuration

System Name: **bgl-samc19**
B-Series Blade Server Software -> New Version: **2.1(0.406)B**
C-Series Rack-Mount Server Software -> New Version: **2.1(0.404)C**

Impacted Endpoints

Export | Print | Show: All

Show: All Disruptive Non Disruptive

Name	Impact	Type	Chassis ID	Server ID	Reboot Policy	Maintenance Policy
Server 1/1	Reset	Server	1	1		
Server 1/6	Reset	Server	1	6		

Server CIMC Adapter RAID Controller
Board Controller Server BIOS Service Profile

< Prev Next > Install Cancel

61XX upgrade to 62XX

- Official Document
 - http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/upgrading/from1.3/to2.0/UpgradingCiscoUCSFrom1.3To2.0_chapter5.pdf
- Port Concerns
 - Since a UCS 6140 has 40 ports on slot 1 and a UCS 6248 has 32 slots, any ports currently configured on ports 1/33 to 1/40 of the UCS 6140 will have to be moved during the upgrade process
 - Remember Unified Ports are hard set. Change requires reboot
 - Spend a lot of time considering your port options



UCS Troubleshooting





UCS Upgrade Live Demo





UCS Troubleshooting



UCS System Components



- UCS manager
- UCS Fabric Interconnect (6xxx)
- UCS Fabric Extenders (2xxx)
- UCS 5100 Blade Chassis
- UCS B-series servers
- Nexus 2000 switch
- UCS C-series servers
- UCS Network adapters



Fault properties-1

Property Name	Description
Severity	Severity of the Fault e.g Critical, Major, Minor, Warning, Informational.
Last Transition	The day and time on which the severity for the fault last changed.
Affected Object	Component affected
Description	
ID	An Unique identifier number
Type	Type as explained before

Fault properties-2

Severity	Description
Cleared At	Day and time when fault created
Code	Unique fault code (Available on CCO)
Number of Occurrences	Number of times the same fault occurred
Original Severity	
Previous Severity	
Highest Severity	

Events per Component

FarNorth-A# scope server ?
WORD <chassis-id>/<blade-id>
dynamic-uuid Dynamic UUID

FarNorth-A# scope server 1/1
FarNorth-A /chassis/server # show event

The screenshot displays the Cisco Unified Computing System Manager interface. On the left, a navigation tree shows the hierarchy: Equipment > Chassis > Chassis 1 > Servers > Server 1. The main pane shows a list of events for Server 1. The table below represents the data shown in the screenshot.

Affected object	Code	ID	Cause	Created at	User	Description
sys/chassis-1/blade-1	E4195237	451801	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:END]: Configure primary fabric interconnect for server 1/1 host OS (service profile: org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAGE:sam...
sys/chassis-1/blade-1	E4195238	451802	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:ASYNC]: Configure secondary fabric interconnect for server 1/1 host OS (service profile: org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAG...
sys/chassis-1/blade-1	E4195238	451803	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:STALE-SUCCESS]: Configure secondary fabric interconnect for server 1/1 host OS (service profile: org-root/org-CAE/Is-Server1-Chassis1-Palo)(F...
sys/chassis-1/blade-1	E4195238	451804	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:END]: Configure secondary fabric interconnect for server 1/1 host OS (service profile: org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAGE:s...
sys/chassis-1/blade-1	E4195239	451805	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:SKIP]: Configure adapter in server 1/1 for host OS (service profile: org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAGE:sam:dme:ComputeBl...
sys/chassis-1/blade-1	E4195239	451806	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:END]: Configure adapter in server 1/1 for host OS (service profile: org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAGE:sam:dme:ComputeBl...
sys/chassis-1/blade-1	E4195240	451807	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:SKIP]: Disconnect pre-boot environment agent for server 1/1 (service profile: org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAGE:sam:dme:ComputeBladeAssociate:ha...
sys/chassis-1/blade-1	E4195240	451808	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:END]: Disconnect pre-boot environment agent for server 1/1 (service profile: org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAGE:sam:dme:ComputeBladeAssociate:ha...
sys/chassis-1/blade-1	E4195241	451809	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:SKIP]: (FSM-STAGE:sam:dme:ComputeBladeAssociate:ConfigSQL)
sys/chassis-1/blade-1	E4195241	451810	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:END]: (FSM-STAGE:sam:dme:ComputeBladeAssociate:ConfigSQL)
sys/chassis-1/blade-1	E4195242	451811	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:SKIP]: Prepare server 1/1 for booting host OS (FSM-STAGE:sam:dme:ComputeBladeAssociate:PrepareForBoot)
sys/chassis-1/blade-1	E4195242	451812	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:END]: Prepare server 1/1 for booting host OS (FSM-STAGE:sam:dme:ComputeBladeAssociate:PrepareForBoot)
sys/chassis-1/blade-1	E4195243	451813	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:SKIP]: Configure logical UUID for server 1/1 (service profile: org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAGE:sam:dme:ComputeBladeAs...
sys/chassis-1/blade-1	E4195243	451814	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:END]: Configure logical UUID for server 1/1 (service profile: org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAGE:sam:dme:ComputeBladeAs...
sys/chassis-1/blade-1	E4195244	451815	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:SKIP]: Boot host OS for server 1/1 (service profile: org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAGE:sam:dme:ComputeBladeAssociate:Bl...
sys/chassis-1/blade-1	E4195244	451816	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:END]: Boot host OS for server 1/1 (service profile: org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAGE:sam:dme:ComputeBladeAssociate:Bl...
sys/chassis-1/blade-1	E4195245	451817	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:END]: Connect to host agent on server 1/1 (service profile: org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAGE:sam:dme:ComputeBladeAs...
sys/chassis-1/blade-1	E4195245	451818	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:SKIP-TO-SUCCESS]: Connect to host agent on server 1/1 (service profile: org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAGE:sam:dme:Co...
sys/chassis-1/blade-1	E4195243	451819	transition	2010-05-12T17:55:35	internal	[FSM:END]: Service profile org-root/org-CAE/Is-Server1-Chassis1-Palo association with server 1/1 (FSM:sam:dme:ComputeBladeAssociate)
sys/chassis-1/blade-1	E4195287	451821	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:POSTPONE]: (FSM-STAGE:sam:dme:ComputeBladeTurnup:begin)
sys/chassis-1/blade-1	E4195279	451822	transition	2010-05-12T17:55:35	internal	[FSM:BEGIN]: Cap the power consumption of server 1/1 (FSM:sam:dme:ComputeBladePowerCap)
sys/chassis-1/blade-1	E4195279	451823	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:END]: (FSM-STAGE:sam:dme:ComputeBladePowerCap:begin)
sys/chassis-1/blade-1	E4195280	451824	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:ASYNC]: Configuring power cap of server 1/1 (FSM-STAGE:sam:dme:ComputeBladePowerCap:Config)
sys/chassis-1/blade-1	E4195280	451825	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:STALE-SUCCESS]: Configuring power cap of server 1/1 (FSM-STAGE:sam:dme:ComputeBladePowerCap:Config)
sys/chassis-1/blade-1	E4195280	451826	transition	2010-05-12T17:55:35	internal	[FSM:STAGE:END]: Configuring power cap of server 1/1 (FSM-STAGE:sam:dme:ComputeBladePowerCap:Config)
sys/chassis-1/blade-1	E4195441	451827	transition	2010-05-12T17:55:35	internal	[FSM:END]: Cap the power consumption of server 1/1 (FSM:sam:dme:ComputeBladePowerCap)
sys/chassis-1/blade-1	E4195287	452522	transition	2010-05-12T17:56:43	internal	[FSM:BEGIN]: Power-on server 1/1 (FSM:sam:dme:ComputeBladeTurnup)
sys/chassis-1/blade-1	E4195287	452523	transition	2010-05-12T17:56:43	internal	[FSM:STAGE:END]: (FSM-STAGE:sam:dme:ComputeBladeTurnup:begin)
sys/chassis-1/blade-1	E4195288	452524	transition	2010-05-12T17:56:43	internal	[FSM:STAGE:ASYNC]: Power-on server 1/1 (FSM-STAGE:sam:dme:ComputeBladeTurnup:Execute)
sys/chassis-1/blade-1	E4195288	452525	transition	2010-05-12T17:56:43	internal	[FSM:END]: Cap the power consumption of server 1/1 (FSM-STAGE:sam:dme:ComputeBladeTurnup:Execute)
sys/chassis-1/blade-1	E4195288	452526	transition	2010-05-12T17:56:43	internal	[FSM:STAGE:END]: Power-on server 1/1 (FSM-STAGE:sam:dme:ComputeBladeTurnup:Execute)
sys/chassis-1/blade-1	E4195453	452527	transition	2010-05-12T17:56:43	internal	[FSM:END]: Power-on server 1/1 (FSM:sam:dme:ComputeBladeTurnup)
sys/chassis-1/blade-1	E4195075	453835	transition	2010-05-12T18:09:15	admin	[FSM:BEGIN]: external mgmt user configuration on blade 1/1 (profile org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM:sam:dme:ComputeBladeUpdateExtUsers)
sys/chassis-1/blade-1	E4195075	453836	transition	2010-05-12T18:09:15	admin	[FSM:STAGE:END]: (FSM-STAGE:sam:dme:ComputeBladeUpdateExtUsers:begin)
sys/chassis-1/blade-1	E4195076	453837	transition	2010-05-12T18:09:15	admin	[FSM:STAGE:ASYNC]: external mgmt user deployment on blade 1/1 (profile org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAGE:sam:dme:ComputeBlade...
sys/chassis-1/blade-1	E4195076	453857	transition	2010-05-12T18:09:15	internal	[FSM:STAGE:STALE-SUCCESS]: external mgmt user deployment on blade 1/1 (profile org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAGE:sam:dme:Com...
sys/chassis-1/blade-1	E4195076	453858	transition	2010-05-12T18:09:15	internal	[FSM:STAGE:END]: external mgmt user deployment on blade 1/1 (profile org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM-STAGE:sam:dme:ComputeBladeUp...
sys/chassis-1/blade-1	E4195459	453859	transition	2010-05-12T18:09:15	internal	[FSM:END]: external mgmt user configuration on blade 1/1 (profile org-root/org-CAE/Is-Server1-Chassis1-Palo)(FSM:sam:dme:ComputeBladeUpdateExtUsers)

UCSM Faults - GUI

Cisco Unified Computing System Manager - CWD-35-03-UCS-250

The screenshot displays the Cisco Unified Computing System Manager (UCSM) interface. On the left is a navigation tree with categories like 'Faults, Events and Audit Log', 'User Management', and 'Key Management'. The main area shows a 'Faults' table with columns for Severity, Code, ID, Affected object, Cause, Last Transition, and Description. Below the table is a legend for severity levels: critical (red X), major (orange triangle), minor (yellow triangle), warning (green triangle), info (blue circle), condition (grey circle), cleared (green check), flapping (blue refresh), and soaking (blue clock). The 'Details' panel for a selected fault includes a 'Summary' section with severity and transition time, an 'Actions' section with 'Acknowledge Fault', and a 'Properties' section with affected object, description, ID, cause, code, original and previous severity, type, creation time, and number of occurrences.

Severity	Code	ID	Affected object	Cause	Last Tra...	Description
Warning	F0283	10538...	sys/chassis-1/...	link-down	2010-12-03T...	fc VIF 1 / 4 A-5104 down, reason: None
Warning	F0283	10538...	sys/chassis-1/...	link-down	2010-12-03T...	fc VIF 1 / 4 B-5105 down, reason: None
Warning	F0283	10538...	sys/chassis-1/...	link-down	2010-12-03T...	fc VIF 1 / 6 A-5110 down, reason: None
Warning	F0283	10538...	sys/chassis-1/...	link-down	2010-12-03T...	fc VIF 1 / 6 B-5111 down, reason: None
Critical	F0478	10524...	sys/fex-2/slot-1	equipm...	2010-11-26T...	left IOM 2/1 (A) is inaccessible
Warning	F0367	10521...	sys/fex-2/slot-...	satellit...	2010-11-26T...	No link between IOM port 2/1/1 and fabric interconnect A:1/8
Warning	F0367	10521...	sys/fex-2/slot-...	satellit...	2010-11-26T...	No link between IOM port 2/1/2 and fabric interconnect A:1/7
Warning	F0276	10521...	sys/switch-A/s...	link-down	2010-11-26T...	ether port 7 on fabric interconnect A oper state: link-down, reason: Link Failure or not-connected

Severity Legend: critical, major, minor, warning, info, condition, cleared, flapping, soaking

Details Summary:
Severity: **major**
Last Transition: **2010-12-03T13:57:46**

Actions:
Acknowledge Fault

Properties:
Affected object: **sys/chassis-1/blade-4/fabric-A/path-1/vc-5104**
Description: **fc VIF 1 / 4 A-5104 down, reason: None**
ID: **10538855**
Cause: **link-down**
Code: **F0283**
Original severity: **major**
Previous severity: **major**
Type: **network**
Created at: **2010-12-03T13:57:46**
Number of Occurrences: **1**
Highest severity: **major**

Fault Summary

✘ 1
 ⚠ 7
 ⚠ 9
 ⚠ 6

Equipment Servers LAN SAN VM Admin

Filter: All

- Equipment
 - Chassis
 - Chassis 1
 - Fabric Interconnects

Equipment > Chassis > Chassis 1

General Servers Service Profiles IO Modules Fans PSUs

Hybrid Display Slots Installed Firmware **Faults** Events FSM Statistics Temperatures Power

Filter Export Print Show Fault Data

Sev...	Code	ID	Affected ...	Cause	Last Tran...	Description
⚠	F0408	27546	sys/chassis-1	powe...	2006-01-24...	Power state on chassis 1 is redundancy-failed
⚠	F0378	27511	sys/chassis-...	equip...	2006-01-24...	Power supply 2 in chassis 1 presence: missing
⚠	F0378	27512	sys/chassis-...	equip...	2006-01-24...	Power supply 3 in chassis 1 presence: missing
⚠	F0461	27914	sys/chassis-...	log-ca...	2006-01-24...	Log capacity on Management Controller on server 1/5 is very-low
⚠	F0461	27912	sys/chassis-...	log-ca...	2006-01-24...	Log capacity on Management Controller on server 1/6 is very-low
⚠	F0457	28231	sys/chassis-...	link-d...	2006-01-24...	IOM dce interface 5 on chassis 1 oper state: link-down, reason: Link failure...
⚠	F0457	28061	sys/chassis-...	link-d...	2006-01-24...	IOM dce interface 3 on chassis 1 oper state: link-down, reason: Link failure...
✓	F0367	44369	sys/chassis-...	satelli...	2006-01-25...	No link between fabric extender port 1/1/1 and fabric interconnect A:1/1
✓	F77846	44619	sys/chassis-...	disco...	2006-01-25...	[FSM:STAGE:REMOTE-ERROR]: Result: end-point-unavailable Code: unsp...
✓	F16406	44882	sys/chassis-...	disco...	2006-01-25...	[FSM:STAGE:RETRY:]: triggering chassis discovery via fabric extender 1/...
✓	F0314	45907	sys/chassis-...	disco...	2006-01-25...	Server 1/4 (service profile:) discovery: failed
✓	F0206	45335	sys/chassis-...	conne...	2006-01-25...	Adapter 1/4/1 is unreachable
✓	F77960	45336	sys/chassis-...	bios-p...	2006-01-25...	[FSM:STAGE:REMOTE-ERROR]: Result: end-point-unavailable Code: unsp...
✓	F16520	45338	sys/chassis-...	pnuos...	2006-01-25...	[FSM:STAGE:RETRY:]: Identify pre-boot environment agent on server 1/...
✓	F999...	45905	sys/chassis-...	fsm-f...	2006-01-25...	[FSM:FAILED]: blade discovery 1/4(FSM:sam:dme:ComputeBladeDiscover)
⚠	F0457	28059	sys/chassis-...	link-d...	2006-01-25...	IOM dce interface 4 on chassis 1 oper state: link-down, reason: Link failure...
✓	F0313	47304	sys/chassis-...	equip...	2006-01-25...	Server 1/6 (service profile:) BIOS failed power-on self test
✓	F16531	47593	sys/chassis-...	setup...	2006-01-25...	[FSM:STAGE:RETRY:]: Provisioning a V-Media device with a bootable BIO...
✓	F77971	47586	sys/chassis-...	setup...	2006-01-25...	[FSM:STAGE:REMOTE-ERROR]: Result: end-point-unavailable Code: unsp...
⚠	F0395	47805	sys/chassis-...	perfo...	2006-01-25...	Fan 2 in chassis 1 speed: upper-non-critical
⚠	F0395	47808	sys/chassis-...	perfo...	2006-01-25...	Fan 2 in chassis 1 speed: upper-non-critical
✓	F77960	47427	sys/chassis-...	bios-p...	2006-01-25...	[FSM:STAGE:REMOTE-ERROR]: Result: end-point-unavailable Code: unsp...
✓	F0409	47803	sys/chassis-1	therm...	2006-01-25...	Temperature on chassis 1 is upper-critical
✓	F0410	47802	sys/chassis-1	therm...	2006-01-25...	Temperature on chassis 1 is upper-non-critical
✓	F16520	47451	sys/chassis-...	pnuos...	2006-01-25...	[FSM:STAGE:RETRY:]: Identify pre-boot environment agent on server 1/...
✓	F0411	47804	sys/chassis-1	therm...	2006-01-25...	Temperature on chassis 1 is upper-non-recoverable
✓	F0206	47177	sys/chassis-...	conne...	2006-01-25...	Adapter 1/6/1 is unreachable

cleared
 ⓘ info
 ⓘ condition
 ⚠ warning
 ⚠ minor
 ⚠ major
 ✘ critical
 ⚡ flapping
 ⌚ soaking

Save Changes Reset Values

Unique-Id

Affected-component

Major Fault

Properties for: fault

Summary

Severity: **major**

Last Transition: **2006-01-25T01:27:03**

Actions

Acknowledge Fault

Properties

Affected object: **sys/chassis-1/slot-1/host/port-4**

Description: **IOM dce interface 4 on chassis 1 oper state: link-down, reason: Link failure or not-connected**

ID: **28059** Type: **network**

Cause: **link-down** Created at: **2006-01-24T08:02:04**

Code: **F0457** Tags: **network,server**

Number of Occurrences: **91**

OK Apply Cancel Help

Information Fault

Properties for: fault

Summary

Severity: **info**

Last Transition: **2006-01-24T08:01:43**

Actions

Acknowledge Fault

Properties

Affected object: **sys/chassis-1/blade-5/mgmt/log-SEL-0**

Description: **Log capacity on Management Controller on server 1/5 is very-low**

ID: **27914** Type: **operational**

Cause: **log-capacity** Created at: **2006-01-24T08:01:43**

Code: **F0461** Tags: **server**

Number of Occurrences: **1**

OK Apply Cancel Help

Fault Status : CLI

```
cali-spring-A# show fault
```

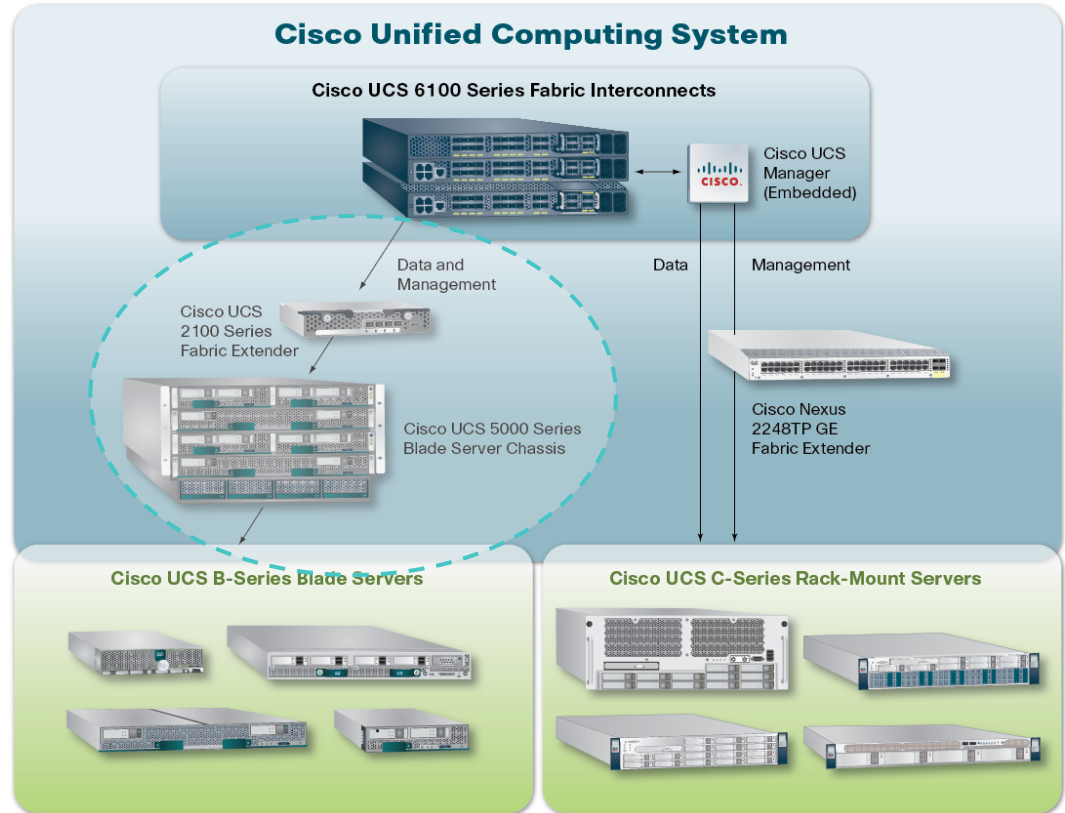
Severity	Code	Last Transition Time	ID	Description
Warning	F0334	2009-07-20T19:57:42	35855	Service profile linux-palo-profile is not associated
Info	F0461	2009-07-16T20:00:35	28057	Log capacity on Management Controller on server 1/7 is very-low
Info	F0461	2009-07-16T19:59:31	27875	Log capacity on Management Controller on server 1/8 is very-low
Critical	F0394	2009-07-16T19:59:25	27778	Power supply 1 in chassis 1 output power: upper-non-recoverable
Warning	F0378	2009-07-16T19:59:25	27755	Power supply 2 in chassis 1 presence: missing
Warning	F0378	2009-07-16T19:59:25	27757	Power supply 3 in chassis 1 presence: missing
Critical	F0394	2009-07-16T19:59:25	27779	Power supply 4 in chassis 1 output power: upper-non-recoverable
Warning	F0378	2009-07-16T19:57:09	27427	Power supply 2 in fabric interconnect A presence: missing
Minor	F0279	2009-07-16T19:57:09	27421	fc port 3 on fabric interconnect A oper state: sfp-not-present
Minor	F0279	2009-07-16T19:57:09	27422	fc port 4 on fabric interconnect A oper state: sfp-not-present
Minor	F0279	2009-07-16T19:57:09	27423	fc port 5 on fabric interconnect A oper state: sfp-not-present
Minor	F0279	2009-07-16T19:57:09	27424	fc port 6 on fabric interconnect A oper state: sfp-not-present
Minor	F0279	2009-07-16T19:57:09	27425	fc port 7 on fabric interconnect A oper state: sfp-not-present
Minor	F0279	2009-07-16T19:57:09	27426	fc port 8 on fabric interconnect A oper state: sfp-not-present
Minor	F0463	2009-07-16T19:56:09	18751	server pool default is empty

```
cali-spring-A# show fault 27421
```

Severity	Code	Last Transition Time	ID	Description
Minor	F0279	2009-07-16T19:57:09	27421	fc port 3 on fabric interconnect A oper state: sfp-not-present

Agenda

- **UCSM & Fabric Interconnect**
- Blade Servers
- IOM & Chassis



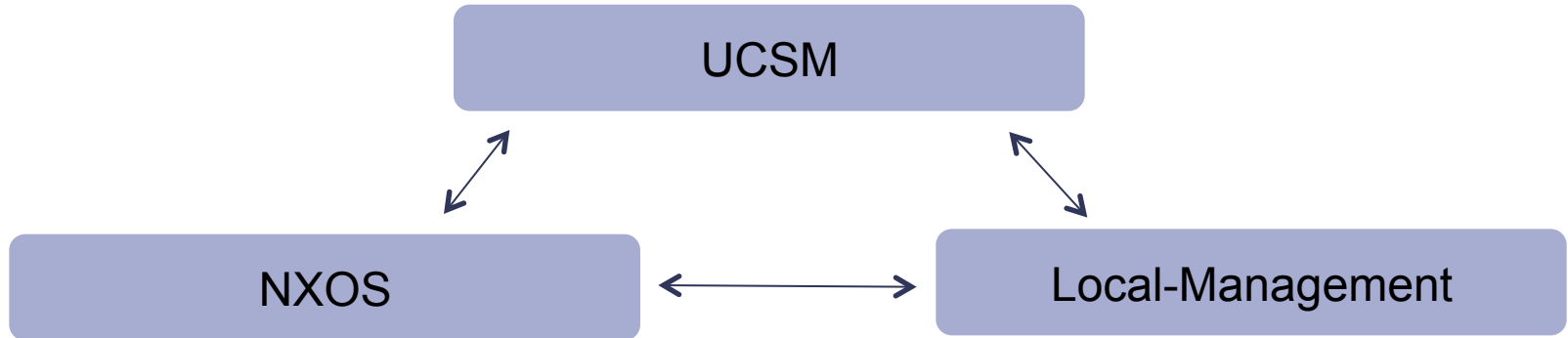
Contexts

- UCS has three CLI “Contexts”

UCSM (GUI Equivalent, uses the “scope” command)

NXOS (not configurable – read only)

Management (file management, tech support, reboot)



Scope

- **Scoping – movement to different UCS configuration components**

**Details on hardware components
done with connect command**

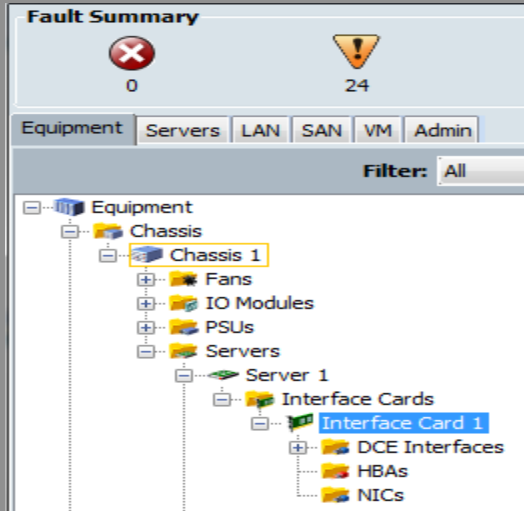
**You want to be on the
Primary Fabric Interconnect**

UCS-B# scope ?

adapter	Mezzanine Adapter
chassis	Chassis
eth-server	Ethernet Server Domain
eth-storage	Ethernet Storage
eth-traffic-mon	Ether Traffic Monitoring Domain
eth-uplink	Ethernet Uplink
fabric-interconnect	Fabric Interconnect
fc-storage	FC Storage
fc-traffic-mon	FC Traffic Monitoring Domain
fc-uplink	FC Uplink
fex	FEX (fabric-extender) Module
firmware	Firmware
host-eth-if	Host Ethernet Interface
host-fc-if	Host FC Interface
license	License
monitoring	Monitor the system
org	Organizations
power-cap-mgmt	Power Cap Mgmt
security	security mode
server	Server
service-profile	Service Profile
system	Systems
vhba	vHBA
vnic	vNIC

Management Commands (scope, where, up & top)

UCSM Navigation



CLI Equivalent to Nav Pane

```
devha-A# scope chassis 1
devha-A /chassis # scope server 1
devha-A /chassis/server # scope adapter 1
devha-A /chassis/server/adapter # where
Mode: /chassis/server/adapter
Mode Data:
    scope chassis 1
    scope server 1
    scope adapter 1
devha-A /chassis/server/adapter # up
devha-A /chassis/server # where
Mode: /chassis/server
Mode Data:
    scope chassis 1
    scope server 1
devha-A /chassis/server # top
devha-A# where
Mode: /
Mode Data:
```

Connect - Hardware Troubleshooting

- **Connect** – attaches you to hardware and read only NXOS

FarNorth-B# connect

adapter	Mezzanine Adapter
bmc	Baseboard Management Controller (CIMC)
clp	Connect to DMTF CLP
iom	IO Module
local-mgmt	Connect to Local Management CLI
nxos	Connect to NXOS CLI

FarNorth-A# connect local-mgmt

<CR>

a	Fabric A	<i>Defaults to primary</i>
b	Fabric B	

Most dangerous

-erase configuration
reboot

and/or its affiliates. All rights reserved.

FarNorth-A(local-mgmt)# ?	
cd	Change current directory
clear	Reset functions
cluster	Cluster mode
connect	Connect to Another CLI
copy	Copy a file
cp	Copy a file
delete	Delete managed objects
dir	Show content of dir
enable	Enable
end	Go to exec mode
erase	Erase
erase-log-config	Erase the mgmt logging config
file	
exit	Exit from command interpreter
install-license	Install a license
ls	Show content of dir
mkdir	Create a directory
move	Move a file
mv	Move a file
ping	Test network reachability
pwd	Print current directory
reboot	Reboots Fabric Interconnect
rm	Remove a file
rmdir	Remove a directory
run-script	Run a script
show	Show running system information
ssh	SSH to another system
tail-mgmt-log	Tail mgmt log file
telnet	Telnet to another system
terminal	Set terminal line parameters
top	Go to the top mode
traceroute	Traceroute to destination

Connect NXOS

- Used to assist in troubleshooting – very familiar to IOS and Nexus users and all the show commands
- Used to run advised debugs
- Show switch running config (non server config)
- Clear interface counters found on the FI
- Cannot be used to configure UCS (read only)

Connect to NXOS

FarNorth-A# connect nxos ?

<CR>

a Fabric A

b Fabric B

FarNorth-A(nxos)# ?

```
clear          Reset functions [Only place to clear counters]
cli            CLI commands
debug          Debugging functions
debug-filter   Enable filtering for debugging functions
ethanalyzer    Configure cisco packet analyzer
interface      A live capture will start on following interface
no             Negate a command or set its defaults
ntp            NTP configuration
show           Show running system information
system         System management commands
terminal       Set terminal line parameters
test           Test command
undebg         Disable Debugging functions (See also debug)
end            Go to exec mode
exit           Exit from command interpreter
pop            Pop mode from stack or restore from name
push           Push current mode to stack or save it under name
where          Shows the cli context you are in
```

Popular examples:

show run

show fex detail

show interface

show lacp

show trunk

show cdp

debug

show npv flogi-table

show mac-address-table

Connect local-mgmt

- **Connect** – attaches you to hardware and read only NXOS

```
FarNorth-B# connect ?
```

```
adapter      Mezzanine Adapter
cimc         Cisco Integrated Management Contr.
clp          Connect to DMTF CLP
iom          IO Module
local-mgmt   Connect to Local Management CLI
nxos         Connect to NXOS CLI
```

```
FarNorth-A# connect local-mgmt ?
```

```
<CR>
```

```
a      Fabric A   [Defaults to primary]
b      Fabric B
```

Dangerous Commands!!!

erase configuration

reboot

```
FarNorth-A(local-mgmt)# ?
cd                Change current directory
clear            Reset functions
cluster          Cluster mode
connect          Connect to Another CLI
copy             Copy a file
cp              Copy a file
delete           Delete managed objects
dir             Show content of dir
enable           Enable
end              Go to exec mode
erase            Erase
erase-log-config Erase the mgmt logging
exit            Exit from command
install-license  Install a license
ls              Show content of dir
mkdir           Create a directory
move            Move a file
mv             Move a file
ping           Test network reachability
pwd            Print current directory
reboot         Reboots Fabric Interconnect
rm             Remove a file
rmdir          Remove a directory
run-script     Run a script
show           Show running sys info
```


Chassis Discovery Policy

- Discovery policy only defines the minimum number of links necessary before a chassis can be discovered and NOT how many links will be utilized

Chassis Discovery Policy

Action: 2 Link

Link Grouping Preference:

- 1 Link
- 2 Link
- 4 Link
- 8 Link
- Platform Max

Rack Server Discovery

Chassis Discovery Policy

Action: 2 Link

Link Grouping Preference: None Port Channel

General Servers Services Profiles IO Modules

Installed Firmware SEL Logs Power Control Monitor Conn Policy

chassis-conn-policy-chassis-1-fabric-A

Chassis ID: 1

Fabric ID: A

Admin State: None Port Channel Global



- Tool to snapshot screen for support
- Doing Web-ex recording best

Service Profiles				
Name	Assignment State	Association State	Server	Launch KVM
ESX-4.0-U1-Menlo-2	assigned	associated	sys/chassis-2/blade-2	Launch
Server1-Chassis1-Palo	assigned	associated	sys/chassis-1/blade-1	Launch
			sys/chassis-2/blade-8	Launch
			sys/chassis-1/blade-3	Launch
			sys/chassis-1/blade-2	Launch
			sys/chassis-1/blade-7	Launch
			sys/chassis-2/blade-1	Launch

Stats ✖

Frame Rate: Frames/sec

Bandwidth: Kb/sec

Compression: % Reduction

Packet Rate: Packets/sec

ESX-4.0-U1-Menlo.2 (Chassis 2 Server 2)

File View Macros Tools Help

Capture to File... rver Reset

Exit

VMware ESXi 4.0.0 Releasebuild-208167

Cisco Systems Inc N20-B6620-1

2 x Intel(R) Xeon(R) CPU X5570 @ 2.93GHz

48 GB Memory

Download tools to manage this host from:

<http://10.91.42.204/> (STATIC)

<F2> Customize System <F12> Shut Down/Restart

Tools Help

Session Options

Single Cursor

Stats

Session User List

Launch Virtual Media

chico.jpg - Windows Picture and Fax Viewer

VMware ESXi 4.0.0 Releasebuild-208167

Cisco Systems Inc N20-B6620-1

2 x Intel(R) Xeon(R) CPU X5570 @ 2.93GHz

48 GB Memory

Download tools to manage this host from:

<http://10.91.42.204/> (STATIC)

<F2> Customize System <F12> Shut Down/Restart

Logs for troubleshooting

- **General UCS issues**

UCS-A(local-mgmt)# show tech-support ucsm detail

UCS-A(local-mgmt)# show tech-support chassis # all detail

- **Networking Issues**

Upstream_Switch# show tech-support details

- **SAN Issues**

UCS-A(nxos)# show tech-support npv

MDS# show tech-support details

UCSM Access Over Firewall

- Ports to be opened for Accessing UCSM Over firewall
- TCP 21 if FTP will be used for image/backup transfer
- TCP 22
- TCP 23 if telnet is enabled (off by default)
- TCP/UDP 53 DNS Resolution
- UDP 123 NTP
- TCP 80
- UDP 161/162 if SNMP is enabled (off by default)
- TCP 443 if https is enabled (off by default)
- UDP 514 if syslog is enabled
- UDP 623 if IPMI/SOL access is required
- TCP 2068 (KVM)

UCSM – Top 5 commands



```
UCS-A# show cluster extended-state
```

```
UCS-A /fabric-interconnect # show fsm status
```

```
UCS-A (local-mgmt) # show pmon state
```

```
UCS-A /monitoring/sysdebug # show cores
```

```
UCS-A (nxos) # show mgmt-ip-debug
```

Sample – Cluster state



```
BGL-SV-UCS-TEST-A(local-mgmt)# show cluster extended-state
Cluster Id: 0xbb8c42b0dced11df-0xba1c00059b78f6c4

Start time: Wed Nov 21 17:38:53 2012
Last election time: Wed Nov 21 17:39:24 2012

A: UP, PRIMARY
B: UP, SUBORDINATE

A: memb state UP, lead state PRIMARY, mgmt services state: UP
B: memb state UP, lead state SUBORDINATE, mgmt services state: UP
   heartbeat state PRIMARY_OK

INTERNAL NETWORK INTERFACES:
eth1, UP
eth2, UP

HA READY
Detailed state of the device selected for HA storage:
Chassis 1, serial: FOX1332HB8M, state: active
Chassis 4, serial: FOX1534G2YG, state: active
```

Sample – Cluster state

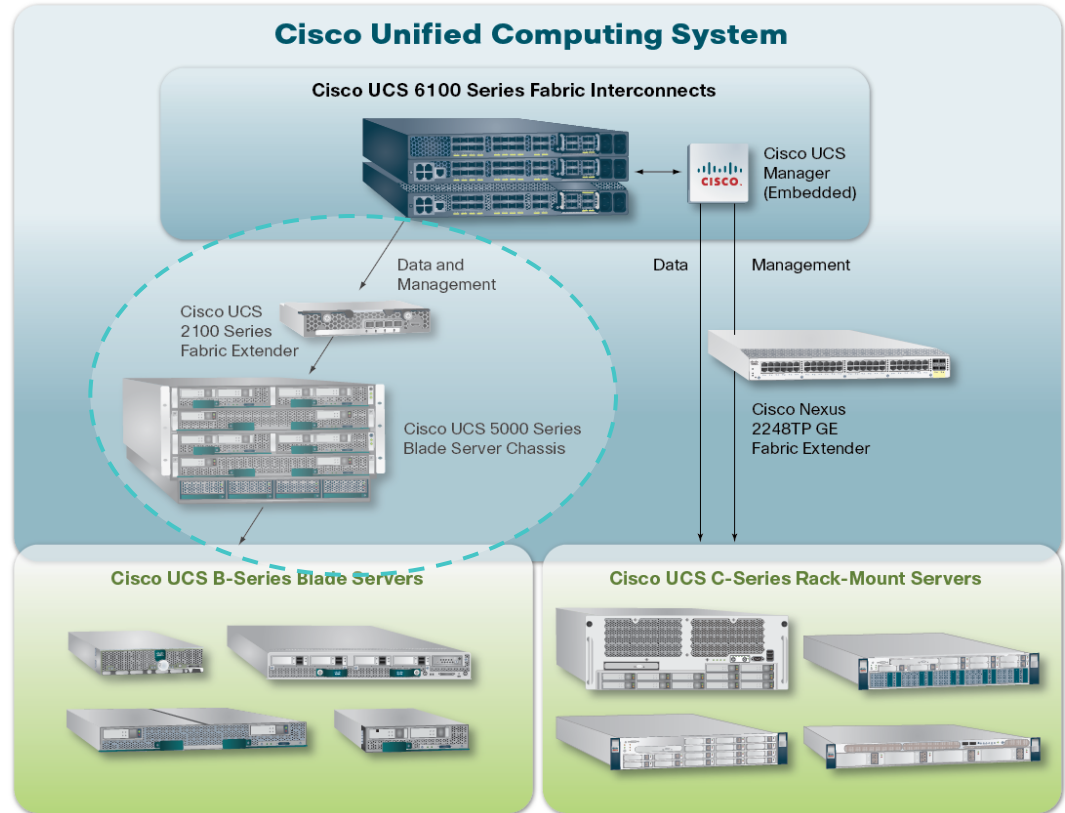


```
BGL-SV-UCS-TEST-A(local-mgmt)# show pmon state
```

SERVICE NAME	STATE	RETRY (MAX)	EXITCODE	SIGNAL	CORE
svc_sam_controller	running	0 (4)	0	0	no
svc_sam_dme	running	0 (4)	0	0	no
svc_sam_dcosAG	running	0 (4)	0	0	no
svc_sam_bladeAG	running	0 (4)	0	0	no
svc_sam_portAG	running	0 (4)	0	0	no
svc_sam_statsAG	running	0 (4)	0	0	no
svc_sam_hostagentAG	running	0 (4)	0	0	no
svc_sam_nicAG	running	0 (4)	0	0	no
svc_sam_licenseAG	running	0 (4)	0	0	no
svc_sam_extvmmAG	running	0 (4)	0	0	no
httpd.sh	running	0 (4)	0	0	no
svc_sam_sessionmgrAG	running	0 (4)	0	0	no
svc_sam_pamProxy	running	0 (4)	0	0	no
sfcabd	running	0 (4)	0	0	no
dhcpd	running	0 (4)	0	0	no
sam_core_mon	running	0 (4)	0	0	no
svc_sam_rsdAG	running	0 (4)	0	0	no
svc_sam_svcmonAG	running	0 (4)	0	0	no

Agenda

- UCSM & Fabric Interconnect
- **Blade Servers**
- IOM & Chassis

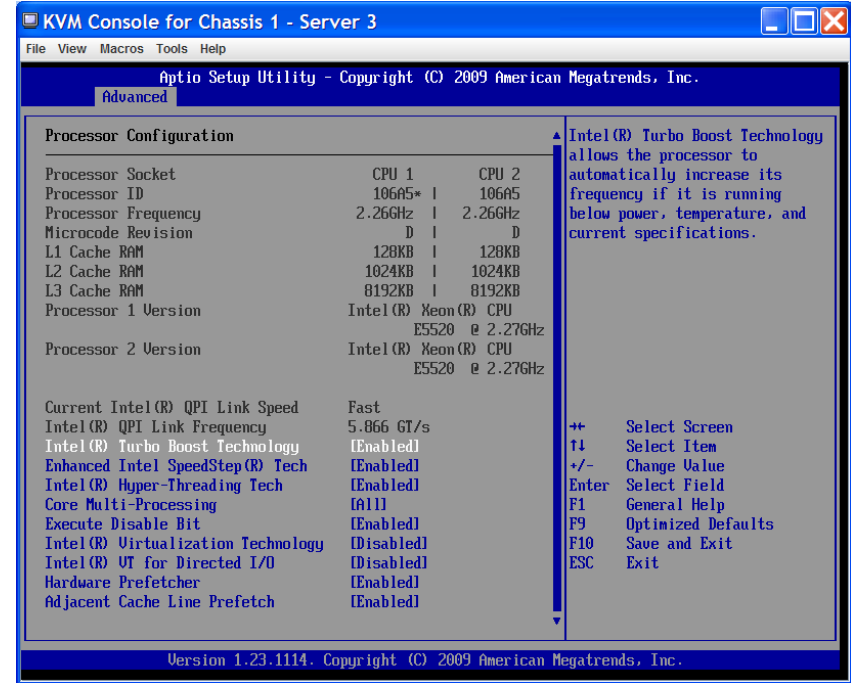


Blade servers



Blade overview – CIMC and BIOS

- CIMC
 - Monitors Temperature and Power readings
 - KVM & vMedia
 - Blade control
- BIOS
 - Can be configured via F2 or via BIOS Policy



OBFL

- Onboard Fault Log stores hardware logs on the different components, saved at time of issue.
- Alternate method to viewed by connecting to the internal component end device.
- Show tech-support will capture required logs for support.

System Event Log (SEL) - Events Supported

- **Server BIOS events**

3 Kinds of equipment end-points:

Memory Unit (DIMM) ECC errors, Address Parity, Memory Mismatch

Processor Unit Memory Mirroring, Sparing, SMI Link errors

Motherboard PCIe, QPI uncorrectable errors, Legacy PCI errors

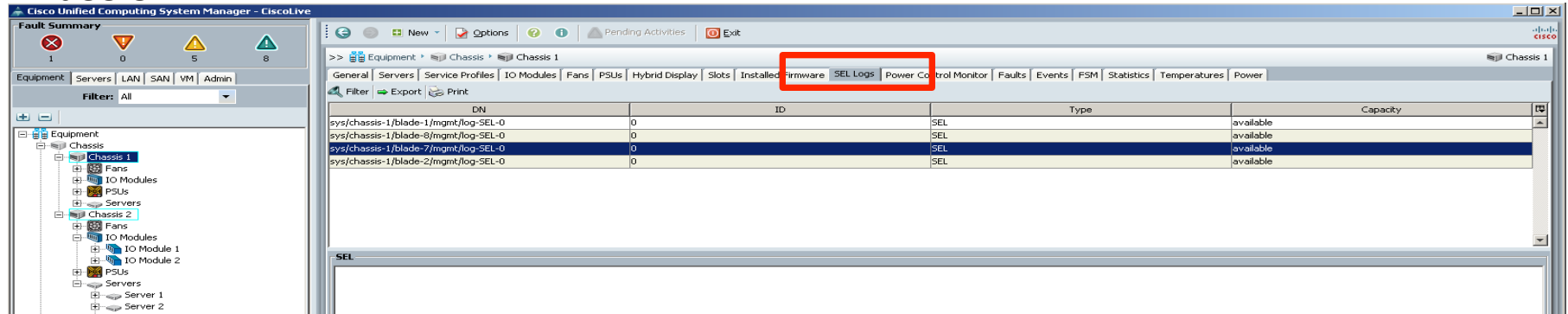
All these errors are modeled as stats properties. The ones for which thresholds are not defined get reported as statistics only

- **BMC, BIOS, OS log platform errors to CIMC's System Event Log (SEL) Buffer**
- **POST and Run Time errors**
- **Used as an Effective health monitoring tool**

System Event Logs

- Make sure that servers are discovered
- Make sure backup destination path is valid
- Can be done via CLI also
- System Event Logs = Management Logs on earlier releases

Chassis



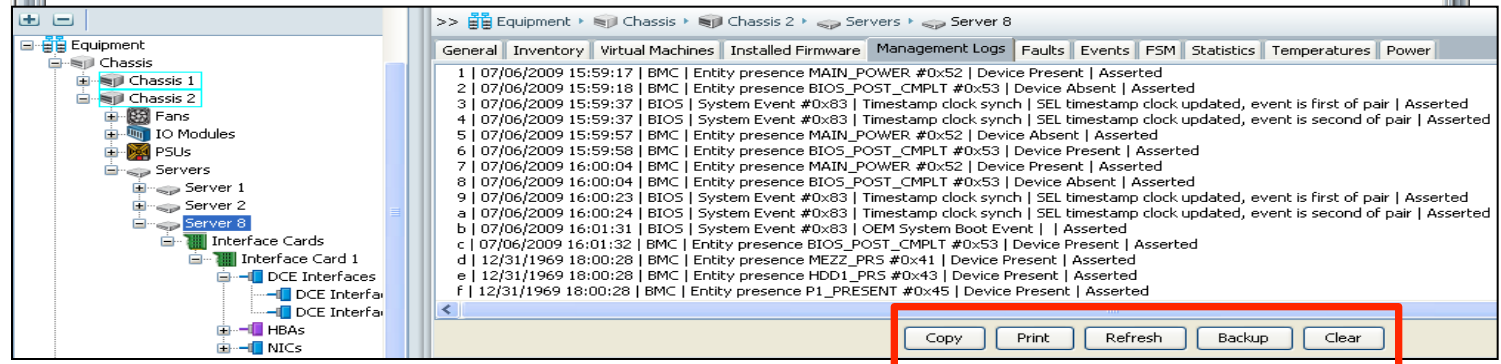
Cisco Unified Computing System Manager - CiscoLive

Equipment | Servers | LAN | SAN | VM | Admin

Filters: All

DN	ID	Type	Capacity
sys/chassis-1/blade-1/mgmt/log-SEL-0	0	SEL	available
sys/chassis-1/blade-8/mgmt/log-SEL-0	0	SEL	available
sys/chassis-1/blade-7/mgmt/log-SEL-0	0	SEL	available
sys/chassis-1/blade-2/mgmt/log-SEL-0	0	SEL	available

Server



Equipment | Chassis | Chassis 2 | Servers | Server 8

General | Inventory | Virtual Machines | Installed Firmware | Management Logs | Faults | Events | FSM | Statistics | Temperatures | Power

1	07/06/2009 15:59:17	BMC	Entity presence MAIN_POWER #0x52	Device Present	Asserted	
2	07/06/2009 15:59:18	BMC	Entity presence BIOS_POST_CMPLT #0x53	Device Absent	Asserted	
3	07/06/2009 15:59:37	BIOS	System Event #0x83	Timestamp clock synch	SEL timestamp clock updated, event is first of pair	Asserted
4	07/06/2009 15:59:37	BIOS	System Event #0x83	Timestamp clock synch	SEL timestamp clock updated, event is second of pair	Asserted
5	07/06/2009 15:59:57	BMC	Entity presence MAIN_POWER #0x52	Device Absent	Asserted	
6	07/06/2009 15:59:58	BMC	Entity presence BIOS_POST_CMPLT #0x53	Device Present	Asserted	
7	07/06/2009 16:00:04	BMC	Entity presence MAIN_POWER #0x52	Device Present	Asserted	
8	07/06/2009 16:00:04	BMC	Entity presence BIOS_POST_CMPLT #0x53	Device Absent	Asserted	
9	07/06/2009 16:00:23	BIOS	System Event #0x83	Timestamp clock synch	SEL timestamp clock updated, event is first of pair	Asserted
a	07/06/2009 16:00:24	BIOS	System Event #0x83	Timestamp clock synch	SEL timestamp clock updated, event is second of pair	Asserted
b	07/06/2009 16:01:31	BIOS	System Event #0x83	OEM System Boot Event	Asserted	
c	07/06/2009 16:01:32	BMC	Entity presence BIOS_POST_CMPLT #0x53	Device Present	Asserted	
d	12/31/1969 18:00:28	BMC	Entity presence MEZZ_PR5 #0x41	Device Present	Asserted	
e	12/31/1969 18:00:28	BMC	Entity presence HDD1_PR5 #0x43	Device Present	Asserted	
f	12/31/1969 18:00:28	BMC	Entity presence P1_PRESENT #0x45	Device Present	Asserted	

Copy | Print | Refresh | Backup | Clear

System Event Log (SEL) - config

Users can define rules (policies) for backing up and clearing SEL across all servers in the UCS system, or they can manually trigger a SEL backup on individual servers.

The screenshot displays the Cisco Unified Computing System Manager interface. On the left, a 'Fault Summary' panel shows 0 errors, 4 warnings, 1 critical, and 97 informational faults. Below it, a navigation tree shows 'Equipment' expanded to 'Chassis 1' and 'Chassis 2'. The main window shows the 'SEL Policy' configuration page. The 'General' section includes 'Name: sel', 'Type: SEL', and 'Description: Lab TFTP'. The 'Backup Configuration' section is highlighted with a red box and includes: 'Protocol' set to TFTP, 'Hostname (or IP Address)' set to 10.91.42.134, 'Remote Path' set to /, 'Backup Interval' set to 24 Hours, and 'Format' set to ASCII. The 'Action' section, also highlighted with a red box, includes checked options for 'Log Full', 'On Change of Association', and 'On Clear', and unchecked options for 'Timer' and 'Clear On Backup'.

System Event Log (SEL) - config

Users can define rules (policies) for backing up and clearing SEL across all servers in the UCS system, or they can manually trigger a SEL backup on individual servers.

The screenshot displays the Cisco Unified Computing System Manager interface. On the left, a 'Fault Summary' panel shows 0 errors, 4 warnings, 1 critical, and 97 informational events. Below it, a navigation tree shows 'Equipment' expanded to 'Chassis 1' and 'Chassis 2'. The main window shows the 'SEL Policy' configuration page. The 'General' section includes 'Name: sel', 'Type: SEL', and 'Description: Lab TFTP'. The 'Backup Configuration' section is highlighted with a red box and includes: 'Protocol' set to TFTP, 'Hostname (or IP Address)' set to 10.91.42.134, 'Remote Path' set to /, 'Backup Interval' set to 24 Hours, and 'Format' set to ASCII. The 'Action' section, also highlighted with a red box, includes checked options for 'Log Full', 'On Change of Association', and 'On Clear', and unchecked options for 'Timer' and 'Clear On Backup'.

OS connectivity issue (Eth+SAN)

- Few important things to check:
 - Is the blade running the certified OS and OS version?
 - Are there any special needs for that OS? E.g. VMWare – OEM Image
 - Are the drivers at the OS level updated and current?
- Answer:
 - UCS S/W and H/W matrix
 - http://www.cisco.com/en/US/products/ps10477/prod_technical_reference_list.html

B-Series Server Compatibility

[Hardware and Software Interoperability Matrix Utility Tool](#)

[Hardware and Software Interoperability Matrix for B Series Servers in Release 2.0\(3\)](#) (PDF - 570 KB)

New!

[Hardware and Software Interoperability Matrix for B Series Servers in Release 2.0\(2\)](#) (PDF - 560 KB)

[Hardware and Software Interoperability Matrix for B Series Servers in Release 2.0\(1\)](#) (PDF - 550 KB)

[Hardware and Software Interoperability Matrix for B Series Servers in Release 1.4\(4\)](#) (PDF - 520 KB)

[Hardware and Software Interoperability Matrix for B Series Servers in Release 1.4\(3\)](#) (PDF - 520 KB)

[Hardware and Software Interoperability Matrix for B Series Servers in Release 1.4\(2\)](#) (PDF - 530 KB)

[Hardware and Software Interoperability Matrix for B Series Servers in Release 1.4\(1\)](#) (PDF - 530 KB)

[Hardware and Software Interoperability Matrix for B Series Servers in Release 1.3\(1\)](#) (PDF - 490 KB)

C-Series Server Compatibility

[Hardware and Software Interoperability Matrix Utility Tool](#)

[Hardware and Software Interoperability Matrix for C Series Servers in Release 1.4\(5\)](#) (PDF - 2 MB)

New!

[Hardware and Software Interoperability Matrix for C Series Servers in Release 1.4\(3\)](#) (PDF - 1 MB)

[Hardware and Software Interoperability Matrix for C Series Servers in Release 1.4\(2\)](#) (PDF - 920 KB)

[Hardware and Software Interoperability Matrix for C Series Servers in Release 1.4\(1\)](#) (PDF - 760 KB)

[Hardware and Software Interoperability Matrix for C260 Servers in Cisco Unified Computing System Release 1.3\(3\)](#) (PDF - 600 KB)

[Hardware and Software Interoperability Matrix for C Series Servers in Release 1.3\(2\)](#) (PDF - 910 KB)

[Hardware and Software Interoperability Matrix for C Series Servers in Release 1.3\(1\)](#) (PDF - 660 KB)

[Hardware and Software Interoperability Matrix for C Series Servers in Release 1.2\(1\)](#) (PDF - 630 KB)

[Hardware and Software Interoperability Matrix for the C460 Server in Release 1.1\(2\)](#) (PDF - 460 KB)

[Hardware and Software Interoperability Matrix for C Series Servers in Release 1.1\(1\)](#) (PDF - 600 KB)

[Hardware and Software Interoperability Matrix for C Series Servers in Release 1.0\(2\)](#) (PDF - 440 KB)

[Hardware and Software Interoperability Matrix for C Series Servers in Release 1.0\(1\)](#) (PDF - 440 KB)

UCS Storage Interoperability

[UCS Storage Interoperability Matrix](#)

What each matrix provides

- [Operating System Interoperability Matrix, page 2](#)
- [VM-FEX Software Interoperability Matrix, page 5](#)
- [Converged Network Adapter Interoperability Matrix, page 5](#)
- [Network Interface Card Interoperability Matrix, page 22](#)
- [RAID Controller on Motherboard Interoperability Matrix, page 32](#)
- [Storage Array Interoperability Matrix, page 42](#)
- [Switch Interoperability Matrix, page 43](#)
- [Related Documentation, page 45](#)
- [Obtaining Documentation and Submitting a Service Request, page 45](#)

Sample..driver versions

UCS Blade Server	Adapter Model	Operating System	Adapter Driver	Adapter Firmware	Notes
B200 and B250 M1 & M2, B230 and B440 M1	UCS M81KR Virtual Interface Card	vSphere 4.0 U2	1.4.0.201 / 2.1.2.20 (NIC)	2.0(3)	11
B200 and B250 M1 & M2, B230 and B440 M1	UCS M81KR Virtual Interface Card	vSphere 4.0i U2	1.4.0.201 / 2.1.2.20 (NIC)	2.0(3)	23
B200 and B250 M1 & M2, B230 and B440 M1	UCS M81KR Virtual Interface Card	vSphere 4.0 U3	1.4.0.201 / 2.1.2.20 (NIC)	2.0(3)	11
B200 and B250 M1 & M2, B230 and B440 M1	UCS M81KR Virtual Interface Card	vSphere 4.0i U3	1.4.0.201 / 2.1.2.20 (NIC)	2.0(3)	23

Methods for Troubleshooting Memory

- Collect Tech-support files after errors produced
- Investigate SEL and Fault Log
- Confirm DIMM configuration supported
- Follow Troubleshooting Flow (See appendix)
- Utilize DIMM Error Statistics
- Access Error Manager in BIOS Menu
- Discover any recent changes
- Use Memory Test Tools to validate DIMM ECC errors if possible

<http://www.memtest86.com/>

Memory Errors and Causes

Memory Errors

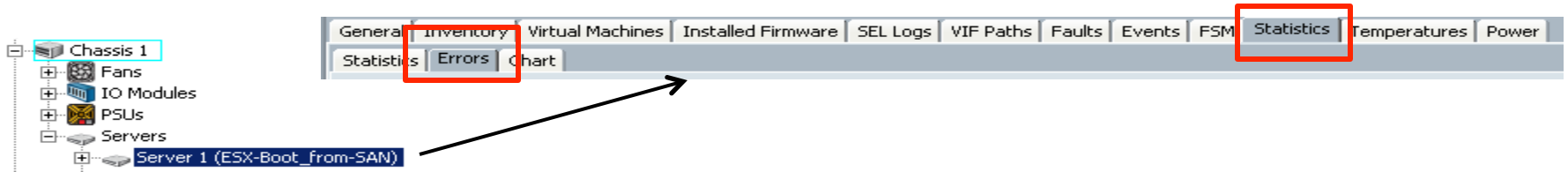
- ECC Error
- Parity Error
- SPD (Serial Presence Detect) Error
- Configuration Error
 - Unpaired DIMMs
 - Not supported DIMMs
 - Not supported DIMM population

Causes of Memory Error

- Defected by Hardware
 - Defected DIMM
 - Broken DDR3 connectivity
 - Defected Hardware (CPU, Chipset)
 - Power
 - Thermal
- Defected by Software
 - BIOS
 - BMC
 - UCSM

Memory Errors Viewed in UCSM

CiscoLive-A /chassis/server # show inventory memory detail



Mem Array 1											
Memory 1											
error-stats											
AddressParityErrors	0	0	0	0	0	0	0	0	0	0	0
EccMultibitErrors	0	0	0	0	0	0	0	0	0	0	0
EccSinglebitErrors	0	0	0	0	0	0	0	0	0	0	0
MismatchErrors	0	0	0	0	0	0	0	0	0	0	0

Viewing Memory Issues in SEL

UCS-A# show sel 1/1 | include memory

UCS-A# scope chassis 1

UCS-A /chassis # scope server 1

UCS-A /chassis/server # sh sel | include memory

CiscoLive-A /chassis/server # show sel 3/1 | include Memory

487 | 03/18/2011 00:16:49 | BIOS | Memory #0x02 | Uncorrectable ECC/other uncorrectable memory error | RUN, Rank: 0, DIMM Socket: 4, Channel: C, Socket: 0, DIMM: C4 | Asserted

5f1 | 04/16/2011 09:53:12 | BIOS | Memory #0x02 | Uncorrectable ECC/other uncorrectable memory error | RUN, Rank: 3, DIMM Socket: 7, Channel: A, Socket: 0, DIMM: A7 | Asserted

731 | 04/21/2011 01:59:28 | BIOS | Memory #0x02 | Correctable ECC/other correctable memory error | RUN, Rank: 1, DIMM Socket: 1, Channel: B, Socket: 0, DIMM: B1 | Asserted

732 | 04/21/2011 10:50:55 | BIOS | Memory #0x02 | Uncorrectable ECC/other uncorrectable memory error | RUN, Rank: 2, DIMM Socket: 6, Channel: A, Socket: 0, DIMM: A6 | Asserted

799 | 04/29/2011 02:50:31 | BIOS | Memory #0x02 | Correctable ECC/other correctable memory error | RUN, Rank: 0, DIMM Socket: 0, Channel: B, Socket: 0, DIMM: B0 | Asserted

79a | 04/29/2011 04:41:33 | BIOS | Memory #0x02 | Uncorrectable ECC/other uncorrectable memory error | RUN, Rank: 3, DIMM Socket: 3, Channel: B, Socket: 0, DIMM: B3 | Asserted

UCS B200/B250 Memory Status Reporting



For Your Reference

UCSM		BMC		BIOS	Time	ECC State	Comment
DIMMStatus	Operability	Presence	DIMM LED	Configuration State			
Operable	Operable	Equipped	OFF	Installed	POST	-	A DIMM is installed and functional.
Operable	Degraded	Equipped	ON / OFF	NA	RUN	CE	A correctable ECC DIMM error is detected during run time.
Degraded	Inoperable	Equipped	ON / OFF	Installed	POST	CE	DIMM status and Operability changed due to ECC errors were detected before host rebooted.
Removed	-	Missing	OFF	Not Installed	POST	-	A DIMM is not installed or corrupted SPD data.
Disabled	-	Equipped	OFF	Disabled	POST	-	A DIMM may be healthy but disabled because configuration rule could not be maintained by a failed DIMM in the same channel.
Disabled	-	Equipped	OFF	Ignored	POST	-	Failed to follow memory configuration rule because of missing the first paired DIMM.
Disabled	-	Equipped	OFF	Fail	POST	-	Failed to follow memory configuration rule because of missing DIMMs.
Inoperable	Inoperable	Equipped	ON	Fail	POST	UE	UE ECC Error was detected.

Blade Component Discovery

Blade Discovery Failure Causes

- **No Power to Blade**
- **POST Failure**
- **PNOUs Not Booting**
- **Bad or Missing Hardware**
 - **Memory**
 - **Mezz Cards**
 - **CPU**

No Power or Bad power

- Connect to CIMC and verify ability to connect
- Check Led indicators for faults
- If able to connect list Power & Sensors

UCS-A# connect cimc 1/1
 Trying 127.5.1.1...
 Connected to 127.5.1.1.
 Escape character is '^'.


CIMC Debug Firmware Utility Shell [support]

[help]# **power**

OP:[status]
 Power-State: [on]
 VDD-Power-Good: [active]
 Power-On-Fail: [inactive]
 Power-Ctrl-Lock: [unlocked]
 Power-System-Status: [Good]
 OP-CCODE:[Success]
 [power]#

```
[ help ]# sensors
```

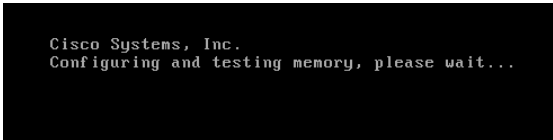
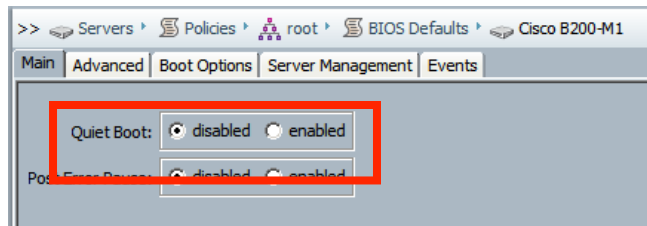
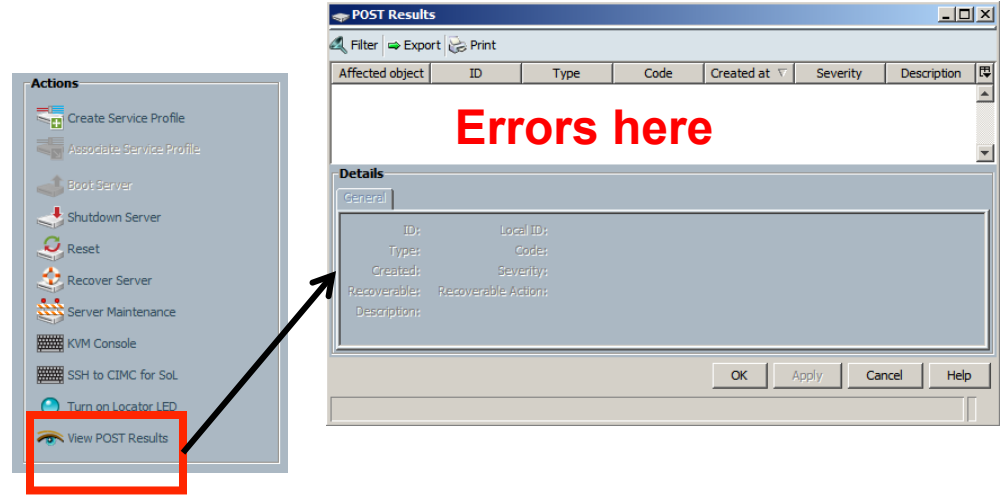
Sensor Name	Reading	Unit	Status	LNR	LC	LCN	UNC	UC	UNR
P3V_BAT_SCALED	3.076	Volts	OK	1.993	2.416	na	na	3.287	na
P1V8_P2	1.784	Volts	OK	1.617	1.705	na	na	1.891	1.980
P5V_SCALED	4.940	Volts	OK	4.483	4.748	na	na	5.254	5.519
P1V8_P1	1.784	Volts	OK	1.617	1.705	na	na	1.891	1.980
P3V3_SCALED	3.271	Volts	OK	2.970	3.128	na	na	3.476	3.634
P1V1_VTT_P2	1.147	Volts	OK	na	na	1.039	1.235	1.245	1.254
P1V1_VTT_P1	1.127	Volts	OK	na	na	1.039	1.235	1.245	1.254
P1V1_VCCP_P2	0.931	Volts	OK	na	na	0.794	1.294	1.323	1.352
P1V1_VCCP_P1	0.941	Volts	OK	na	na	0.794	1.294	1.323	1.352
P1V5_DDR3_P2	1.539	Volts	OK	1.343	1.421	na	na	1.578	1.666
P1V5_DDR3_P1	1.529	Volts	OK	1.343	1.421	na	na	1.578	1.666
VR_P2_IMON	3.500	Amps	OK	na	na	na	161.000	182.000	203.000

.....
 The image cannot be displayed. Your computer may not have enough memory to open the image, or the image may have been corrupted. Restart your computer, and then open the file again. If the red x still appears, you may have to delete the image and then insert it again.

- Debug Firmware
- Utility
- alarms
- cores
- exit
- help [COMMAND]
- images
- mctools
- memory
- messages
- network
- obfl
- post
- power**
- sensors**
- sel
- fru
- mezz1fru
- mezz2fru
- tasks
- top
- update
- users
- version

Power on Self Test Results Can Cause Blade Failure

- View last POST test results
- Change the default enabled Quiet Boot option to Disabled so to view post testing, reboot blade and monitor with KVM console

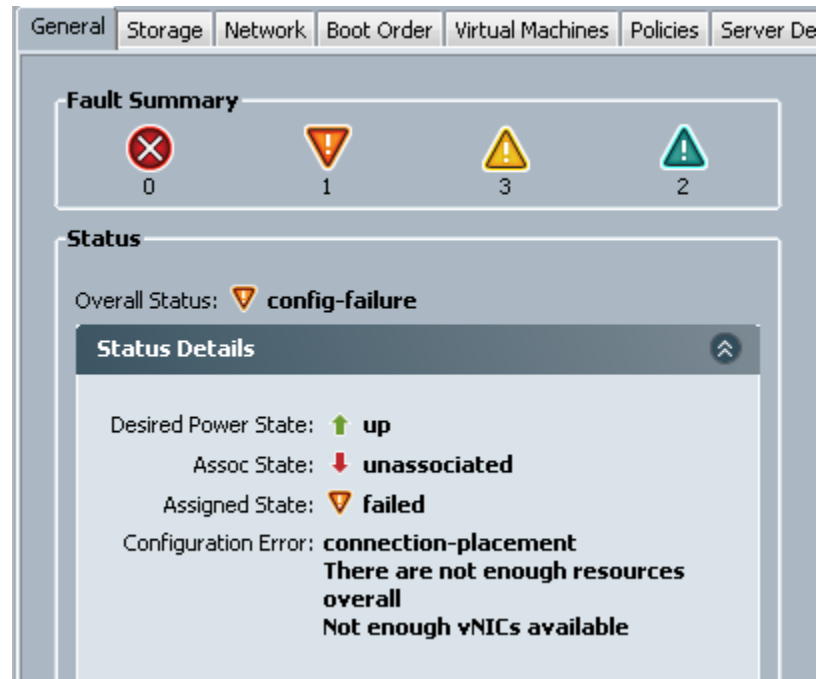


Blade servers – Common issues



Service profile association failed

- Insufficient resources
- Uplink connectivity issues



The screenshot displays a management console interface with several tabs: General, Storage, Network, Boot Order, Virtual Machines, Policies, and Server De. The 'General' tab is active, showing a 'Fault Summary' section with four icons: a red 'X' (0), a yellow inverted triangle (1), a yellow triangle (3), and a green triangle (2). Below this is a 'Status' section with an 'Overall Status' of 'config-failure' (yellow inverted triangle). A 'Status Details' section is expanded, showing:

- Desired Power State: **up** (green up arrow)
- Assoc State: **unassociated** (red down arrow)
- Assigned State: **failed** (yellow inverted triangle)
- Configuration Error: **connection-placement**
There are not enough resources overall
Not enough vNICs available

Blade Startup – Utility O/S

- Utility O/S must boot and complete for blade to come up error free
- Monitor the O/S in Message Status and KVM
- If Utility cannot complete Logs and techsupport outputs need to be viewed for issues

Utility O/S – several screens

```
ISOLINUX 3.72 2008-09-25 ETCD Copyright (C) 1994-2008 H. Peter Anvin
Loading /vmlinuz.....
Loading /pnuosimg.cgz.....
```

Status

Overall Status: 🔄 **Discovery**

Status Details

Current Task: **Identify pre-boot environment agent on server 1/1(FSM-STAGE:sam:dme:ComputeBladeDiscover:PnuOSIdent)**

Admin State: ↑ **In Service**

Discovery State: 🔄 **Retry**

Avail State: ↓ **Unavailable**

Assoc State: ↓ **None**

Power State: ↑ **On**

Slot Status: ↑ **Equipped**

Check Point: **Deep Checkpoint**

Affected object	Code	ID	Cause	Created at	User	Description
sys/chassis-1/blade-1	E4195053	58945	transition	2012-03-06T20:46:29	internal	[FSM:BEGIN]: blade discovery 1/1(FSM:sam:dme:ComputeBladeDiscover)
sys/chassis-1/blade-1	E4195053	58946	transition	2012-03-06T20:46:29	internal	[FSM:STAGE:END]: (FSM-STAGE:sam:dme:ComputeBladeDiscover:begin)
sys/chassis-1/blade-1	E4195054	58947	transition	2012-03-06T20:46:29	internal	[FSM:STAGE:ASYNC]: checking CIMC of server 1/1(FSM-STAGE:sam:dme:ComputeBladeDiscover:BmcPresence)
sys/chassis-1/blade-1	E4195054	58955	transition	2012-03-06T20:46:29	internal	[FSM:STAGE:STALE-SUCCESS]: cheding CIMC of server 1/1(FSM-STAGE:sam:dme:ComputeBladeDiscover:BmcPresence)
sys/chassis-1/blade-1	E4195054	58956	transition	2012-03-06T20:46:29	internal	[FSM:STAGE:END]: checking CIMC of server 1/1(FSM-STAGE:sam:dme:ComputeBladeDiscover:BmcPresence)
sys/chassis-1/blade-1	E4195055	58959	transition	2012-03-06T20:46:29	internal	[FSM:STAGE:ASYNC]: getting inventory of server 1/1 via CIMC(FSM-STAGE:sam:dme:ComputeBladeDiscover:BmcInventory)
sys/chassis-1/blade-1	E4195055	58978	transition	2012-03-06T20:46:32	internal	[FSM:STAGE:STALE-SUCCESS]: getting inventory of server 1/1 via CIMC(FSM-STAGE:sam:dme:ComputeBladeDiscover:BmcInventory)
sys/chassis-1/blade-1	E4195055	58979	transition	2012-03-06T20:46:32	internal	[FSM:STAGE:END]: getting inventory of server 1/1 via CIMC(FSM-STAGE:sam:dme:ComputeBladeDiscover:BmcInventory)
sys/chassis-1/blade-1	E4195056	58980	transition	2012-03-06T20:46:32	internal	[FSM:STAGE:ASYNC]: Preparing to check hardware configuration server 1/1(FSM-STAGE:sam:dme:ComputeBladeDiscover:PreSanitize)
sys/chassis-1/blade-1	E4195056	58995	transition	2012-03-06T20:46:35	internal	[FSM:STAGE:STALE-SUCCESS]: Preparing to check hardware configuration server 1/1(FSM-STAGE:sam:dme:ComputeBladeDiscover:PreSanitize)
sys/chassis-1/blade-1	E4195056	58996	transition	2012-03-06T20:46:35	internal	[FSM:STAGE:END]: Preparing to check hardware configuration server 1/1(FSM-STAGE:sam:dme:ComputeBladeDiscover:PreSanitize)
sys/chassis-1/blade-1	E4195057	58997	transition	2012-03-06T20:46:35	internal	[FSM:STAGE:ASYNC]: Checking hardware configuration server 1/1(FSM-STAGE:sam:dme:ComputeBladeDiscover:Sanitize)
sys/chassis-1/blade-1	E4195057	58998	transition	2012-03-06T20:46:35	internal	[FSM:STAGE:STALE-SUCCESS]: Checking hardware configuration server 1/1(FSM-STAGE:sam:dme:ComputeBladeDiscover:Sanitize)
sys/chassis-1/blade-1	E4195057	58999	transition	2012-03-06T20:46:35	internal	[FSM:STAGE:END]: Checking hardware configuration server 1/1(FSM-STAGE:sam:dme:ComputeBladeDiscover:Sanitize)
sys/chassis-1/blade-1	E4195058	59000	transition	2012-03-06T20:46:35	internal	[FSM:STAGE:SKIP]: power on server 1/1 for discovery(FSM-STAGE:sam:dme:ComputeBladeDiscover:BladePowerOn)

Chassis Slot Resolution

- Issue can arise when moving blades in the Chassis

The image illustrates a network management interface showing a chassis with a physical display that says "Needs Resolution". A red box highlights this message, with an arrow pointing to a "Resolve Slot Issue" dialog box. This dialog box shows the "Present Server" information (Slot ID: 1, Presence: Missing) and the "Provisioned Server" information (Slot ID: 1, Presence: Missing, Vendor: Cisco Systems Inc, PID: N20-B6620-1, Serial Number (SN): QCI132901PR, Server: sys/chassis-1/blade-1). A red box highlights the "Situation" section, which states: "This slot is empty, but the server has not been decommissioned. Click [here](#) to discard the information about the server that was in this slot." An arrow points from this section to a "Clear Slot" dialog box, which asks: "Are you sure you want to clear Server 1? This operation will remove the server object from the system." with "Yes" and "No" buttons.

Equipment Servers LAN SAN VM Admin

Filter: All

Equipment

- Chassis
- Chassis 1
- Fans
- IO Modules
- PSUs
- Servers
- Server 1
- Server 2
- Server 3
- Server 4
- Server 7
- Rack-Mounts
- FEX

General Faults Events FSM

Fault Summary

Physical Display

Needs Resolution

Status

Actions

Re-acknowledge Slot

Resolve Slot Issue

Resolve Slot Issue

Present Server

Slot ID: 1

Presence: **Missing**

Vendor:

PID:

Serial Number (SN):

Server: sys/chassis-1/blade-1

Provisioned Server

Slot ID: 1

Presence: **Missing**

Vendor: Cisco Systems Inc

PID: N20-B6620-1

Serial Number (SN): QCI132901PR

Server: sys/chassis-1/blade-1

Situation

This slot is empty, but the server has not been decommissioned. Click [here](#) to discard the information about the server that was in this slot.

OK Cancel

Clear Slot

Are you sure you want to clear Server 1? This operation will remove the server object from the system.

Yes No

Blade servers – Top 5 commands



```
UCS-A /chassis/server # show inventory expand detail
```

```
UCS-A /chassis/server # show status detail
```

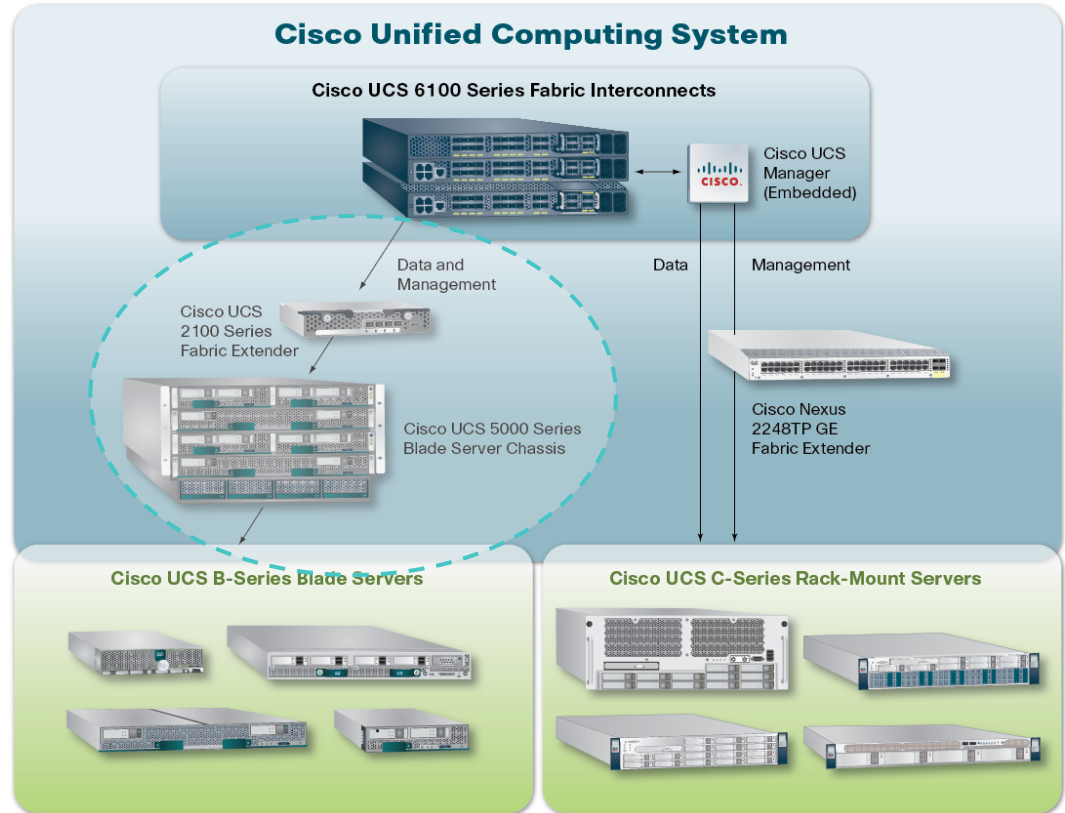
```
UCS-A /chassis/server # show post
```

```
UCS-A /chassis/server # show sel
```

```
UCS-A /chassis/server# show fsm status
```


Agenda

- UCSM & Fabric Interconnect
- Blade Servers
- IOM & Chassis

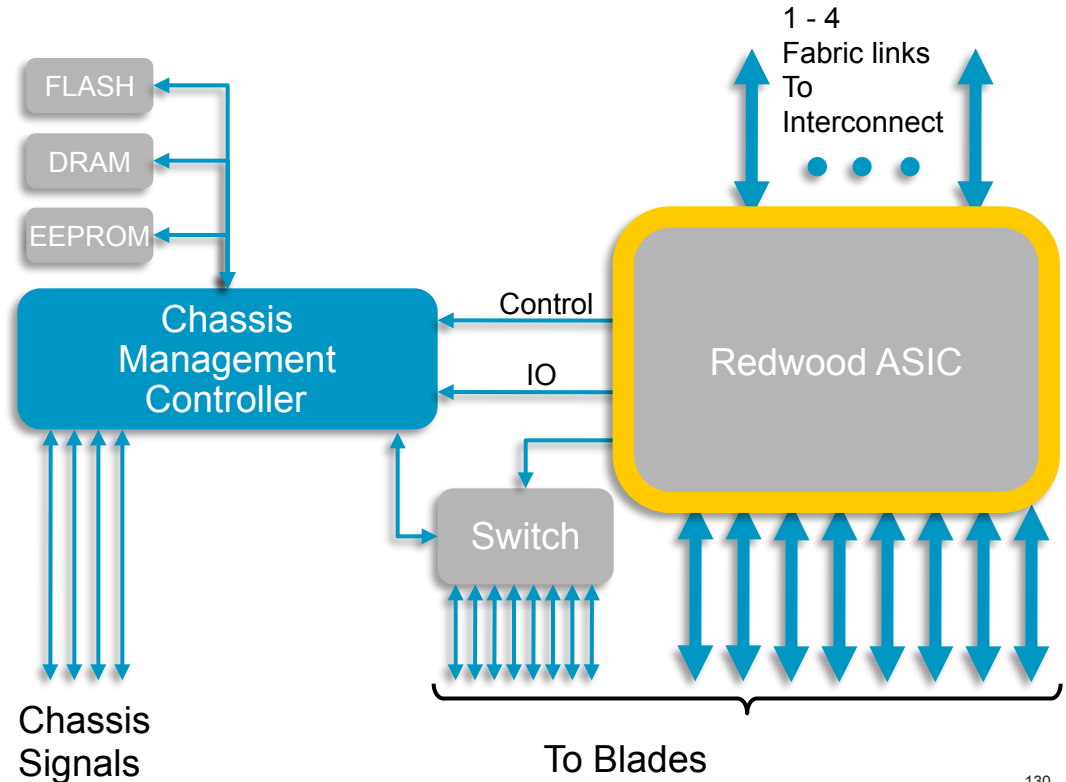


IOM & Chassis



Overview

- CMC responsibilities
 - Chassis Discovery
 - Local cluster management
 - Power & Thermal Management

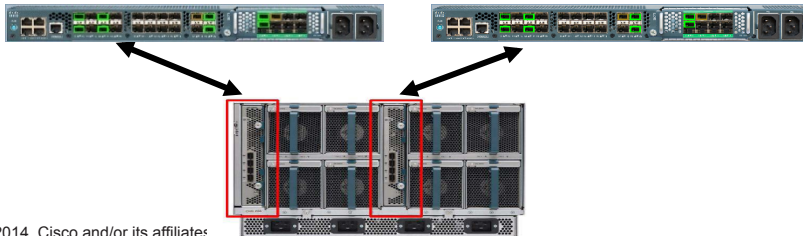


IOM & Chassis – Common issues



Chassis not discovering

- Check chassis discovery policy
- Server ports defined correctly
- FI to IOM 1:1 relationship only



```
UCS-A(nxos)# show run interface
    ethernet x/y

UCS-A(nxos)# show interface fex-fabric

UCS-A(nxos)# show fex <chassis#> detail
```

IOM & Chassis – Common issues



Fan issues

- Spinning at 100%
 - Temperature
 - Any fans missing?
 - CMC access to thermal sensors
 - Component discovery

```
UCS-A# connect iom 1

fex-1# show platform software cmcctrl thermal status

fex-1# show platform software cmcctrl fancontrol all

fex-1# show platform software cmcctrl ohms all
```

IOM & Chassis – Common issues



Power issues

- Power Policy
 - Grid, N+1 or non redundant
- Power cap issues

A screenshot of a terminal window with a standard Windows-style title bar (minimize, maximize, close buttons). The window contains two lines of text: the first line is 'UCS-A# connect iom 1' and the second line is 'fex-1# show platform software cmcctrl power manager'.

```
UCS-A# connect iom 1

fex-1# show platform software cmcctrl power manager
```

IOM & Chassis – Top 5 commands



```
UCS-A(nxos)# show fex detail
```

```
UCS-A# connect iom 1
```

```
    fex-1# show platform software cmcctrl cmc manager
```

```
    fex-1# show platform software cmcctrl thermal status
```

```
    fex-1# show platform software cmcctrl obfl logs
```

```
    fex-1# show platform software cmcctrl pstate
```

Ethalyzer Tool Usage

- Uses Wireshark utility to view FI control data and Management traffic
- Ethalyzer is a tool that will collect frames that are destined to, or originate from the FI control plane. Node to FI, or FI to Network traffic can be seen with this tool.
- Need to be connected to NXOS

```
CiscoLive-A# connect nxos
```

```
<CR>
```

```
a Fabric A
```

```
b Fabric B
```

```
CiscoLive-A(nxos)# ethalyzer local sniff-interface ?
```

```
inbound-hi Inbound(high priority) interface
```

```
inbound-low Inbound(low priority) interface
```

```
mgmt Management interface
```

Capture Options

>	Redirect it to a file
>>	Redirect it to a file in append mode
capture-filter	Filter on ethalyzer capture
decode-internal	Include internal system header decoding
detailed-dissection	Display detailed protocol information
display-filter	Display filter on frames captured
dump-pkt	Hex/Ascii dump the packet
limit-captured-frames	Maximum number of frames to be captured
limit-frame-size	Capture only a subset of a frame
write	Filename to save capture to
	Pipe command output to filter

Ethernet Interfaces on CPU Troubleshooting Uses

Ethalyzer terminology, internal ethernet interfaces are used:

eth3 = inbound-lo

eth4 = inbound-hi

eth3 handles Rx and Tx of low priority control pkts

IGMP, CDP

TCP/UDP/IP/ARP (for management purpose only)

eth4 handles Rx and Tx of high priority control pkts

FC (FC packets come to Switch CPU as FCoE packets) and FCoE

STP (spanning-tree) , LACP, DCBX (Data Center Bridging)

Save to file and use Wireshark tool to help diagnose issue

```
CiscoLive-A(nxos)# ethalyzer local sniff-interface inbound-hi limit-captured-frames 100 write volatile:///ciscolive11  
Capturing on eth4  
100
```

```
CiscoLive-A(nxos)# exit
```

```
CiscoLive-A# connect local-mgmt a
```

```
CiscoLive-A(local-mgmt)# cd volatile:/
```

```
CiscoLive-A(local-mgmt)# ls
```

```
CiscoLive-A(local-mgmt)# copy volatile:///ciscolive11 tftp:
```

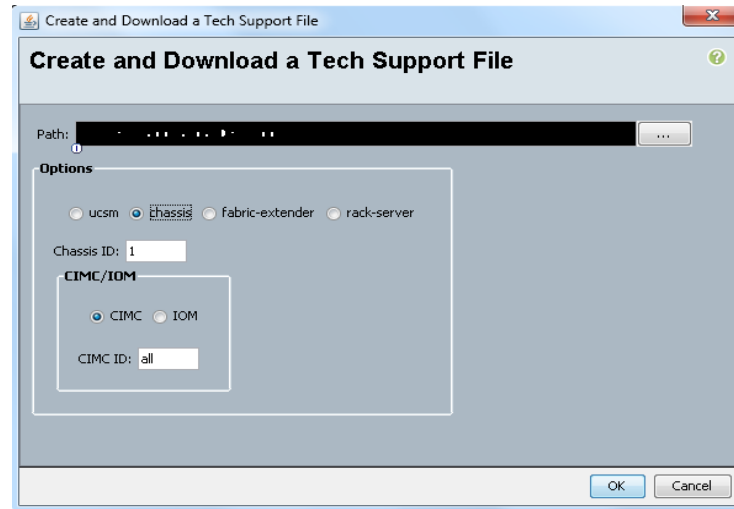
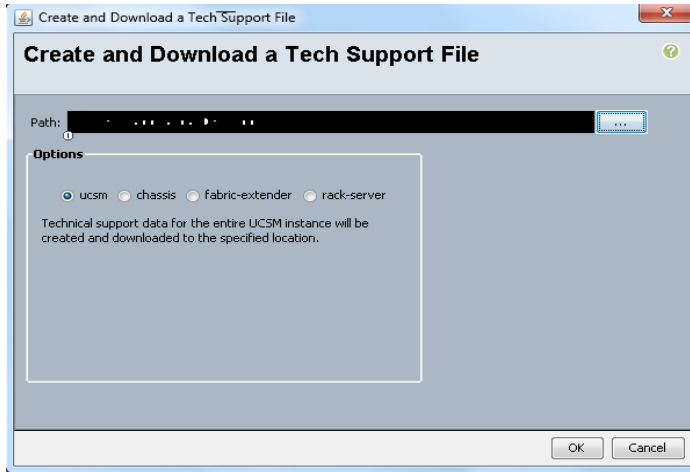
```
Server name/IP: 10.91.42.136
```

```
Remote username: CAE
```

```
Remote filepath: \
```


UCSM and Chassis show tech from GUI

- Log into the UCSM GUI
- Select the admin tab -> faults, Audit and event-logs section -> Tech Support File



List on known bugs in the releases:

- 2.2(1b)
- [CSCug93342](#) FI is going to loader prompt while performing image upgrade. **Fixed 2.2(1b) 2.1(3b) 2.0(5f)**
- [CSCun00720](#) / [CSCud91244](#) / [CSCtz92512](#) / [CSCue45276](#) / [CSCun66310](#) FI Completely unresponsive after upgrade
- [CSCum75266](#) Upgrade to 2.2.1b results in FI-B reload. Boots up to bash prompt

2.1(3a)

- [CSCuj79533](#) / [CSCub51662](#) UCS Upgrade to 2.1(3a) Infra, Multiple Servers Go Into Compute Failed **Fixed 2.1(1b) 2.0(5a) 2.0(4a)**
- [CSCug93342](#) FI is going to loader prompt while performing image upgrade **Fixed 2.2(1b), 2.1(3b), 2.0(5f)**

Where to find more information

- Hardware Installation & Service Guides Information
http://www.cisco.com/en/US/docs/unified_computing/ucs/overview/guide/UCS_roadmap.html#wp38892
- Release Notes
http://www.cisco.com/en/US/products/ps10281/prod_release_notes_list.html
- Software Upgrade & Installation Information
http://www.cisco.com/en/US/products/ps10281/prod_installation_guides_list.html
- UCS Troubleshooting Guide
http://www.cisco.com/en/US/docs/unified_computing/ucs/ts/guide/UCSTroubleshooting.html
- UCS Faults Reference
http://www.cisco.com/en/US/docs/unified_computing/ucs/ts/faults/reference/ErrMess.html
- Cisco Support Community
<https://supportforums.cisco.com/community/netpro/data-center/unified-computing>

Polling Question 3

Do you have Nexus 1000v installed on a UCS environment?

- a. I have UCS but no Nexus 1000v on it
- b. I have Nexus 1000v but not on UCS
- c. I am planning to have Nexus 1000v on UCS
- d. I am using Nexus 1000v on UCS

Submit Your Questions Now!



Use the Q & A panel to submit your questions and our expert will respond

Ask the Expert Event Continuing the Webcast Q&A on the Cisco Support Community

If you have additional questions, you can ask Varun Mehta and Anupam Asthana. They will be answering from September 17 through Wednesday, September 24th.



<https://supportforums.cisco.com/discussion/12302271/ask-expert-cisco-unified-computing-system-ucs-b-series-upgrade-troubleshooting>

You can catch the video or read the Q&A five business days after the event at <https://supportforums.cisco.com/expert-corner/knowledge-sharing>

Trivia Question (Select the correct answer)

What Does Sonic the Hedgehog and Cisco's Unified Computing System Share in Common?

- a. Sega uses Cisco Unified Computing System as the server infrastructure for simultaneously supporting other small-scale games. Despite being fully virtualized, the server integration ratio is much lower than that for their number one game "Phantasy Star Online 2" environment.
- b. Sega started searching for a new server foundation for POS2 back in 2010 with the assumption that server virtualization would be introduced. Ironically, despite the long search, Cisco was not one of Sega's top choices.
- c. Gaming Company Sega, famous for their popular game Sonic the Hedgehog, uses Cisco's Unified Computing System to maximize memory capacity for the online gaming infrastructure. This helps to increase the number of virtual servers to keep pace with the increased number of simultaneous connections.

Upcoming Webcasts

ESA Configuration and Troubleshooting Training

September 22, 2014

10:00 AM PST - 5:00 PM EST

The ESA Content Security team is happy to announce our upcoming Live Virtual training session for our Email Security Appliance.

Connected Analytics for Network Deployment, with Cisco subject matter expert, June Zheng

October 21, 2014

10:00 AM PST - 5:00 PM EST

During this live event, subject matter expert June Zheng will cover a number of advanced topics and live demo on the Connected Analytics for Network Deployment.

Registration for these live webcasts:

Visit the Webcast tab > <https://supportforums.cisco.com/expert-corner/knowledge-sharing>

Ask the Expert Events – Current /Upcoming English



Configuring and Troubleshooting 802.1X open questions

Join Cisco Expert: **Javier Henderson**

This is an opportunity to learn and ask questions about how to configure and troubleshoot 802.1X.

802.1X is an IEEE standard for media-level access control, offering the capability to permit or deny network connectivity, control VLAN access, and apply traffic policy, based on user or machine identity. During this event, Javier Henderson will answer all your questions regarding 802.1X configuration and troubleshooting.

September 13th - September 26th, 2014

Join the discussion for these Ask The Expert Events:

<https://supportforums.cisco.com/community/netpro/expert-corner#view=ask-the-experts>



Participate in Live Interactive Technical Events and much more

<http://bit.ly/1jll93B>

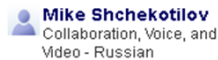
Event Top Contributors

Class 2014

External Contributors



Cisco Contributors



The screenshot shows the Cisco Support Community website. The navigation bar includes 'Cisco', 'Directory', 'Expert Corner', 'Solutions', and 'Community Corner'. A dropdown menu is open under 'Expert Corner', with 'Experts Bureau' highlighted by a red arrow. Other menu items include 'Top Contributors', 'Leaderboards', 'Knowledge Sharing', 'Voting results', 'Panelizer', and 'Hierarchy'. The main content area is titled 'Experts Bureau' and contains text explaining the purpose of the Experts Bureau and how to participate.

<https://supportforums.cisco.com/expert-corner/top-contributors>

We invite you to actively collaborate in the Cisco Support Community & Social Media



<http://www.facebook.com/CiscoSupportCommunity>



http://twitter.com/#!/cisco_support



<http://www.youtube.com/user/ciscosupportchannel>



<https://plus.google.com/110418616513822966153?prsrc=3#110418616513822966153/posts>



<http://www.linkedin.com/groups/CSC-Cisco-Support-Community-3210019>

Newsletter Subscription



https://tools.cisco.com/gdrp/coiga/showsurvey.do?surveyCode=589&keyCode=146298_2&PHYSICAL%20FULFILLMENT%20Y/N=NO&SUBSCRIPTION%20CENTER=YES



<http://itunes.apple.com/us/app/cisco-technical-support/id398104252?mt=8>



https://play.google.com/store/apps/details?id=com.cisco.swtg_android

We have communities in other languages!

If you speak Spanish, Portuguese, Japanese, Russian or Chinese we invite you to participate and collaborate in your language

Spanish → <https://supportforums.cisco.com/community/spanish>

Portuguese → <https://supportforums.cisco.com/community/portuguese>

Japanese → <https://supportforums.cisco.com/community/csc-japan>

Russian → <https://supportforums.cisco.com/community/russian>

New Chinese Community!

Chinese → <http://www.csc-china.com.cn/>



Rate Support Community Content

Ratings on Documents, Blogs, and Videos Now Receive Points!



Show support of your fellow colleagues' contributions by rating content posted.

[Learn More](#)

Now your ratings on documents, videos, and blogs count give points to the authors!!!

So, when you contribute and receive ratings you now get the points in your profile.

Help us to recognize the quality content in the community and make your searches easier. Rate content in the community.

Documents Leaderboard		Discussions Leaderboard	
Username	Points	Username	Points
aokanlawon	94	Jonathan Schulenberg	260
TCC	66	Aaron Harrison	222
Greeshma Bernad	30	Chris Deren	74
marwanshaw1	28	Steven DiStefano	40
Kunal Satija	15	Martin Koch	23

Videos Leaderboard		Blogs Leaderboard	
Username	Points	Username	Points
William Bell	55	Ayodeji oladipo Okanlawon	65
Ginger Dillon	49	William Bell	30
jamie king	21	Ginger Dillon	10
Victor Danu	15	Paolo Benifacava	10
Stephen Welsh	6	George Stefanick	5

<https://supportforums.cisco.com/blog/154746>

More IT Training Videos & Tech Seminars on the Cisco Learning Network

View Upcoming Sessions Schedule
cisco.com/go/techseminars



Trivia Question (Select the correct answer)

What Does Sonic the Hedgehog and Cisco's Unified Computing System Share in Common?

- a. Sega uses Cisco Unified Computing System as the server infrastructure for simultaneously supporting other small-scale games. Despite being fully virtualized, the server integration ratio is much lower than that for their number one game "Phantasy Star Online 2" environment.
- b. Sega started searching for a new server foundation for POS2 back in 2010 with the assumption that server virtualization would be introduced. Ironically, despite the long search, Cisco was not one of Sega's top choices.
- c. Gaming Company Sega, famous for their popular game Sonic the Hedgehog, uses Cisco's Unified Computing System to maximize memory capacity for the online gaming infrastructure. This helps to increase the number of virtual servers to keep pace with the increased number of simultaneous connections.

The answer is C: Cisco Unified Computing System was eventually chosen due to its ability to run all 400 of Sega's servers.

Thank you for Your Time!

Please take a moment to complete the evaluation



Thank you.

