Mastering the Upgrade to CUCM Version 15: Innovations, Troubleshooting, and Seamless Transition

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BRKCOL-2082

Reference Sessions

2025:

- Cisco Unified Communications Manager (CUCM) Platform Update for On Premise Calling and Webex Calling Dedicated Instance (DI) – **BRKCOL-2076**

Previous Cisco Live sessions:

- Upgrade to Cisco Unified Communications Manager Release 15 with Confidence! – **BRKCOL-2076** (Las Vegas 2024)
- Best Practices for Migrating From Previous Versions of Cisco Unified Communications Manager (CUCM) to Version 12.5 – **BRKUCC-2011** (Barcelona 2020)

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Cisco Webex App

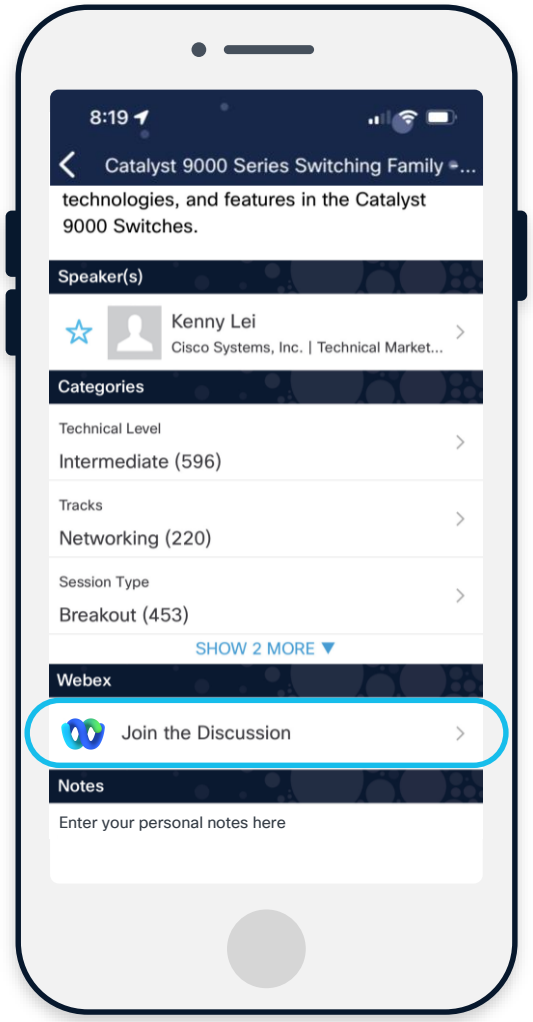
Questions?

Use Cisco Webex App to chat
with the speaker after the session

How

1. Find this session in the Cisco Live Mobile App
2. Click “Join the Discussion”
3. Install the Webex App or go directly to the Webex space
4. Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until June 13, 2025.



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Agenda

01 Why Upgrade?

02 Upgrade Methods

03 Simple Upgrade

04 Fresh Install with Data Import

05 General Recommendations

06 General Troubleshooting

07 Solving Common Issues

08 Key Takeaways

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In the middle of difficulty lies opportunity

Albert Einstein

Theoretical Physicist

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Why Upgrade?

CUCM EOL Announcement and EOS Timeline

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EOL/EOS Notices and Release Selection

Milestone	Potential Activity	Summary
Before End-of-Sales Date	Ability to deploy new cluster	
After End-of-Sales Date	Start planning for upgrades	1 year
End of SW Maintenance	Desire to complete the upgrade	

Upgrade Planning:

- Consistent release cycles
- Predictable End-of-Sales/Support milestones durations

End-of-Sales and End-of-Life Products

https://www.cisco.com/c/en/us/products/eos-eol-listing.html

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Files for CUCM Version 15

Functionality	File Name
Upgrade Readiness COP file to run post upgrade tests	ciscocm.postUpgradeCheck-00045.k4.cop.sha512
Upgrade Readiness COP file to run pre upgrade tests	ciscocm.preUpgradeCheck-00045.k4.cop.sha512
The Cisco Free Common Space COP file can be used to free up space when the upgrade runs out of space	ciscocm.free_common_space_v1.11.k4.cop.sha512
Recovery Software	15.0.1.10000-32-recovery.iso
Prime Collab Deployment (PCD) non-bootable	PCD_UCOS_15.0.1.12900-47.sha512.iso
CUCM 15 SU2 non-bootable	UCSInstall_UCOS_15.0.1.12900-234.sha512.iso
Virtual Server Template (OVA file)	**cucm_15.0_vmv17_v1.2.sha512.ova**

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Migration to Alma Linux 8 and 64-bit

Alma Linux as OS

010110
110010
001011

64-Bit System

Open-VMTools

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Additional Considerations

Direct Upgrade from 10.5/11.5/12.0 to 15 are not supported

Upgrades from 10.5/11.5/12.0 require a staged upgrade to 12.5/14 and then to 15, or a Direct Migration

Upgrades from 12.5/14 to 15 require Direct Upgrade and not Refresh Upgrade

The hardware specifications have changed

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Direct Upgrade vs Refresh Upgrade

Direct Upgrade

- Active partition is running while software is upgraded on inactive partition
- Low complexity with shortest possible downtime
- Formerly called L2 Upgrade

Refresh Upgrade

- Server is down while upgrade is taking place on inactive partition
- Medium complexity with longer downtime

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Virtual Hardware Specifications Changes

CUCM Version 14

Minimum vSphere ESXi: 6.7, 7.0 U1, 8.0 U1 (VM version 13)

	vCPU	Physical CPU Base Frequency	vRAM	vDisk	vNIC
Small Example VM	2	2.00+ GHz	6 GB	1 x 80 GB	1(1GbE+)
Medium Example VM	2	2.50+ GHz	8 GB	1 x 110 GB	1(1GbE+)
Large Example VM	4	2.50+ GHz	8 GB	1 x 110 GB	1(1GbE+)

CUCM Version 15

Minimum vSphere ESXi: 7.0 U3, 8.0 U1 (VM version 17)

	vCPU	Physical CPU Base Frequency	vRAM	vDisk	vNIC
Small Example VM	2	2.00+ GHz	10 GB	1 x 110 GB	1(1GbE+)
Medium Example VM	2	2.50+ GHz	12 GB	1 x 110 GB	1(1GbE+)
Large Example VM	4	2.50+ GHz	14 GB	1 x 110 GB	1(1GbE+)

Shutdown VM:

- Increase vRAM
- Increase vCPUs

Not supported:

- Increasing vDisk requires reinstall

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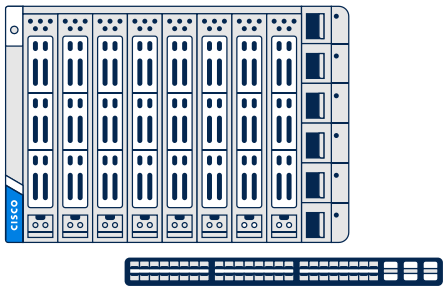
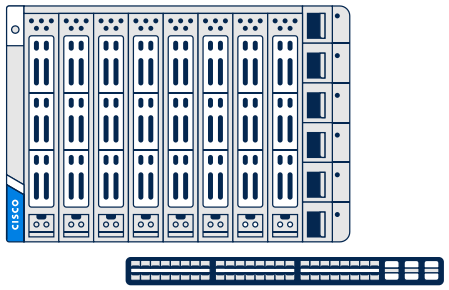
Hardware Considerations

Business Edition 7000H (M5) Example for Large Collaboration		
Spec	**Product ID**	**Qty**
BE7000H (M5) Appliance	BE7H-M5-K9	1
Dual Xeon 6132 (2S/14C/2.50 GHz)	Included	
192GB RAM	Included	
RAID Controller (12G)	Included	
Local DAS storage 24x 300GB SAS in quad 6-disk-RAID5 ~1TB usable GB per volume	Included	
2x10GE LoM NIC	Included	
Dual 4x1GbE NIC	Included	
PCIe Riser	Included	
Redundant power supplies	Included	
Rack-mounting kit	Included	

Business Edition 7000H (M6) Example for Large Collaboration		
Spec	**Product ID**	**Qty**
BE7000H (M6) Appliance	BE7H-M6-K9	1
Single Xeon 6348 (1S/28C/2.60 GHz)	Included	
192GB RAM	Included	
RAID Controller (12G)	Included	
Local DAS storage 24x 600GB SAS in quad 6-disk-RAID5 ~3TB usable GB per volume	Included	
2x10GE Cu LoM NIC	Included	
Dual 4x10GE Cu NIC	Included	
PCIe Riser	Included	
Redundant power supplies	Included	
Rack-mounting kit	Included	
Trusted Platform Module	Included	





You can only upgrade to vSphere ESXi 8 from 6.7 or higher. Upgrades from pre-6.7 to 8 are not supported

UCS Hardware and Software Compatibility Tool

https://ucshcltool.cloudapps.cisco.com/public/

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OAuth Enhancement

Old

When client attempts to renew the token on CUCM SUB, token MUST be stored in the PUB

New

The OAuth service on SUB will authenticate, authorize, and issue the Access and Refresh tokens

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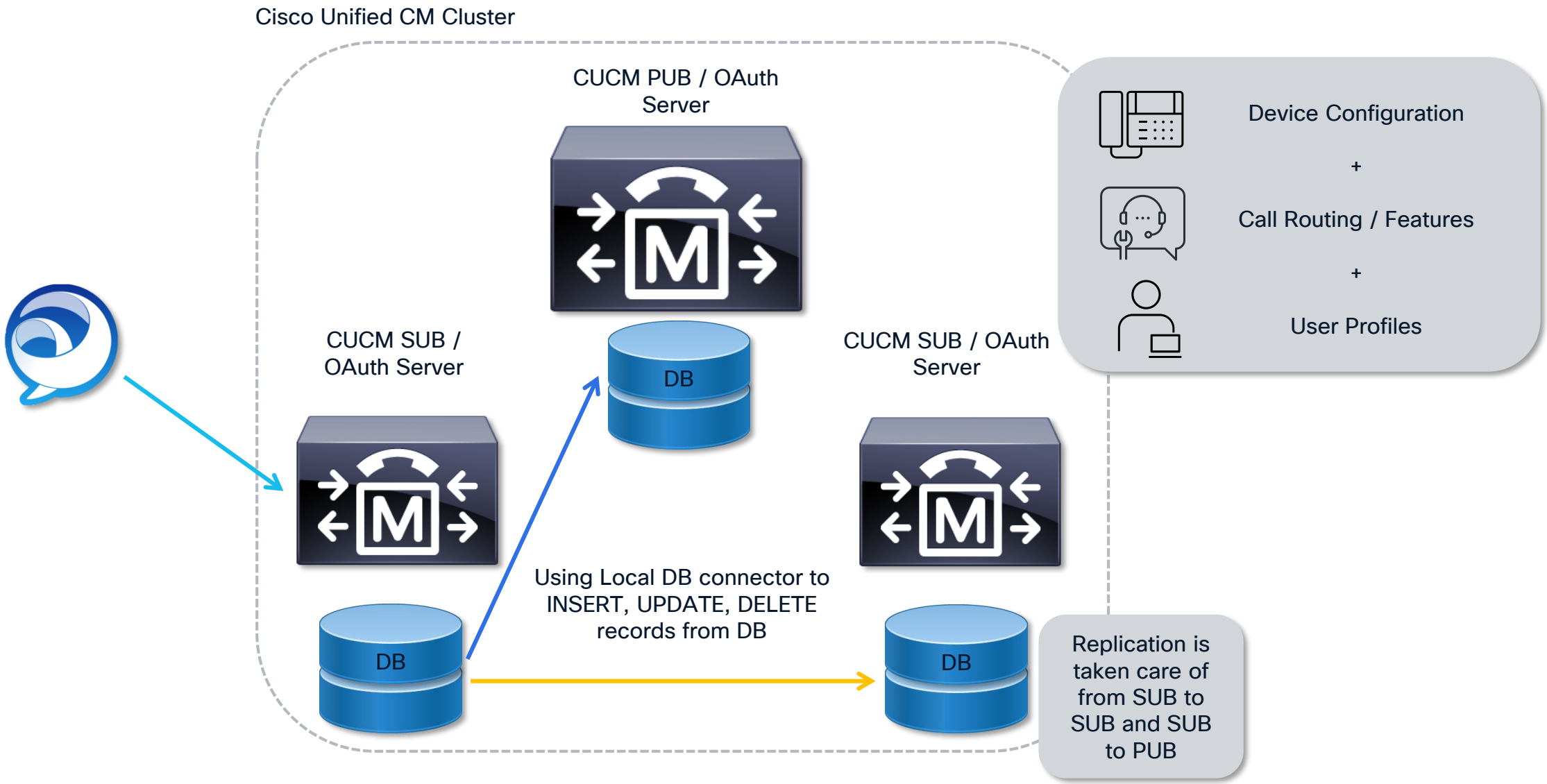
OAuth Enhancement



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Support to Renew Refresh Token Automatically

Before

Webex required end users to log in with Single Sign On every 60 days

Before

- End users experienced phone disconnection
- Some users postponed SSO login because they could still use IM and meetings

Now

New parameter called “Auto Renew Refresh Token” has been added, and it is enabled by default

Now

- If enabled, CUCM generates a new Refresh Token if its expiration is <50% of the configured expiry time
- If disabled, CUCM maintains previous behavior

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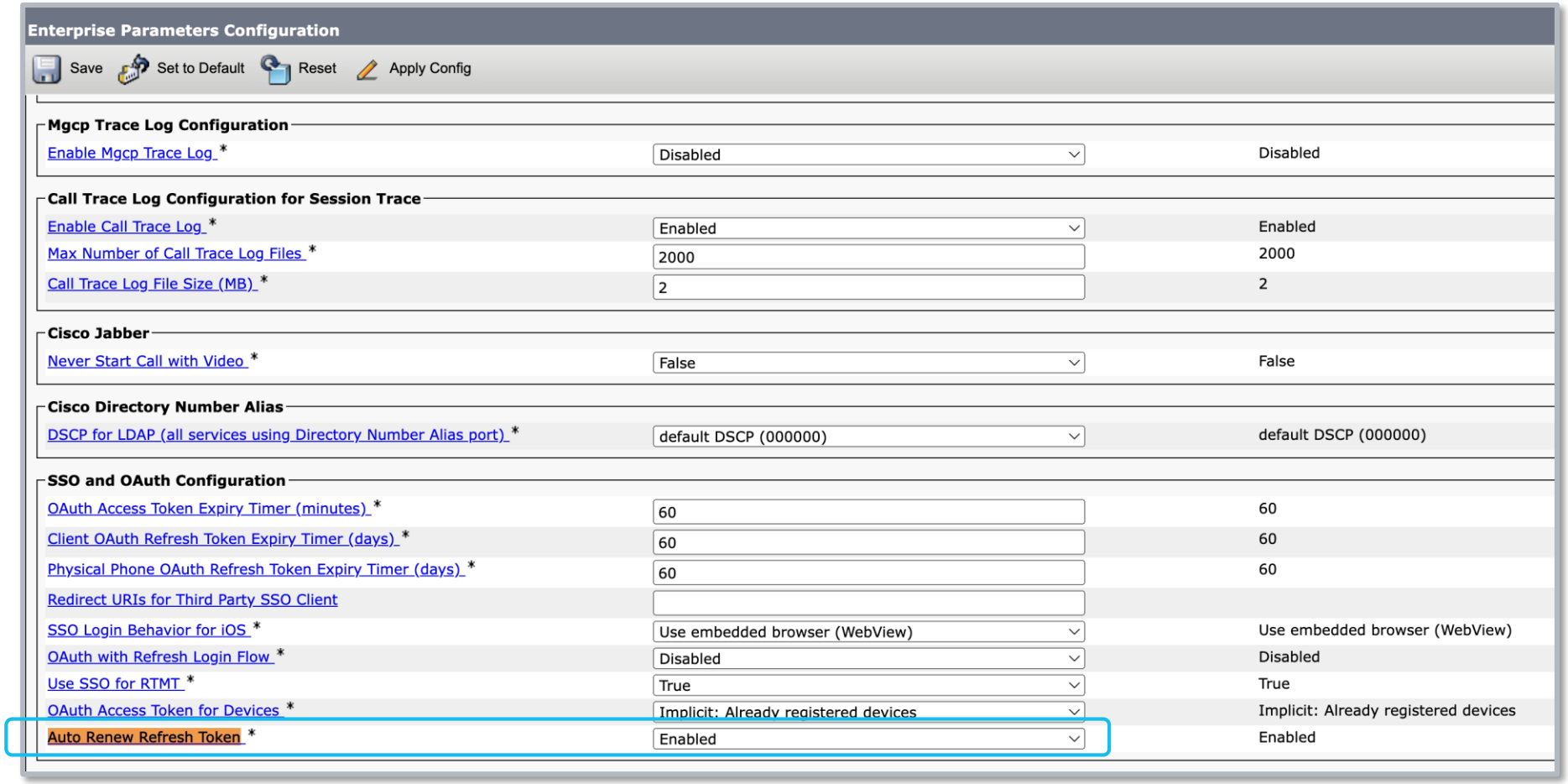
Web Interface Parameters

Cisco Unified CM Administration > System > Enterprise Parameters > SSO and OAuth Configuration



OAuth with Refresh Login Flow needs to be enabled for this feature to work

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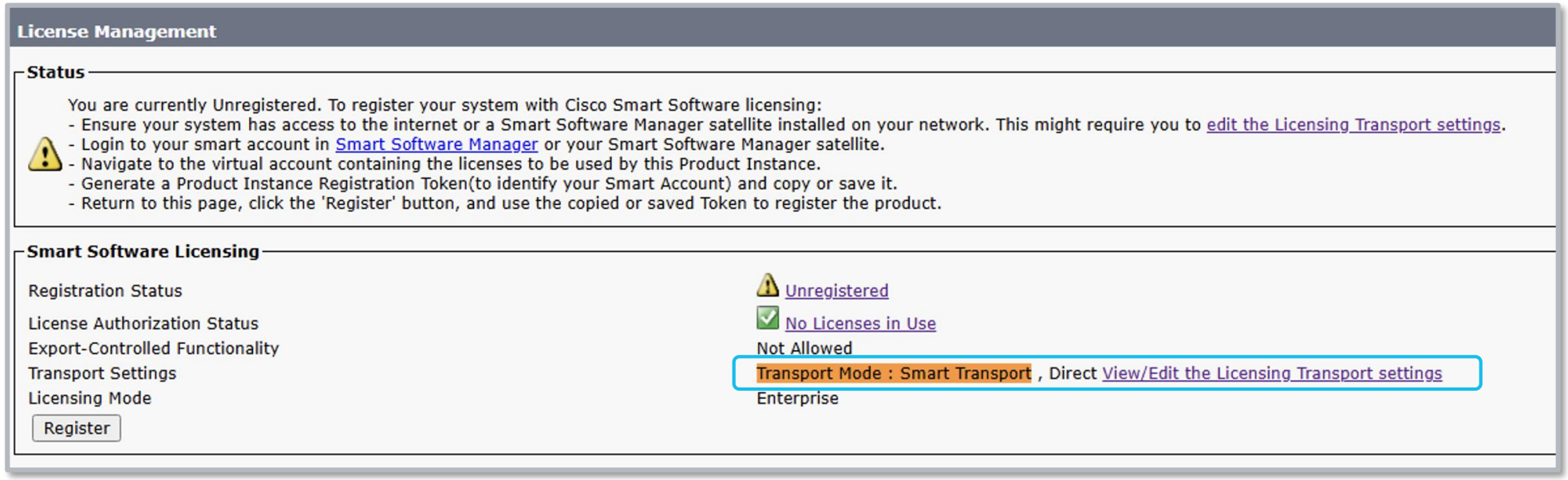
Support for “Smart Transport” (15 SU2)

Cisco Unified CM Administration > System > Licensing



- The new Smart Transport communicates with the Smart Receiver URL:

  https://smartreceiver.cisco.com/licservice/license

- Transport Gateway is not supported with Smart Transport

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TLS 1.3 Connections (15 SU2)

Speed Benefit

Simplified cipher suites

Security Improvements

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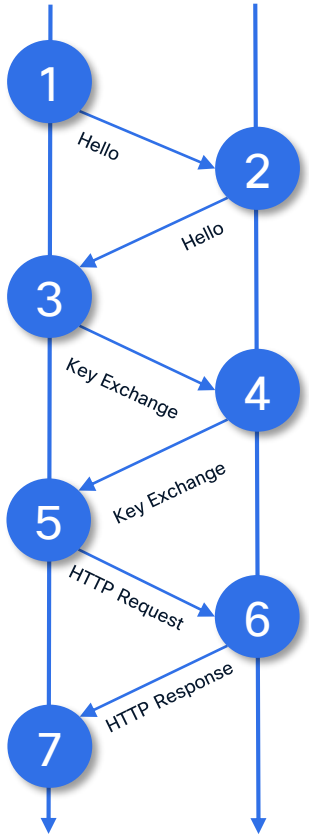
TLS 1.3 Connections (15 SU2)

TLS 1.2
(Full Handshake)

Client Server



Securing Cisco Collaboration: TLS 1.3 (**TACCOL-2013**)

0 ms

50 ms

100 ms

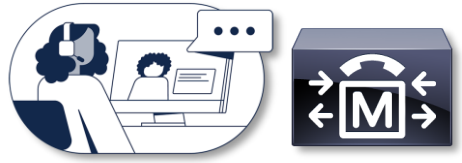
150 ms

200 ms

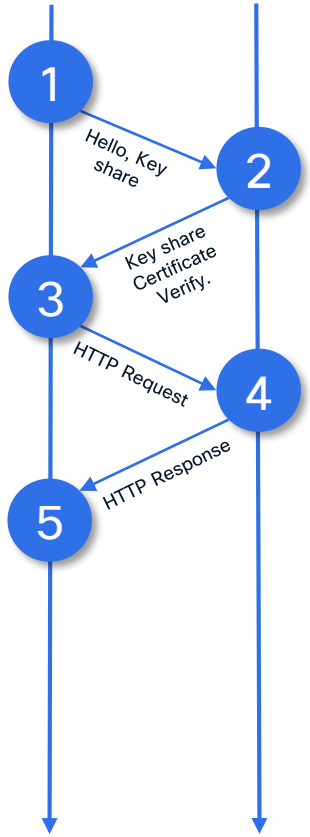
250 ms

300 ms

TLS 1.3
(Full Handshake)



Client Server



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Upgrade Methods

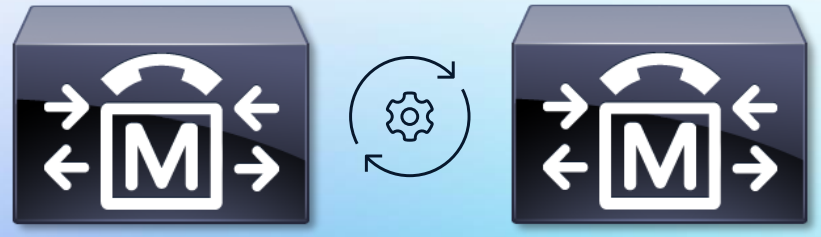
Direct Standard Upgrade

What

- Upgrade the application software, but not the underlying OS
- Simplest form of upgrade
- OS is the same for both releases

How

- Unified OS Admin
- CLI
- PCD Upgrade task



Example: Upgrades from 12.5 SU2 to 12.5 SU3

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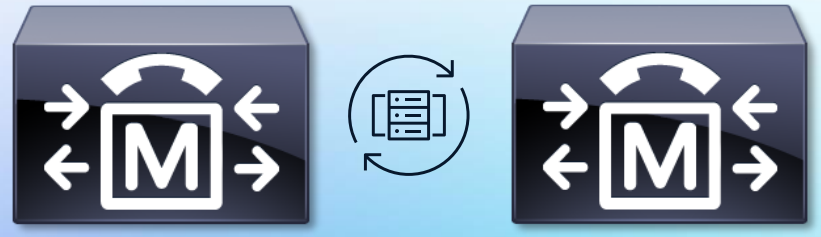
Direct Refresh Upgrade

What

- Upgrade both the application software and the underlying OS
- OS is different for both releases

How

- Unified OS Admin
- CLI
- PCD Upgrade task



Example: Refresh Upgrades from 11.5 to 14 ⊘

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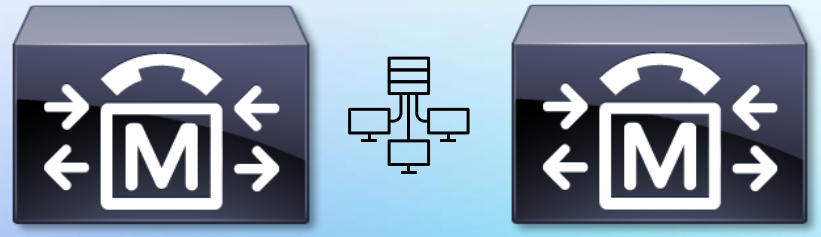
Direct Migration

What

- Involves “repave”
- Site moves
- ESXi Upgrade
- Direct Upgrade path does not exist

How

- PCD Migration
- Fresh Install with Data Import



Example: Upgrades from 10.5 on UCS M3 Hardware to 12.5 on UCS M5 Hardware

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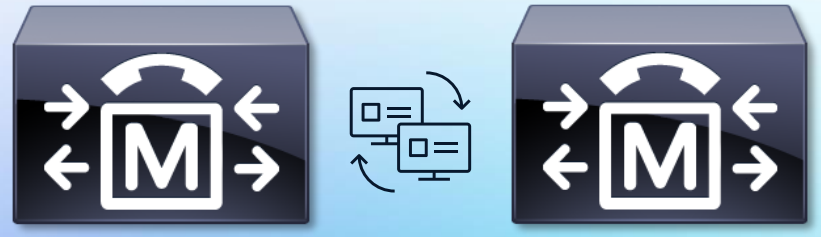
Fresh Install with Data Import

What

- An alternative to direct upgrades and direct migrations
- Export the source release's data to SFTP Server
- Import this data during v15 install

How

- CLI is used to complete installation with data import



Example: Any desired upgrade to 15 from 10.5 or higher

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Migration from Legacy Releases

What

- Source release is old
- No direct upgrade path
- No direct migration path

How

- The only option is a direct upgrade to a later release that supports either PCD Migration or Install with Data Import

Example: Any desired upgrade to 15 from pre-10.5

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Use Simple Upgrade when possible and Fresh Install with Data Import where Simple Upgrade is not possible

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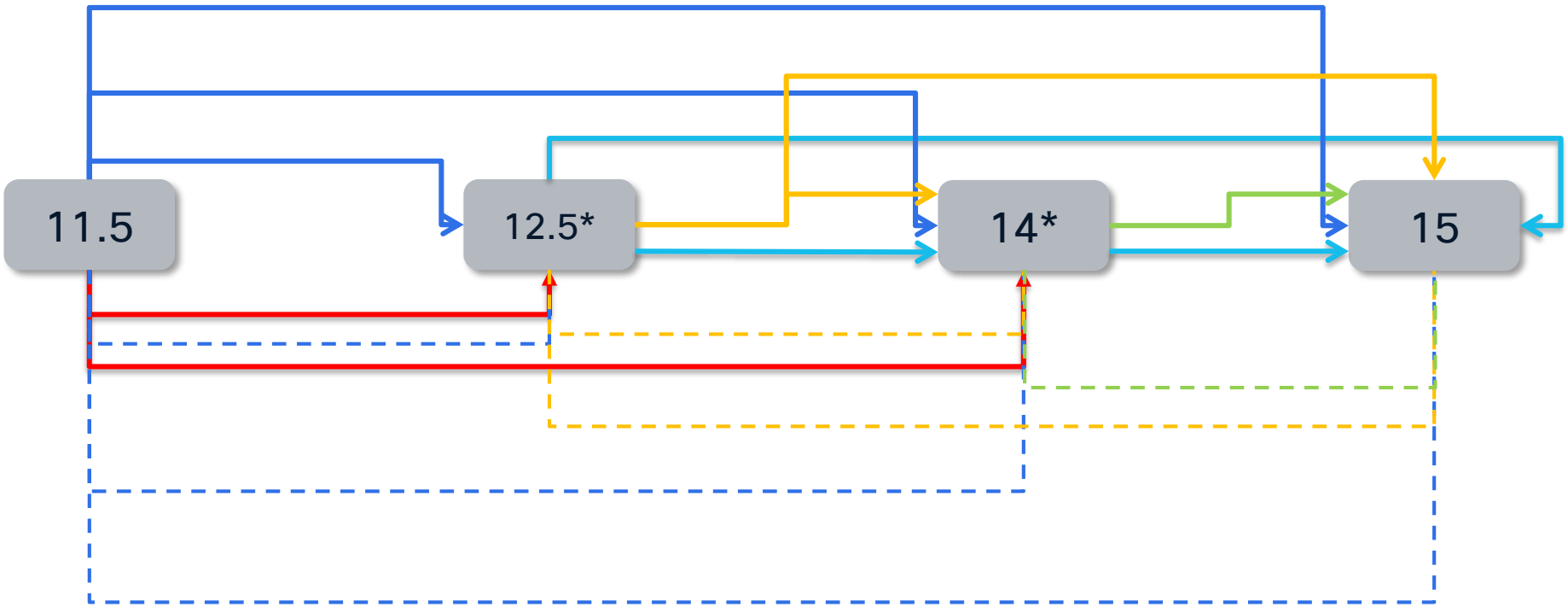
Upgrade Paths



Direct Refresh Upgrade (RU)

PCD Migration Task (V2V – Virtual to Virtual)

Simple Upgrades (Direct Standard Upgrade)

Fresh Install with Data Import (V2V)

*If destination 12.5, must be 12.5 SU5+
If destination 14, 14 SU2+ recommended

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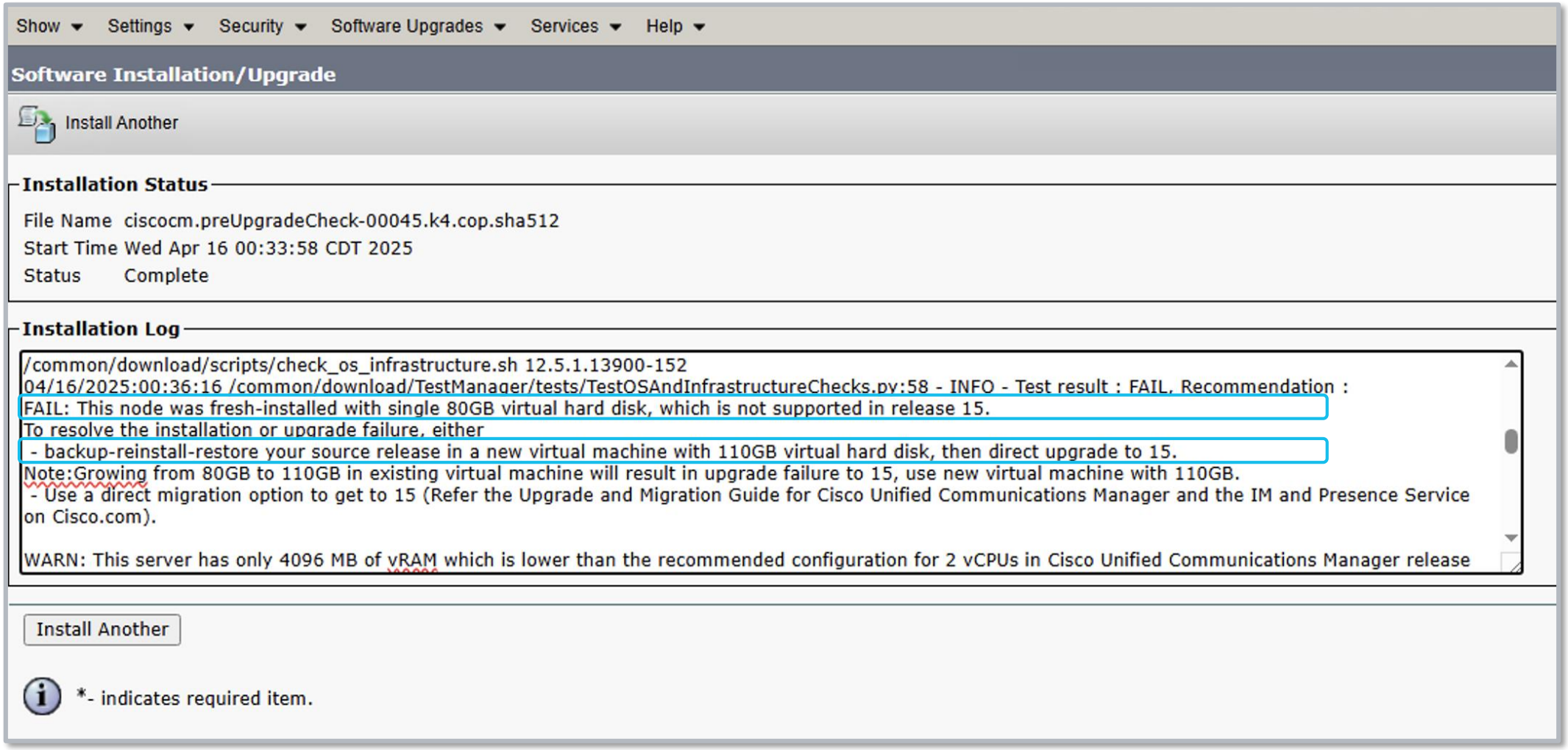
Simple Upgrade

Run Pre-Upgrade COP File

Cisco Unified OS Administration > Software Upgrades > Install/Upgrade



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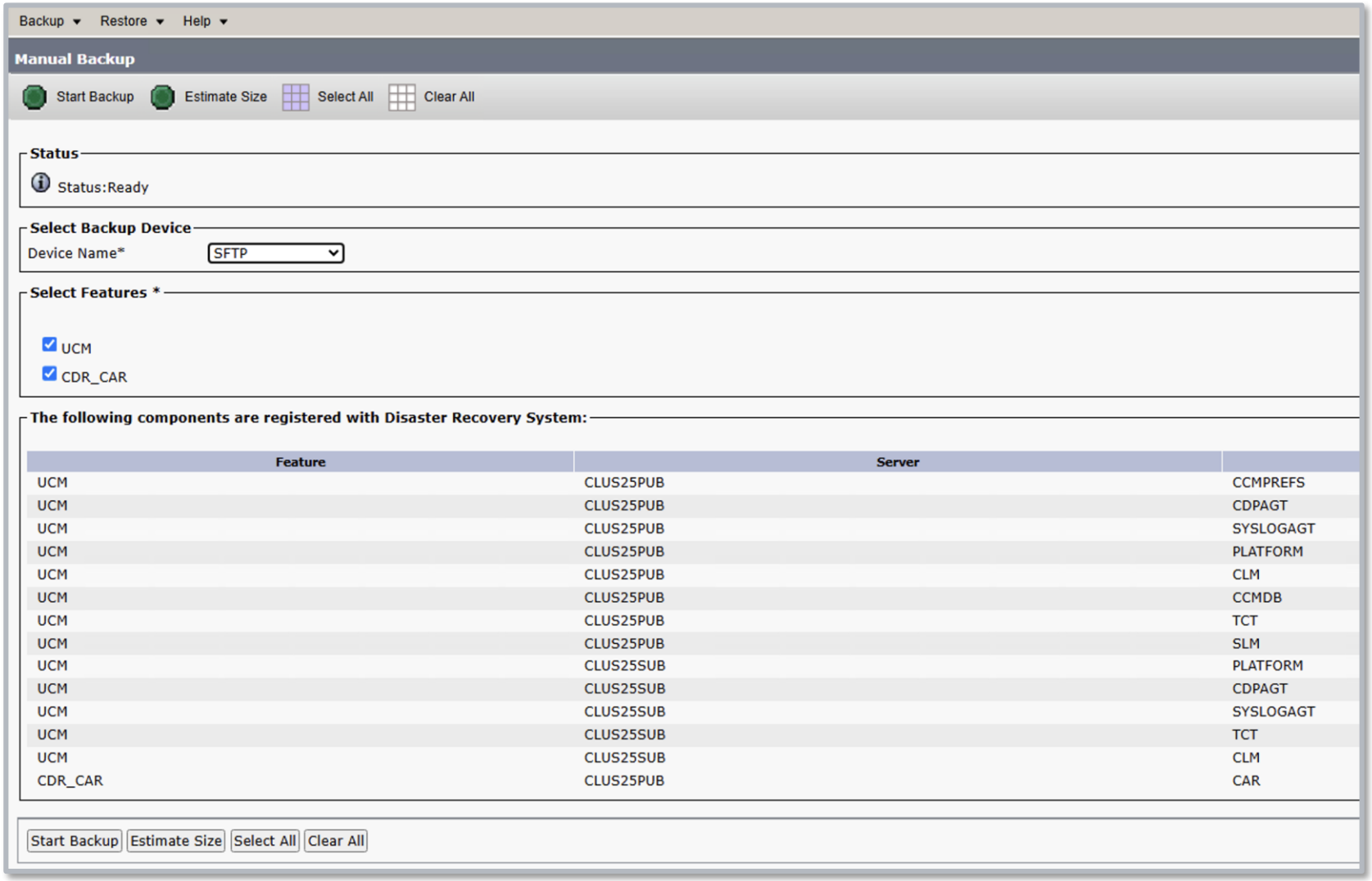
DRS Backup

Disaster Recovery System > Backup > Manual Backup



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Reinstall VM with Version 15 OVA

Original VM

```
admin:show hardware

HW Platform       : VMware Virtual
Machine
Processors        : 2
Type              : Intel(R) Xeon(R)
Platinum 8458P
CPU Speed         : 8458P
Memory            : 4096 MBytes
Object ID         : 1.3.6.1.4.1.9.1.1348
OS Version        : UCOS 7.0.0.0-4.i386
Serial Number     : VMware-42 33 0a 33
3b 00 cf 89-3c e2 b7 08 60 02 41 e5


Number of Disks   : 1
Hard Disk #1
Size (in GB)      : 80
```

Rebuilt VM

```
admin:show hardware

HW Platform       : VMware Virtual
Machine
Processors        : 2
Type              : Intel(R) Xeon(R)
Platinum 8458P
CPU Speed         : 8458P
Memory            : 10240 MBytes
Object ID         : 1.3.6.1.4.1.9.1.1348
OS Version        : UCOS 7.0.0.0-4.i386
Serial Number     : VMware-42 33 0a 33
3b 00 cf 89-3c e2 b7 08 60 02 41 e5


Number of Disks   : 1
Hard Disk #1
Size (in GB)      : 110
```

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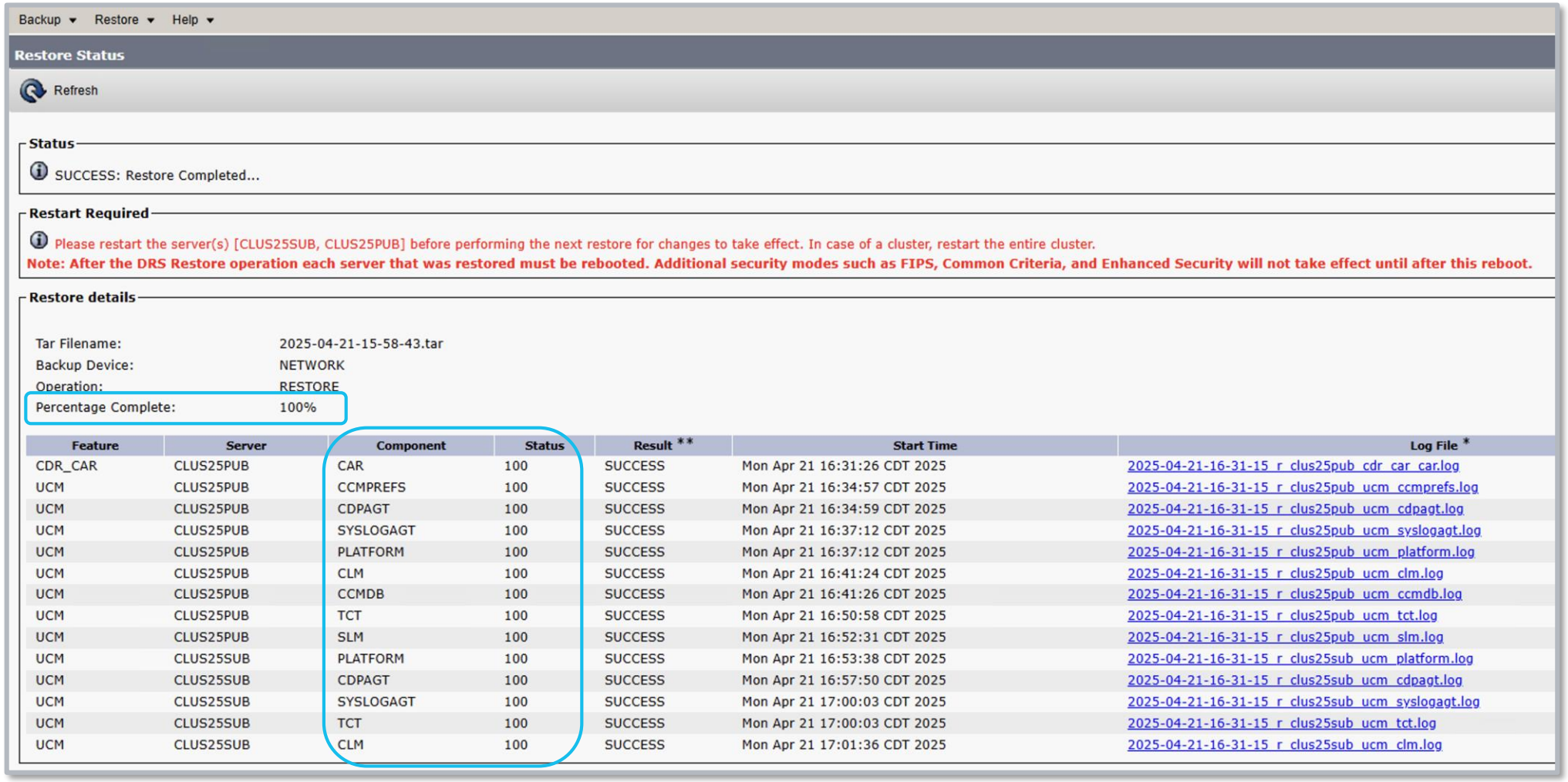
DRS Restore

Disaster Recovery System > Restore > Restore Wizard



Backup ▾ Restore ▾ Help ▾

Restore Status

Refresh

Status

SUCCESS: Restore Completed...

Restart Required

Please restart the server(s) [CLUS25SUB, CLUS25PUB] before performing the next restore for changes to take effect. In case of a cluster, restart the entire cluster.

Note: After the DRS Restore operation each server that was restored must be rebooted. Additional security modes such as FIPS, Common Criteria, and Enhanced Security will not take effect until after this reboot.

Restore details

Tar Filename:	2025-04-21-15-58-43.tar
Backup Device:	NETWORK
Operation:	RESTORE
Percentage Complete:	100%

Feature	Server	Component	Status	Result **	Start Time	Log File *
CDR_CAR	CLUS25PUB	CAR	100	SUCCESS	Mon Apr 21 16:31:26 CDT 2025	2025-04-21-16-31-15_r_clus25pub_cdr_car_car.log
UCM	CLUS25PUB	CCMPREFS	100	SUCCESS	Mon Apr 21 16:34:57 CDT 2025	2025-04-21-16-31-15_r_clus25pub_ucm_ccmprefs.log
UCM	CLUS25PUB	CDPAGT	100	SUCCESS	Mon Apr 21 16:34:59 CDT 2025	2025-04-21-16-31-15_r_clus25pub_ucm_cdpagt.log
UCM	CLUS25PUB	SYSLOGAGT	100	SUCCESS	Mon Apr 21 16:37:12 CDT 2025	2025-04-21-16-31-15_r_clus25pub_ucm_syslogagt.log
UCM	CLUS25PUB	PLATFORM	100	SUCCESS	Mon Apr 21 16:37:12 CDT 2025	2025-04-21-16-31-15_r_clus25pub_ucm_platform.log
UCM	CLUS25PUB	CLM	100	SUCCESS	Mon Apr 21 16:41:24 CDT 2025	2025-04-21-16-31-15_r_clus25pub_ucm_clm.log
UCM	CLUS25PUB	CCMDB	100	SUCCESS	Mon Apr 21 16:41:26 CDT 2025	2025-04-21-16-31-15_r_clus25pub_ucm_ccmdb.log
UCM	CLUS25PUB	TCT	100	SUCCESS	Mon Apr 21 16:50:58 CDT 2025	2025-04-21-16-31-15_r_clus25pub_ucm_tct.log
UCM	CLUS25PUB	SLM	100	SUCCESS	Mon Apr 21 16:52:31 CDT 2025	2025-04-21-16-31-15_r_clus25pub_ucm_slm.log
UCM	CLUS25SUB	PLATFORM	100	SUCCESS	Mon Apr 21 16:53:38 CDT 2025	2025-04-21-16-31-15_r_clus25sub_ucm_platform.log
UCM	CLUS25SUB	CDPAGT	100	SUCCESS	Mon Apr 21 16:57:50 CDT 2025	2025-04-21-16-31-15_r_clus25sub_ucm_cdpagt.log
UCM	CLUS25SUB	SYSLOGAGT	100	SUCCESS	Mon Apr 21 17:00:03 CDT 2025	2025-04-21-16-31-15_r_clus25sub_ucm_syslogagt.log
UCM	CLUS25SUB	TCT	100	SUCCESS	Mon Apr 21 17:00:03 CDT 2025	2025-04-21-16-31-15_r_clus25sub_ucm_tct.log
UCM	CLUS25SUB	CLM	100	SUCCESS	Mon Apr 21 17:01:36 CDT 2025	2025-04-21-16-31-15_r_clus25sub_ucm_clm.log

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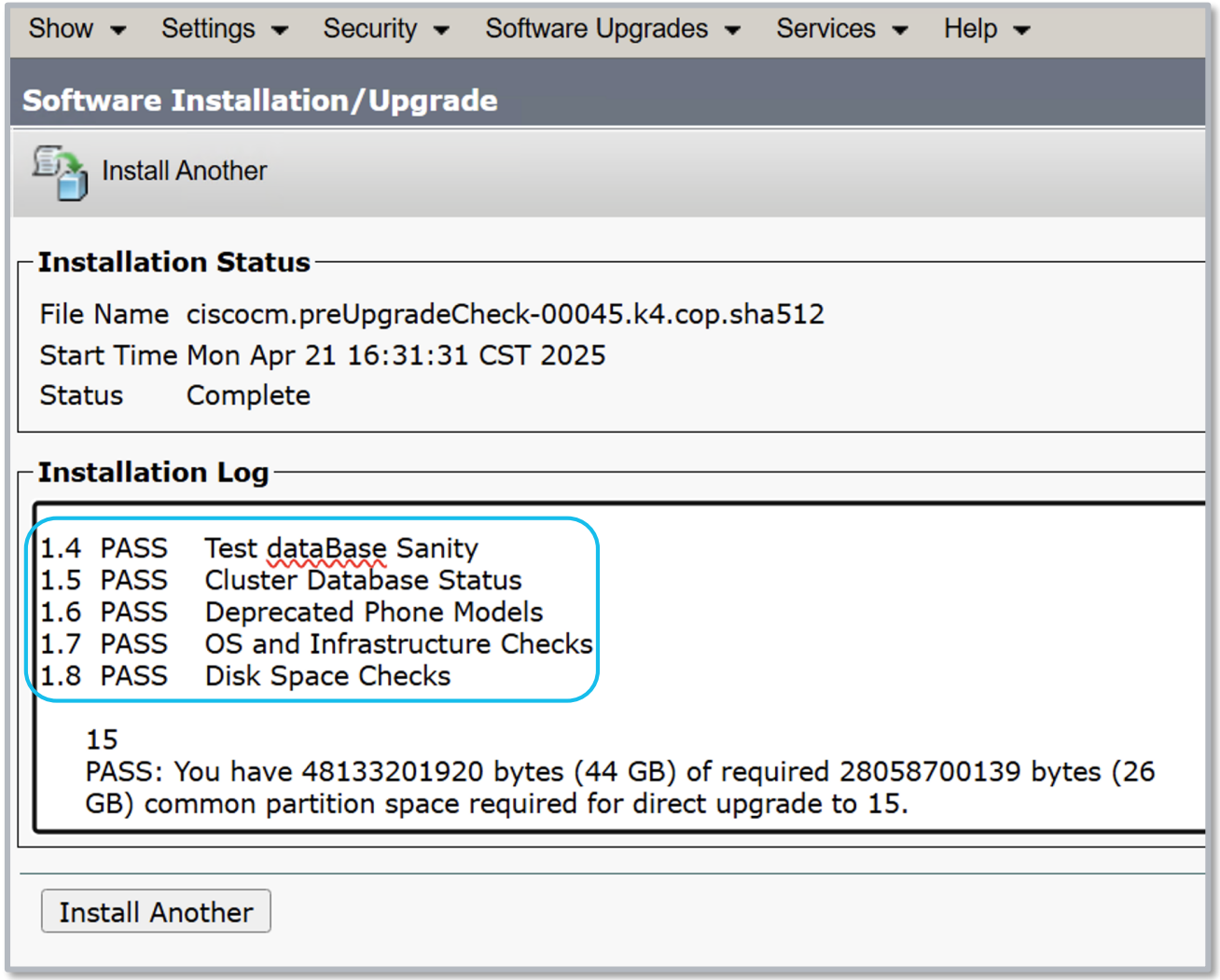
Re-run Pre-Upgrade COP File

Cisco Unified OS Administration > Software Upgrades > Install/Upgrade



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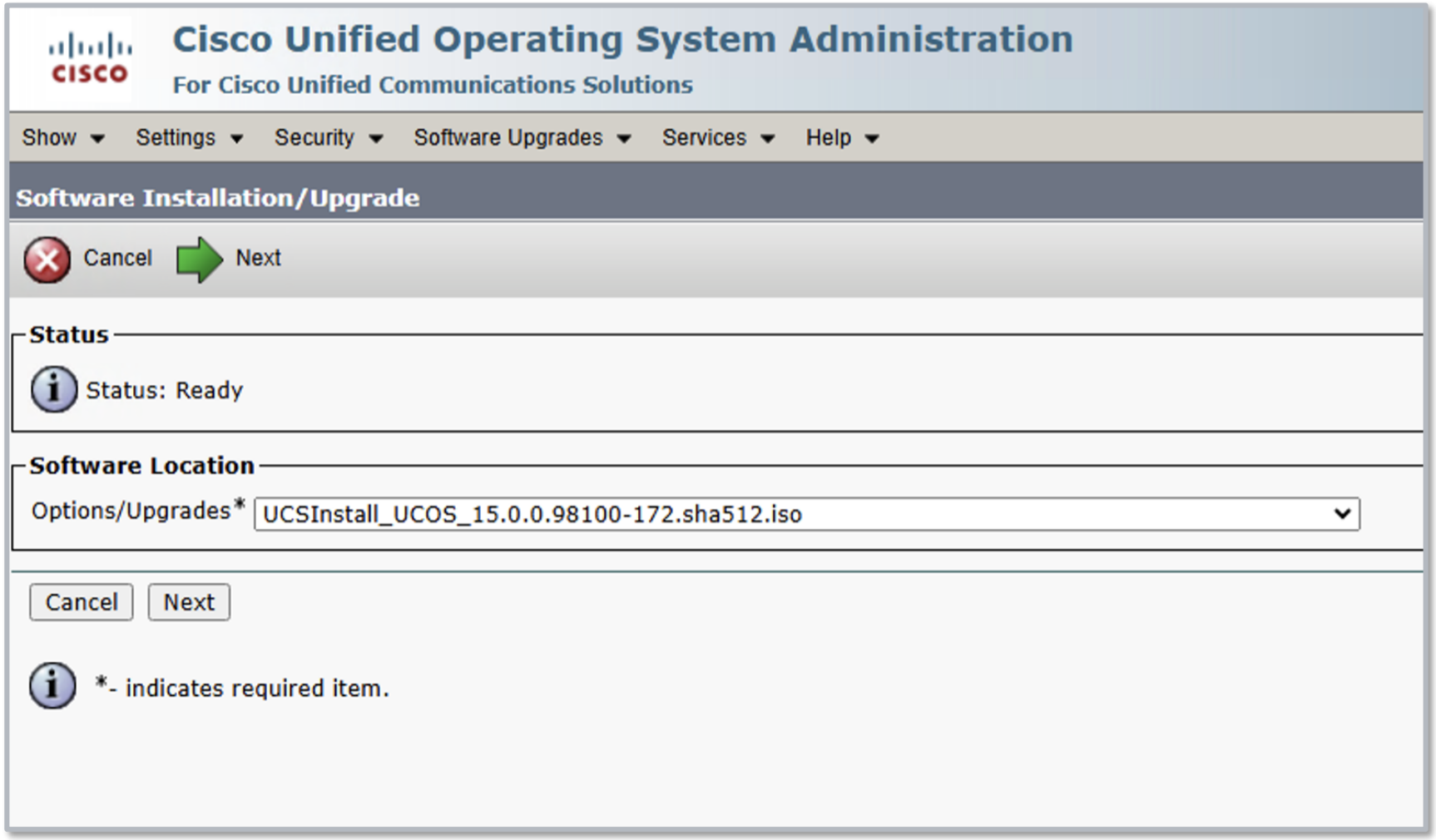
Simple Upgrade

Cisco Unified OS Administration > Software Upgrades > Install/Upgrade



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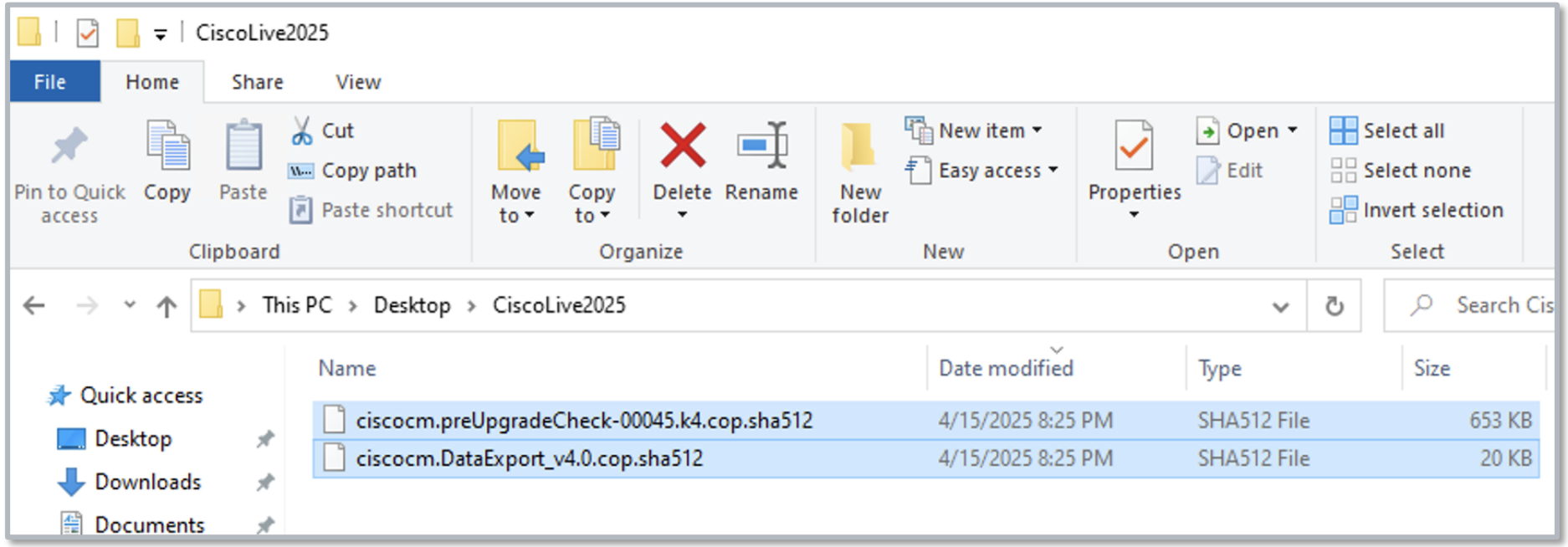
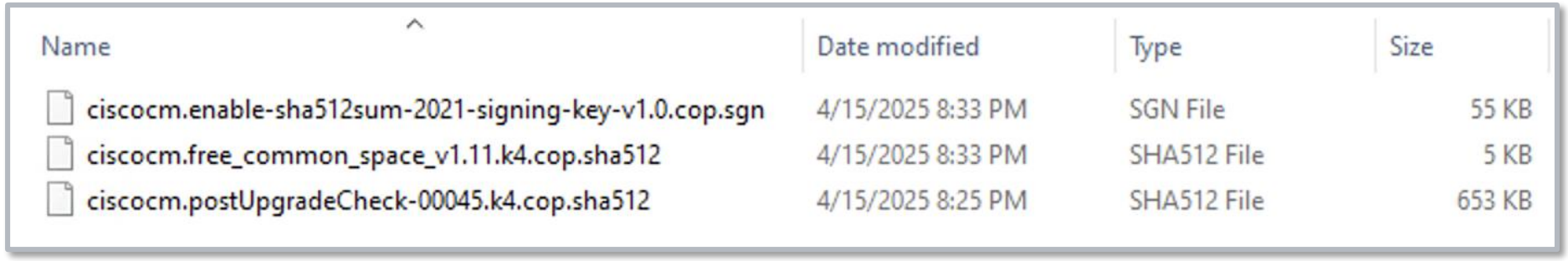
Fresh Install with Data Import

Download COP Files





Version 12.5 SU5 or higher is bundled with dataexport feature and commands natively

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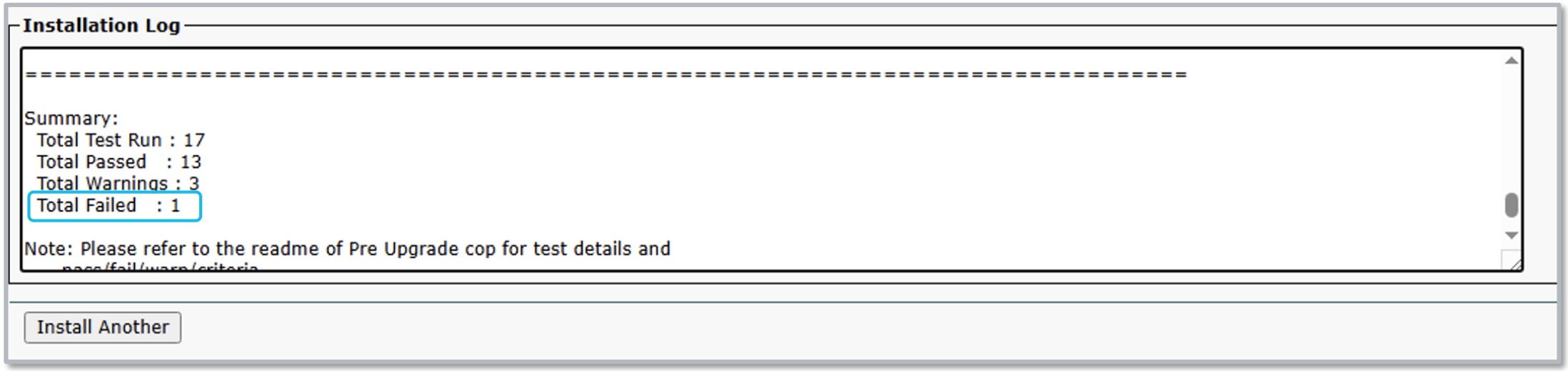
Run Pre-Upgrade COP File

Cisco Unified OS Administration > Software Upgrades > Install/Upgrade



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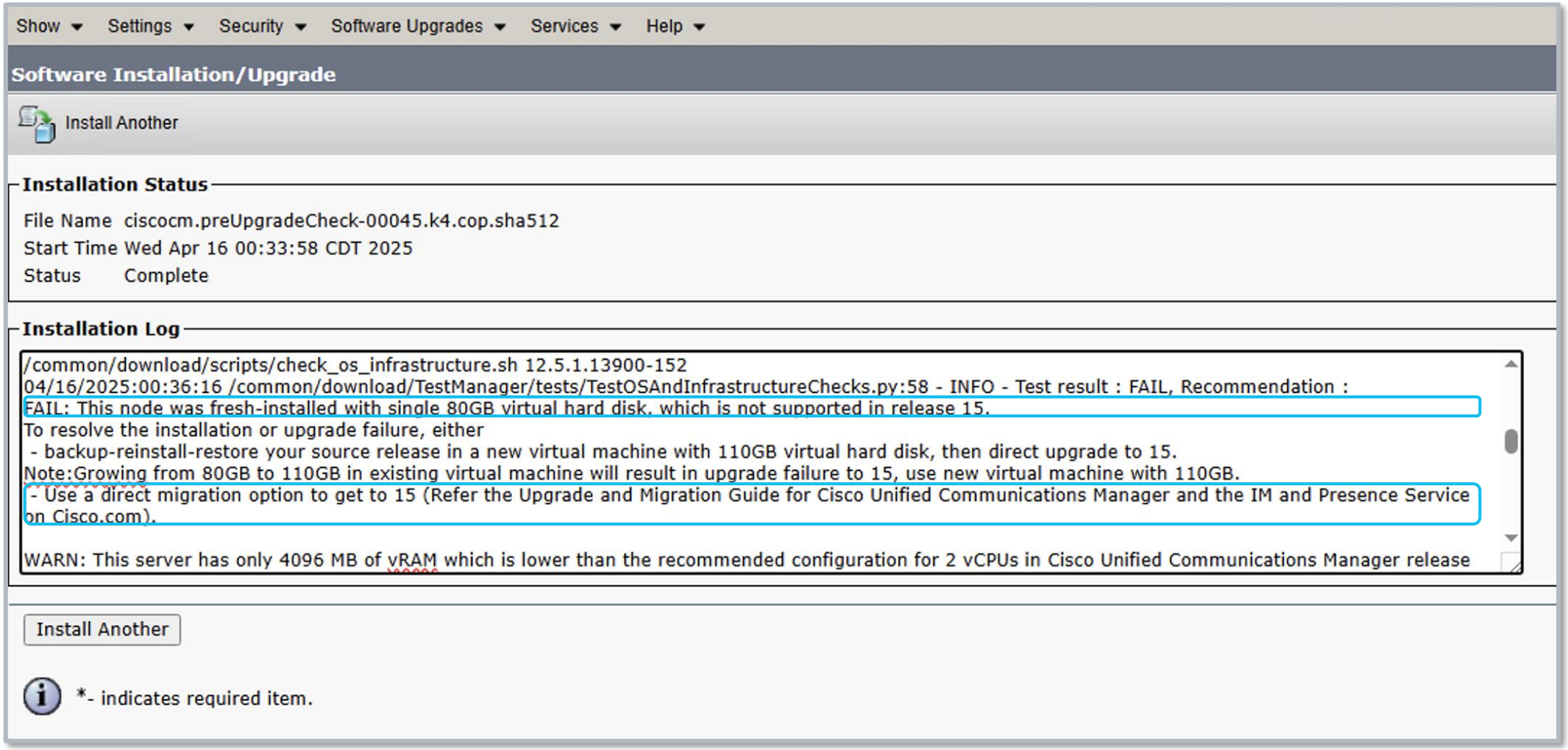
Run Pre-Upgrade COP File

Cisco Unified OS Administration > Software Upgrades > Install/Upgrade



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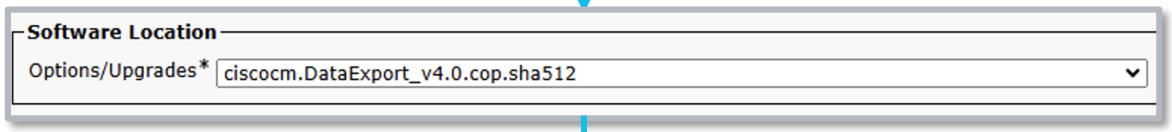
Install the DataExport COP File if needed

```
admin:show myself
Machine Name     : clus25pub
account name     : admin
privilege level  : 4
command count    : disabled
logging setting  : disabled
admin:utils system upgrade dataexport initiate

Executed command unsuccessfully
No valid command entered
```




```
admin:utils system upgrade dataexport initiate

Warning: The data export process would take anywhere between a few minutes to about 30 minutes to complete.
```

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Export the Data

```
admin:utils system upgrade dataexport initiate

Warning: The data export process would take anywhere between a few minutes to about 30 minutes to complete. This export t
ng Ctrl+C will abort the data export process.

Warning: Before upgrading the cluster Cisco recommends installing the latest Upgrade Readiness COP file. Refer to the Upg

Initializing...
Export Data Directory :
/fresh_install/
Remote Server Name or IP :
10.3.74.56
Remote Server Login ID :
adminsftp
Remote Server Password :
*******
Enter details of the destination node that will import the current node's exported data

New Hostname :
clus25pub
New IPAddress :
10.3.74.61

SFTP Directory=/fresh_install/, SFTP Server=10.3.74.56, SFTP Username=adminsftp, Destination host=clus25pub, Destination

Would you like to proceed with export (yes/no):
yes

Data export in progress......
```

If possible, **TEST** the migration in an isolated environment

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Power Off the Source VM's

```
admin:utils system shutdown

Do you really want to shutdown ?

Enter (yes/no)? yes


 Appliance is being Powered - Off ...
Warning: Shutdown could take up to 5 minutes.
Stopping Service Manager...
/ Service Manager shutting down services... Please Wait
```

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Fresh Install with Data Import

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General Recommendations

Minimizing Downtime

- To minimize downtime, **upgrade Publisher** until completion
- Followed by dedicated **MOH/TFTP servers**
- Then, backup Subscribers or **secondary nodes**
- Finally, the **primary Subscriber** servers

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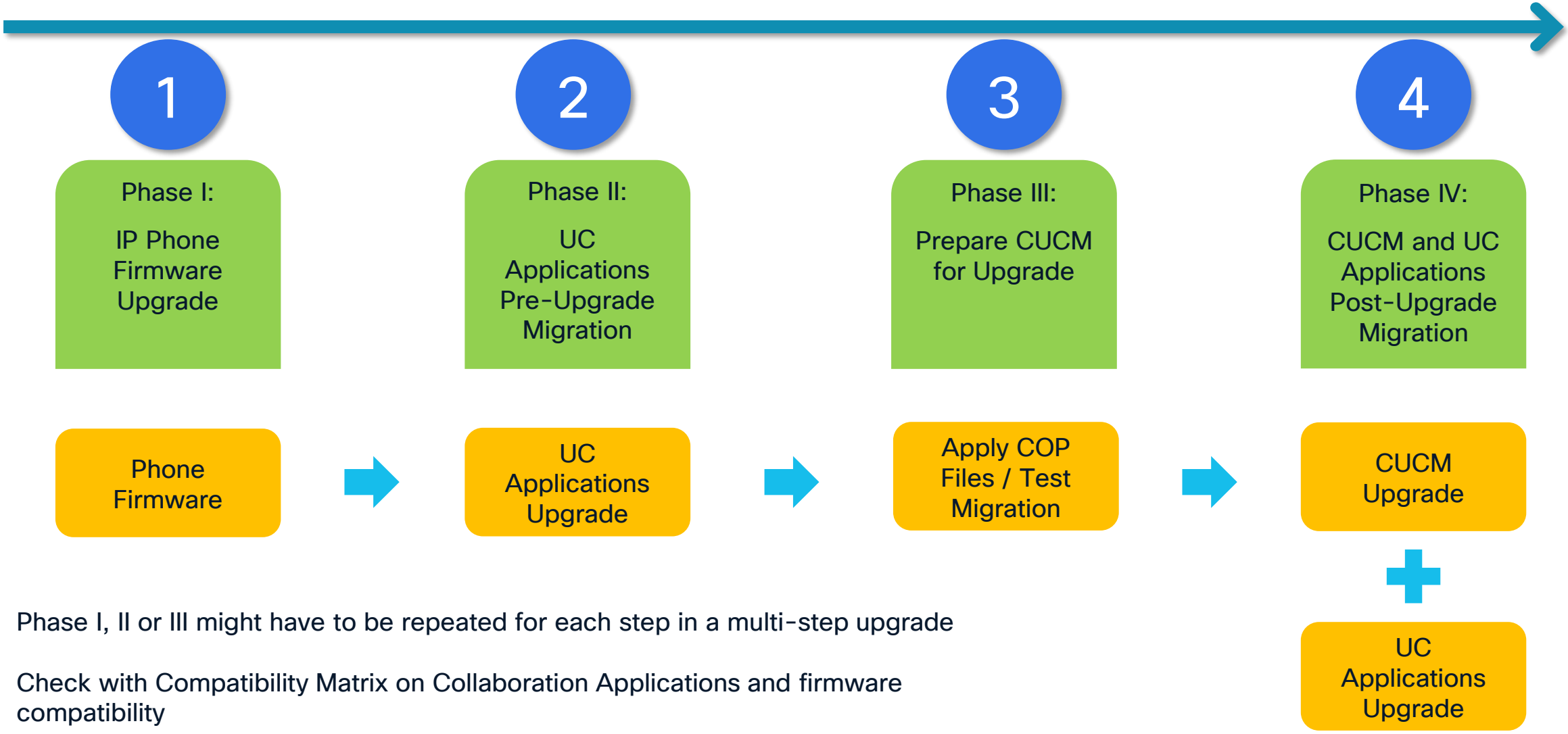
Optimizing Upgrade Journey



Phase I, II or III might have to be repeated for each step in a multi-step upgrade

Check with Compatibility Matrix on Collaboration Applications and firmware compatibility

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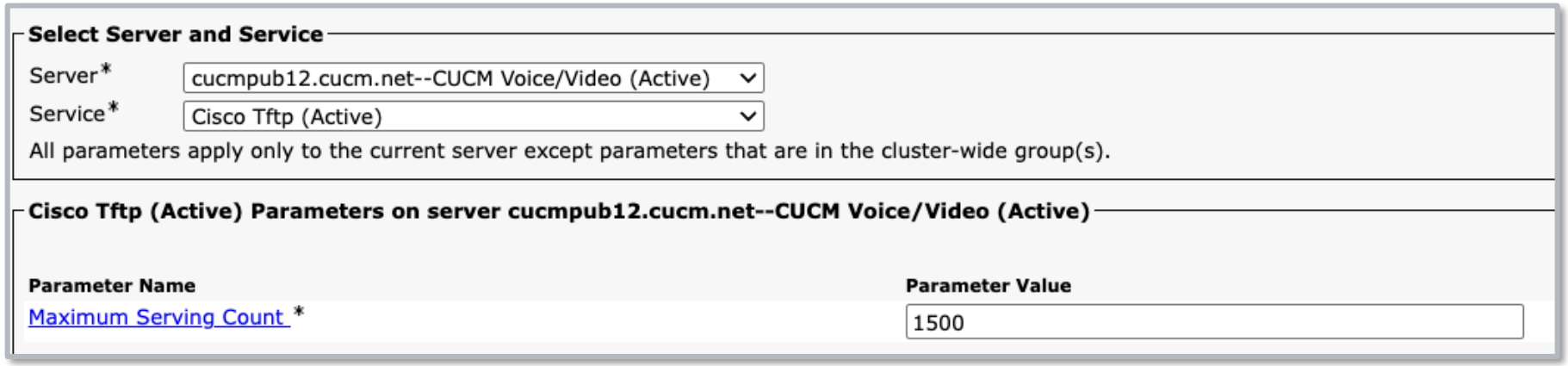
Improve Upgrade Performance – Phone Firmware

Change **Maximum Serving Count** Cisco Tftp Service Parameter:

- **1,500** for **single-processor** dedicated Tftp server
- **3,000** for **dual-processor** dedicated Tftp server

CM Administration > System > Service Parameters > Cisco Tftp > Advanced



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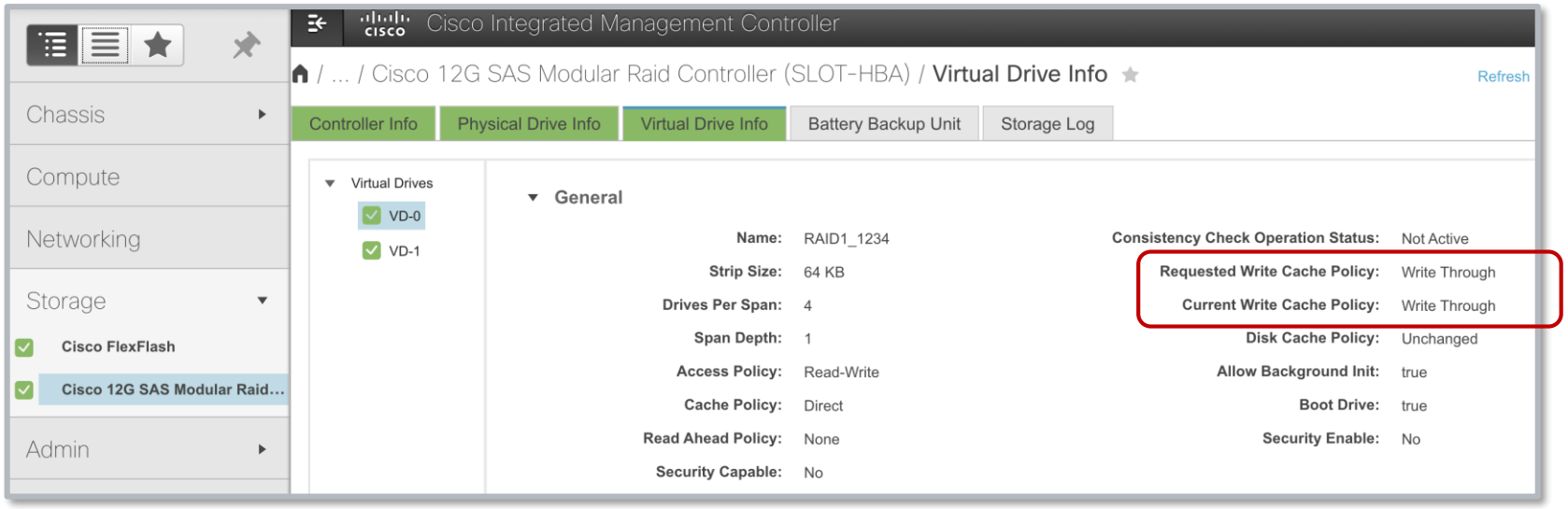
Improve Upgrade Performance – IOPS

Check RAID Controller Battery Backup Unit (BBU) status

Make sure Virtual Disk is in “Write Back” Cache mode, NOT in “Write Through”

✔ **Write Back** **Write Through**

CIMC > Menu > Storage > RAID > Virtual Drive Info > Virtual Drive



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Improve Upgrade Performance – Database Replication

- Increase database replication parallel processing count (**PUBLISHER**):

```
utils dbreplication setprocess <40>
```

(default is 1)

- Increase database replication timeout for large cluster (**PUBLISHER**):

```
utils dbreplication setrepltimeout <3600>
```

(default is 300)

```
Server 1-5 = 1 Minute Per Server Servers 6-10  = 2 Minutes Per Server Servers >10 = 3 Minutes Per Server.

Example: 12 Servers in Cluster : Server 1-5 * 1 min = 5 min, + 6-10 * 2 min = 10 min, + 11-12 * 3 min = 6
min,  Repltimeout should be set to 21 Minutes.
```

Troubleshoot CUCM Database Replication Issues:

https://www.cisco.com/c/en/us/support/docs/unified-communications/unified-communications-manager-callmanager/200396-Steps-to-Troubleshoot-Database-Replicati.html

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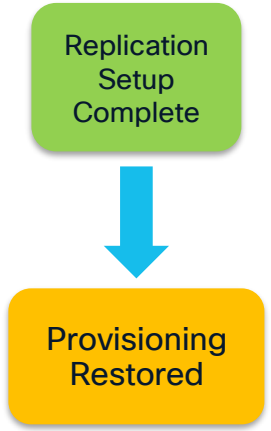
Improve Upgrade Performance – Database Replication

Provisioning options not allowed	Error and warning messages
AXL	503 error response: "Write Operations denied because Cisco UCM or IM and Presence upgrade is in progress"
BAT	Error message: "Upgrade in Progress. Job cannot be started"
LDAP Sync	"Upgrade in progress. Cannot be synced"
Self Care Portal	"WARNING: Add/Update/Delete not allow as a system upgrade is in progress"
CCM Service Activation/Trace	Update failed Add/Update/Delete not allow as a system upgrade is in progress
Phone auto-registration and Self Provisioning	Auto-registration disabled/IVR return error

Provisioning is NOT allowed during post upgrade database replication setup

Emergency option to enable it back via CLI:

```
utils system enableAdministration
```



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Additional Recommendations

- **Develop** a comprehensive plan for the migration

- Partners can use PDI Helpdesk for migration plan **review**:

http://www.cisco.com/web/partners/tools/pdihd.html

- **Break** the upgrade into phases to minimize downtime

- **Test** your migration in an air-gapped environment

- Open **proactive** TAC case for the upgrade:

http://cisco.com/tac/caseopen

- **Check** Unified Communications Virtualization documentation:

https://www.cisco.com/c/dam/en/us/td/docs/voice_ip_comm/uc_system/virtualization/cisco-collaboration-virtualization.html

***** PLANNING! *****

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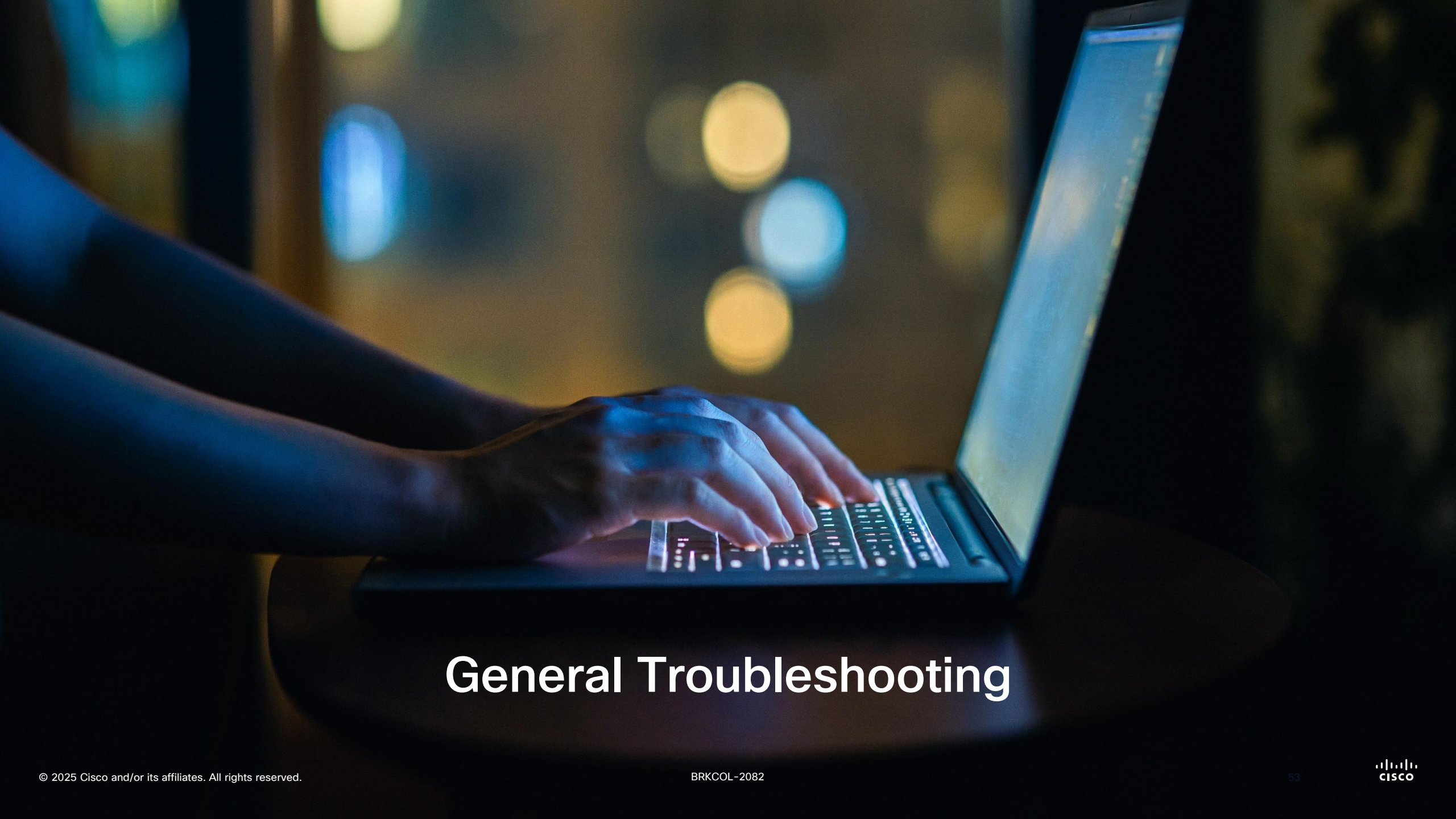

General Troubleshooting

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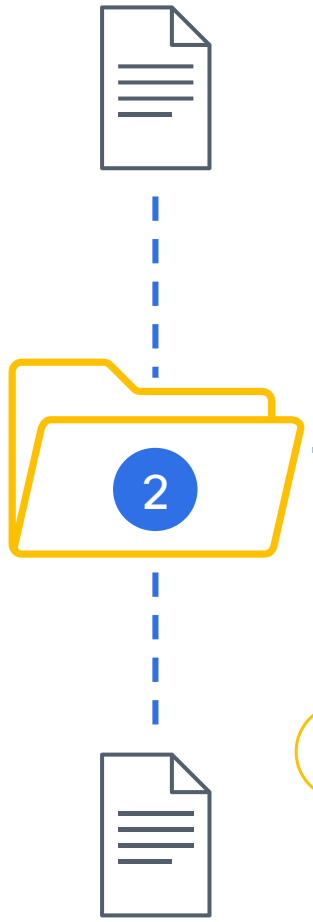
General Troubleshooting

Serial Port: Fresh Install

Collect **INSTALL LOGS**:

1. **POWER OFF** the VM and **ADD A SERIAL PORT**
2. Attach the serial port to a file
3. **POWER ON** the VM and **RESTART** your **INSTALLATION**
4. When the error occurs, attach a **NEW, EMPTY FILE** to the serial port
5. After the file is saved, you can unzip it
6. Finally, **POWER OFF** the VM, edit the settings, and **REMOVE THE SERIAL PORT**

RTMT: Simple Upgrade



RTMT v15 is compatible with Windows 11

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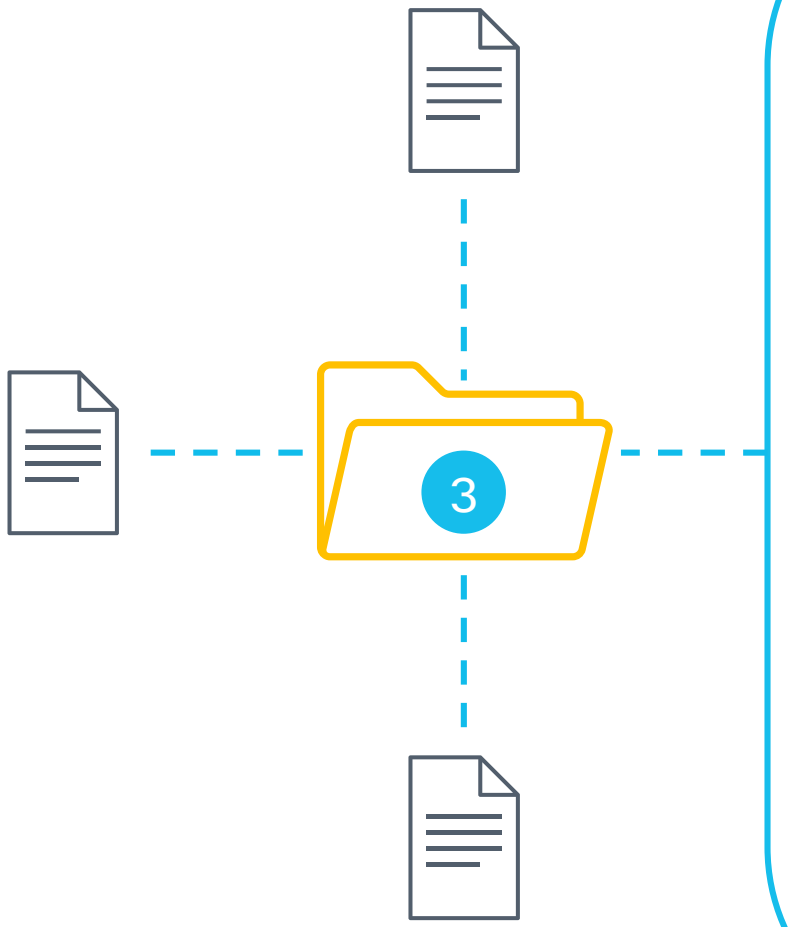
General Troubleshooting

Recovery Disk: Fresh Install



Collect **INSTALL LOGS**:

1. **MOUNT** and **BOOT** to Recovery Disk, and press “Alt+F2” to enter command prompt

2. **IDENTIFY LARGEST PARTITION** using `df -h`

3. **FIND INSTALL LOGS** within `cd /mnt/<partition>/log/install`

4. **ASSIGN IP ADDRESS AND DEFAULT GW**:

```
if config eth0 <ip_address> netmask <netmask>

route add default gw <default_gateway> eth0
```

5. **TRANSFER FILES** via SFTP

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General Troubleshooting

For **PCD MIGRATION / UPGRADE TASK FAILURES**, collect **PCD LOGS**:

```
file get activelog /tomcat/logs/ucmap/log4j/*

file get activelog /tomcat/logs/afg-lib/log4j/*

file get activelog /tomcat/logs/platform-api/log4j/*
```

In addition to **INSTALL LOGS** and the following output from the node that fails:

```
utils service list
```

Where the following service needs to be **STARTED**:

```
Platform Administrative Web Service[STARTED]
```

For PCD Upgrade or Migration tasks to version 15, must use PCD 15

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General Troubleshooting

For **SUB INSTALL FAILURE**, collect **PACKET CAPTURE LOGS**:

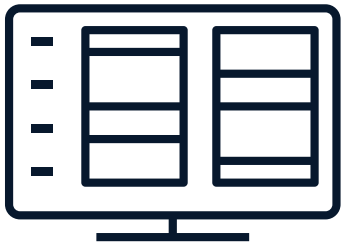
1. While SUB installs, **RUN** the following command:

```
utils network capture-rotate file <filename> sizePerFile 1 maxFiles 2 size all host all <IP/hostname>
```

2. Once the error occurs, **STOP** the capture by typing “Ctrl + C”

3. **COLLECT** the **Packet Capture Logs** via Real-Time Monitoring Tool:

System > Trace & Log Central > Collect Files



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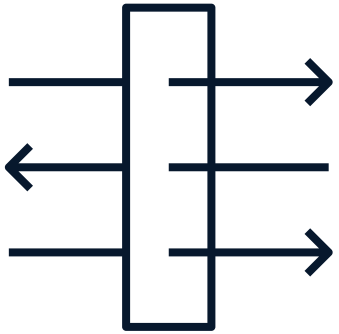
General Troubleshooting

These are the ports to filter by:

- **22**: Cisco SFTP service
- **1515**: Database replication between nodes during installation
- **8500**: Intra-cluster replication of system data by IPSec Cluster Manager
- **1500**: Database connection (1501 / TCP is the secondary connection)



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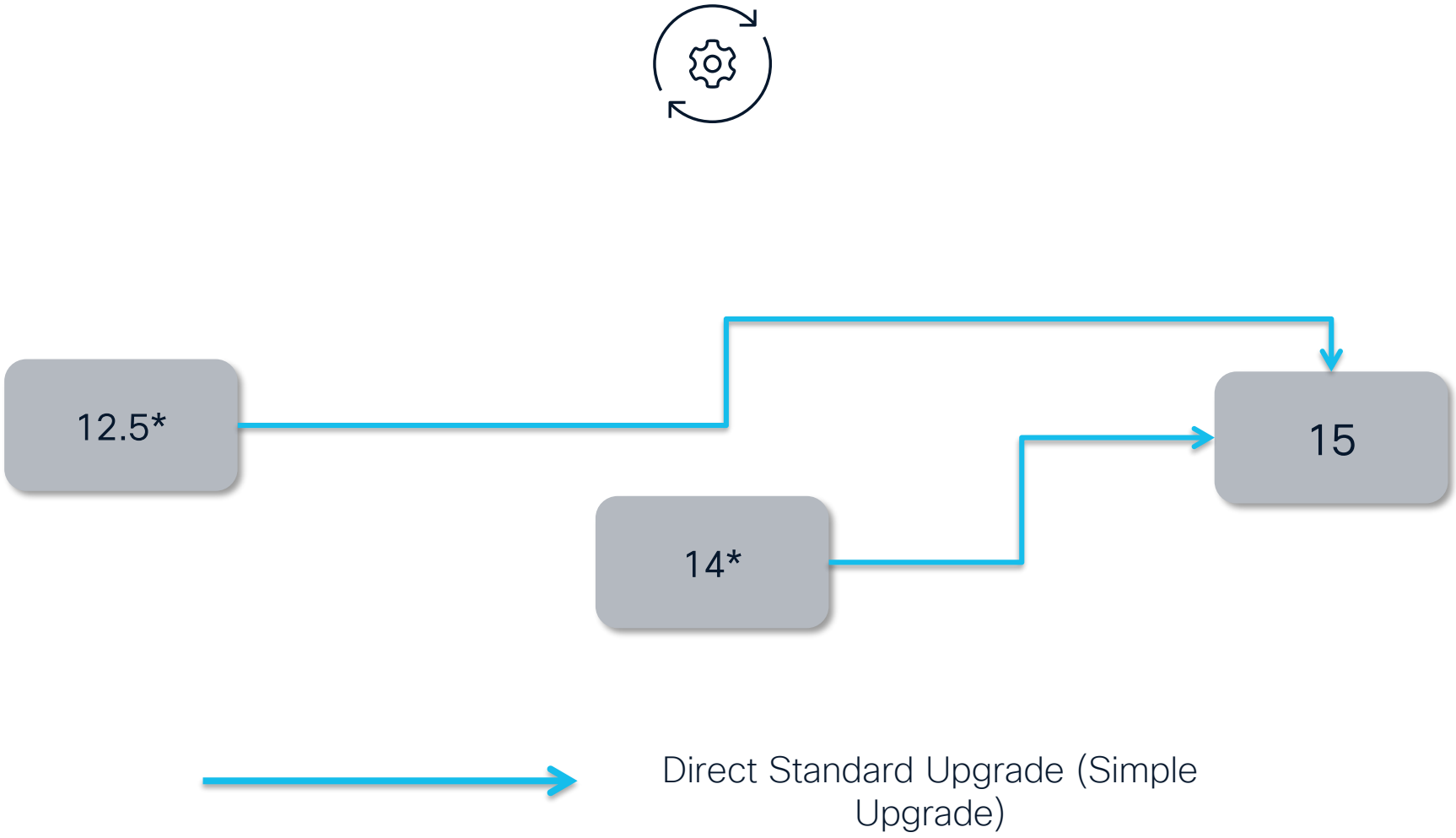
Solving Common Issues

Simple Upgrade



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Insufficient Disk Space

Problem

During Direct Standard Upgrade, Pre-Upgrade COP file showing error:

```
Failed: You only have X bytes (X GB) of required
48657636134 bytes (45 GB) common partition space
required for direct upgrade to 15. You do not need
to cleanup inactivelog. /common/log/inactive space
will be automatically reclaimed. Cleanup X bytes of
space from /common/log/active, /common to free up
the required space.
```

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Fail OS and Infrastructure Checks Errors

Fix

- Reduce log files by adjusting RTMT Alert Properties:

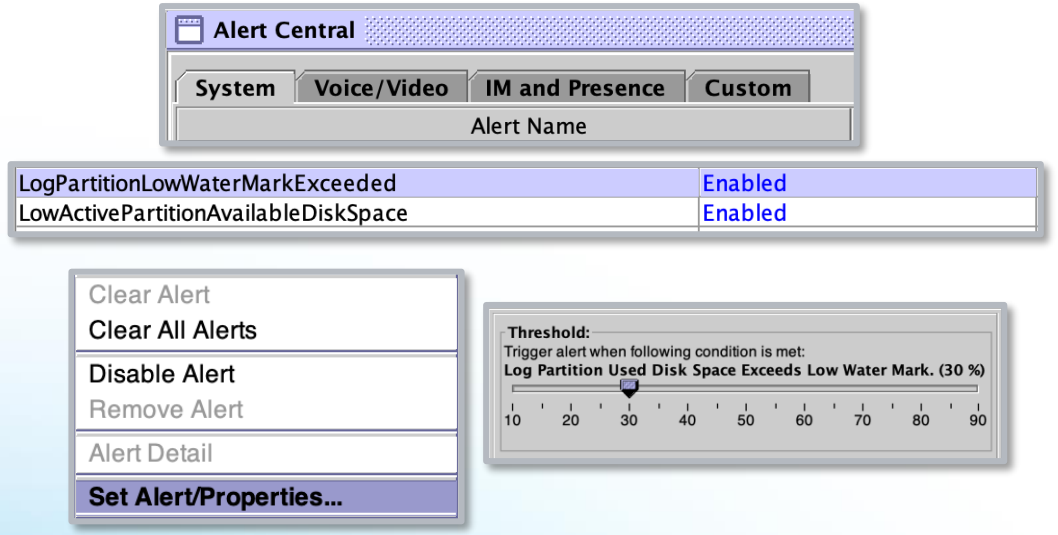
LogPartitionLowWaterMarkExceeded – reduce threshold to 30% (default 90%)

LogPartitionHighWaterMarkExceeded – reduce threshold to 40% (default 95%)

- Delete old ATS & RIS Database Aborted Transaction logs:

```
file delete activelog cm/log/informix/ats/* noconfirm
```

```
file delete inactivelog cm/log/informix/ats/* noconfirm
```



ciscocm.free_common_space_v1.11.k4.cop.sha512

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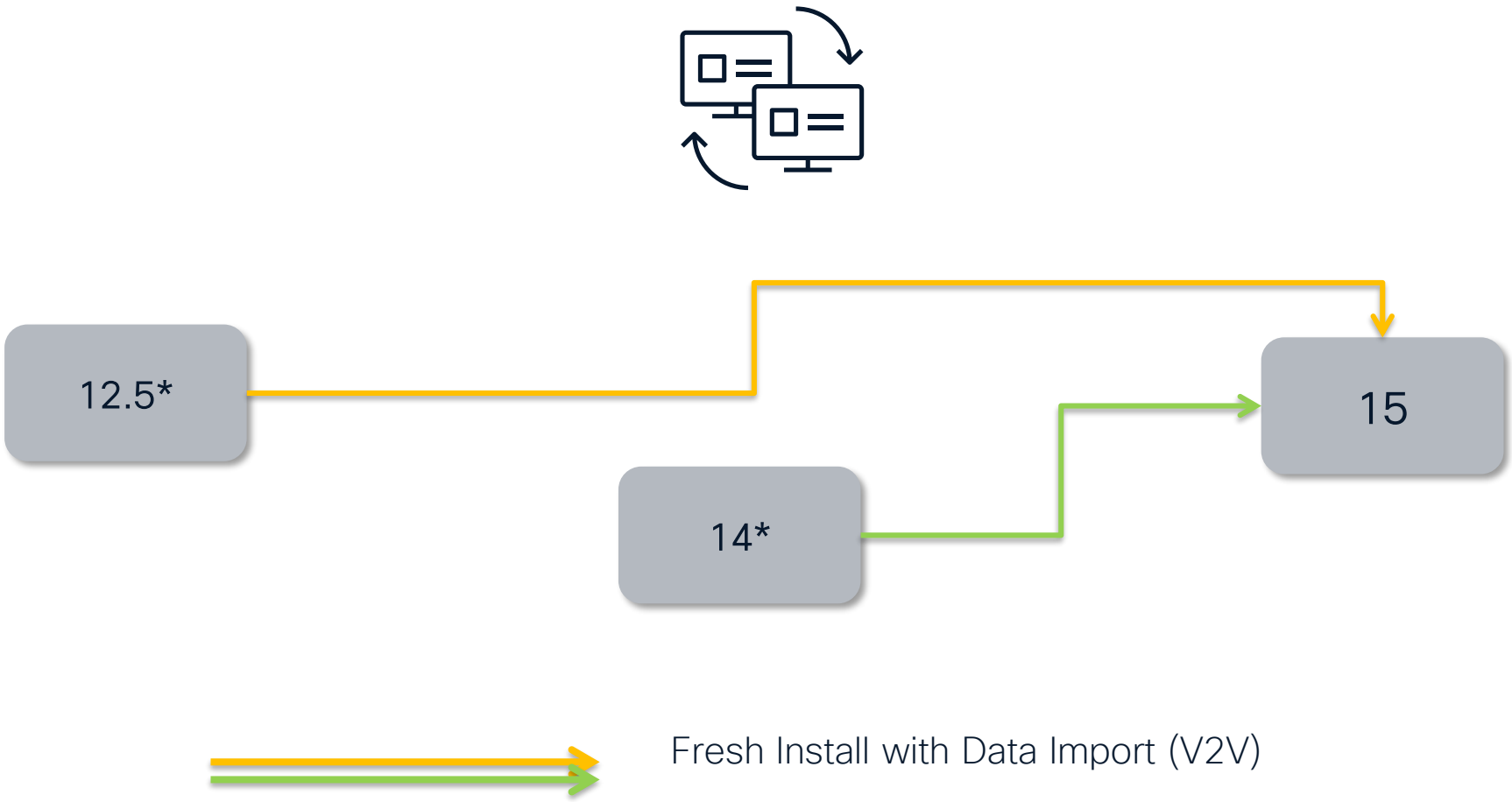
Fresh Install with Data Import



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Issues Due to Hostname Format

Problem

After the node is migrated to version 15, it presents issues with Serviceability page

Conditions

- Migration to version 15
- Hostname not compliant with RFC1123

```
Cisco CCMService Web Service traces:

2025-11-06 09:00:00,000 INFO [http-nio-1027-exec-19] ccm.serviceability - Remote Server NOT in cluster <abc>
2025-11-06 09:00:00,001 ERROR [http-nio-1027-exec-19] ccm.serviceability - Exception com.cisco.ccm.serviceability.admin.general.GenSERMajorException: null at com.cisco.ccm.serviceability.admin.util.CheckRemote.CheckRemoteServerWithCluster(CheckRemote.java:125) ~[ccmservice.jar:?]
```

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Issues Due to Hostname Format

Fix

In the original Server, change the hostname to one compliant with RFC1123

Then, reattempt the Migration

- Start and end with alphanumeric character
- Contains only lowercase alphanumeric characters and ‘-’

node--sub1.domain.com
nodesub#1.domain.com

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Upgrade History from 8x/9x

Problem

Migration from 10x/11x/12x/14x to 15 fails for any node with upgrade history from 8x or 9x

Conditions

- Node has upgrade history from 9x or earlier versions
- Pre-Upgrade COP file shows:

```
Pre-Upgrade COP file output:

Before direct migration to version 15, ensure
that the following COP is installed on all Cisco
Unified Communications Manager(CUCM) and on all
IM and Presence(IMP) nodes -
ciscocm.CSCwi52160_15-direct-
migration_v1.0.k4.cop.sha512
```

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Upgrade History from 8x/9x

```
Install Logs:

06/11/2025 09:00:00 component_install|(CAPTURE) Thu
Jun 11 09:00:00 2025 dblinit-
plugin.initializeIDS  ERROR:  Error Initializing IDS
['Error executing [[\'sh\', \'-c\', "su -c \'source
/usr/local/cm/db/informix/local/ids.env
;  /usr/local/cm/bin/cmoninit -wivy\' - informix"]]
returned [1]']|<LVL::Debug>
04/23/2025 22:41:22 component_install|(CAPTURE) Wed
Apr 23 22:41:18 2025 dblinit-
plugin.run  ERROR:  ERROR: 'CCMLOG'|<LVL::Debug>
04/23/2025 22:41:22 component_install|(CAPTURE) Wed
Apr 23 22:41:18 2025 cm-dbms-
install  ERROR:  Install Post Failed|<LVL::Debug>
```

Fix

Install ciscocm.CSCwi52160_15-direct-migration_v1.0.k4.cop.sha512

```
file view install system-history.log
```

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Fail OS and Infrastructure Checks Errors

Problem

When running the Pre-Upgrade COP file, getting the errors within section:

FAIL OS and Infrastructure Checks

Conditions

Pre-Upgrade COP file shows errors:

```
FAIL: This server is using an older filesystem type (ext3)
```

```
FAIL: This node was fresh-installed with single 80GB
virtual hard disk, which is not supported in release 15
```

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Fail OS and Infrastructure Checks Errors

Fix

Perform backup-reinstall-restore in a new VM with v15 OVA, then direct upgrade to 15

Or use a Direct Migration option

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Database Component Error

Problem

Fresh Install with Data Import fails with Unrecoverable Internal Error

Conditions

- Fresh Install with Data Import to version 15
- Install Logs show:

```
Install Logs:

11/06/2025 09:00:00 IPM|Internal Error,
File:ipm.c:2014, Function:
ipmReadNormalizedInputLine(), "rpm --percent -iv
--replacefiles /common/rpm-archive/14.0.1.13900-
155/RPMS/thirdparty/cm-lib-1.0.0.0-1.i386.rpm "
failed (1).|<LVL::Critical>
11/06/2025 09:00:00 appmanager.sh|Internal Error,
File:/usr/local/bin/base_scripts/appmanager.sh:38
3, Function: import_install(), failed to
import_install
infrastructure_post components|<LVL::Critical>
```

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Database Component Error

Fix

Engage TAC

Collect Installdb Logs

Installdb Logs location should be as follows:

```
/mnt/<partition>/log/taos-log-a/cm/trace/dbl/sdi
```

To find the Installdb Logs:

```
find / -name installdb*
```

If possible, **test** the migration in an isolated environment

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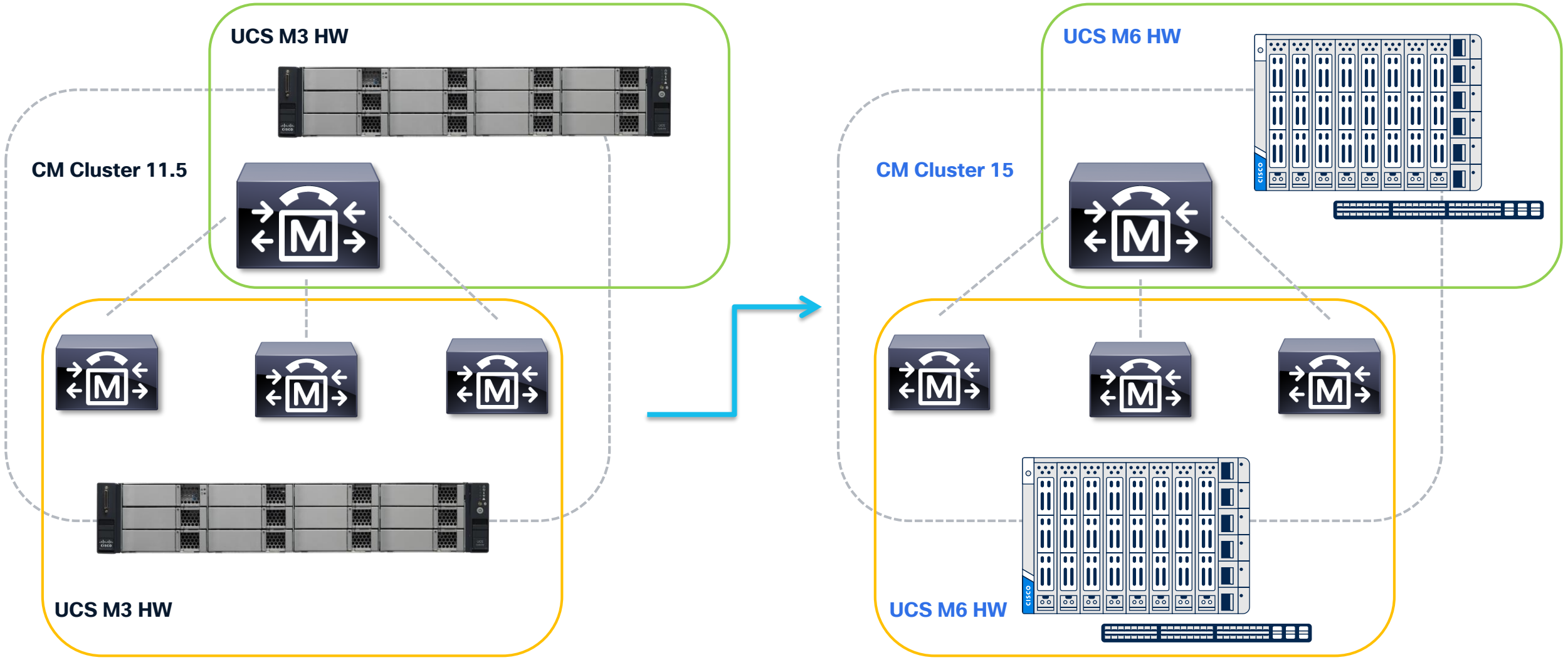
Let’s Upgrade!



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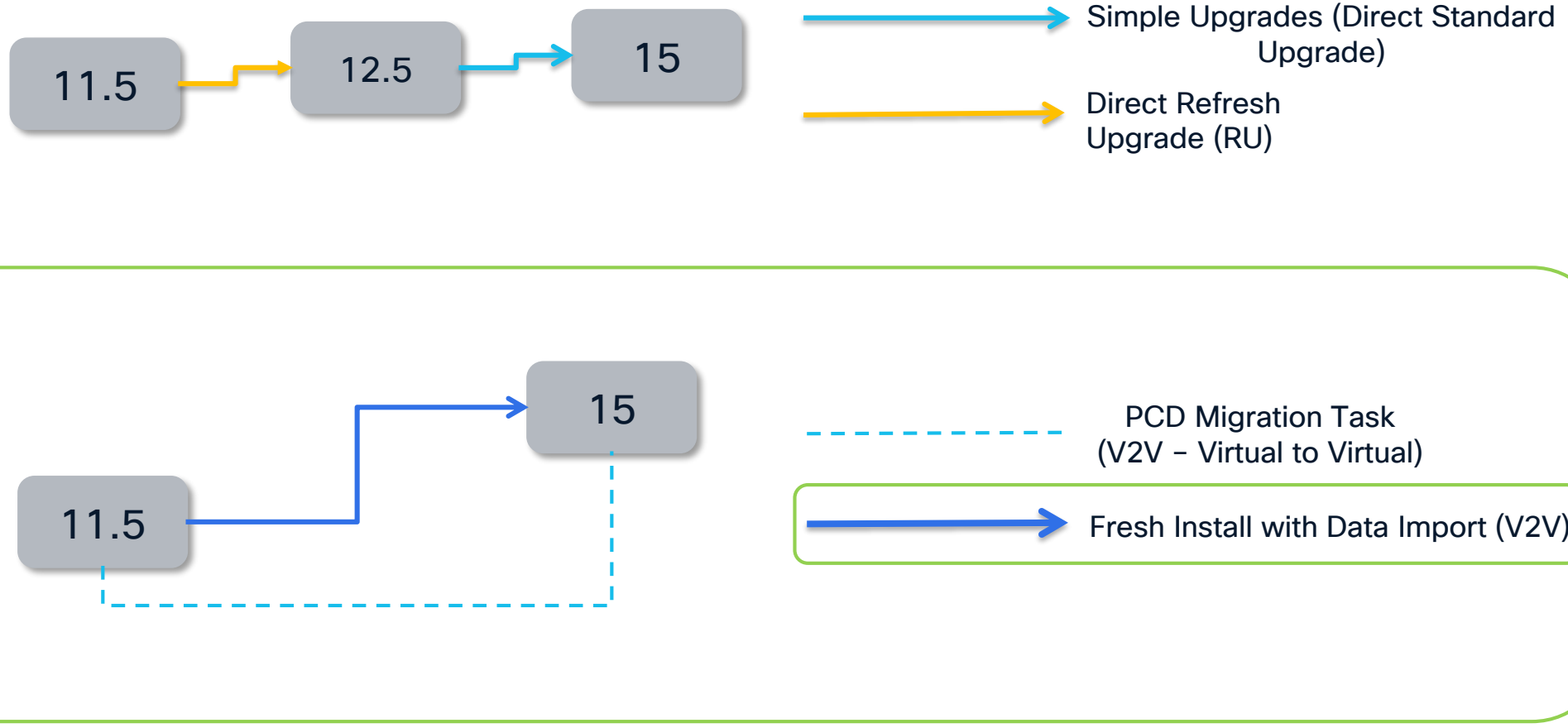
Let’s Upgrade!



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Let's Upgrade!

ciscocm.CSCwi52160_15-direct-migration_v1.0.k4.cop.sha512

```
Pre-Upgrade COP file output:

Before direct migration to version 15, ensure that the following COP is
installed on all Cisco Unified Communications Manager(CUCM) and on all IM
and Presence(IMP) nodes - ciscocm.CSCwi52160_15-direct-
migration_v1.0.k4.cop.sha512
```

```
admin:file view install system-history.log
======================================== Product Name - Cisco Unified
Communications Manager Product Version - 11.5.1.18900-97
========================================
06/11/2013 00:00:10 | root: Install 8.5.1.14066-1 Start
06/11/2013 00:01:00 | root: Boot 8.5.1.14066-1 Start
06/11/2013 12:35:00 | root: Install 8.5.1.14066-1 Success
06/11/2013 12:36:00 | root: Boot 8.5.1.14066-1 Start
06/11/2013 12:50:00 | root: Restart 8.5.1.14066-1 Start
```

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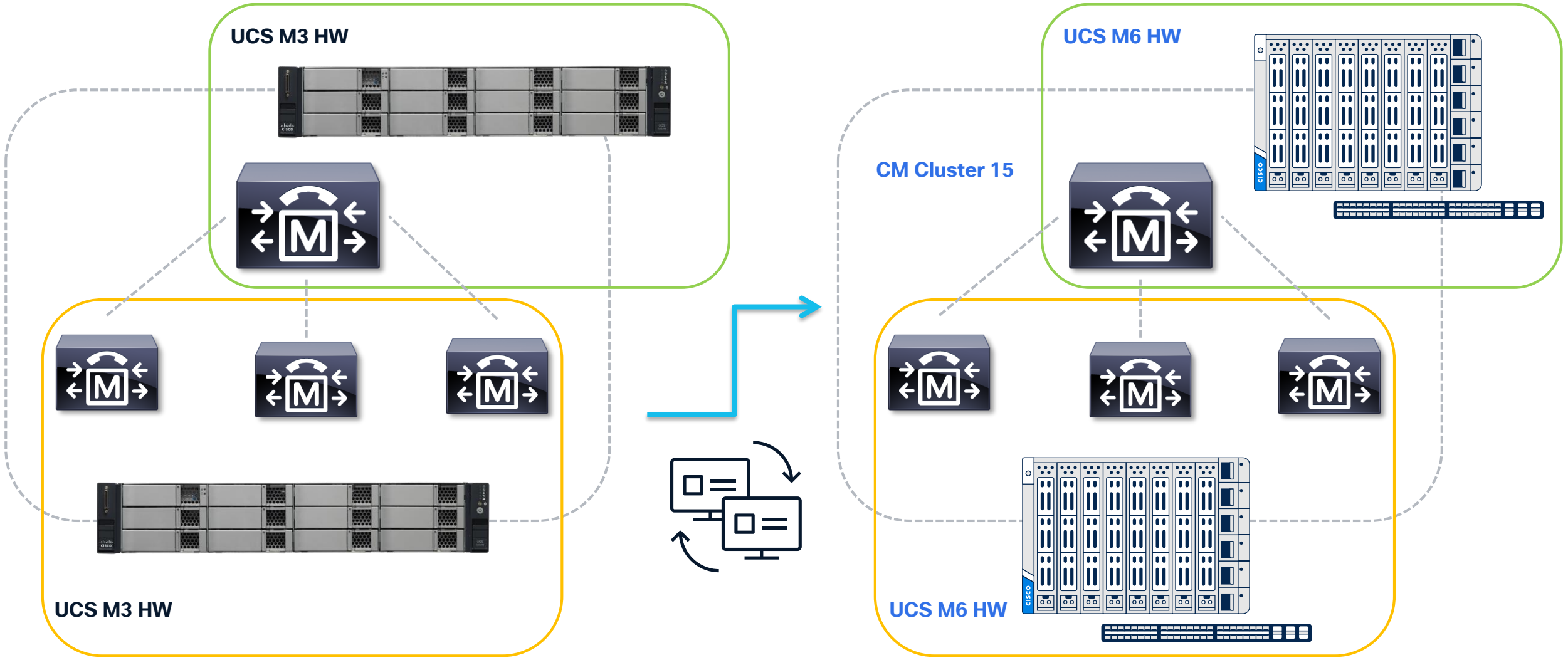
Let’s Upgrade!



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Let’s Upgrade!

```
admin:utils system upgrade dataexport initiate

Warning: The data export process would take anywhere between a few minutes to about 30 minutes to complete. This export t
ng Ctrl+C will abort the data export process.

Warning: Before upgrading the cluster Cisco recommends installing the latest Upgrade Readiness COP file. Refer to the Upg

Initializing...
Export Data Directory :
/fresh_install/
Remote Server Name or IP :
10.3.74.56
Remote Server Login ID :
adminsftp
Remote Server Password :
*******
Enter details of the destination node that will import the current node's exported data

New Hostname :
clus25pub
New IPAddress :
10.3.74.61

SFTP Directory=/fresh_install/, SFTP Server=10.3.74.56, SFTP Username=adminsftp, Destination host=clus25pub, Destination

Would you like to proceed with export (yes/no):
yes

Data export in progress......
```

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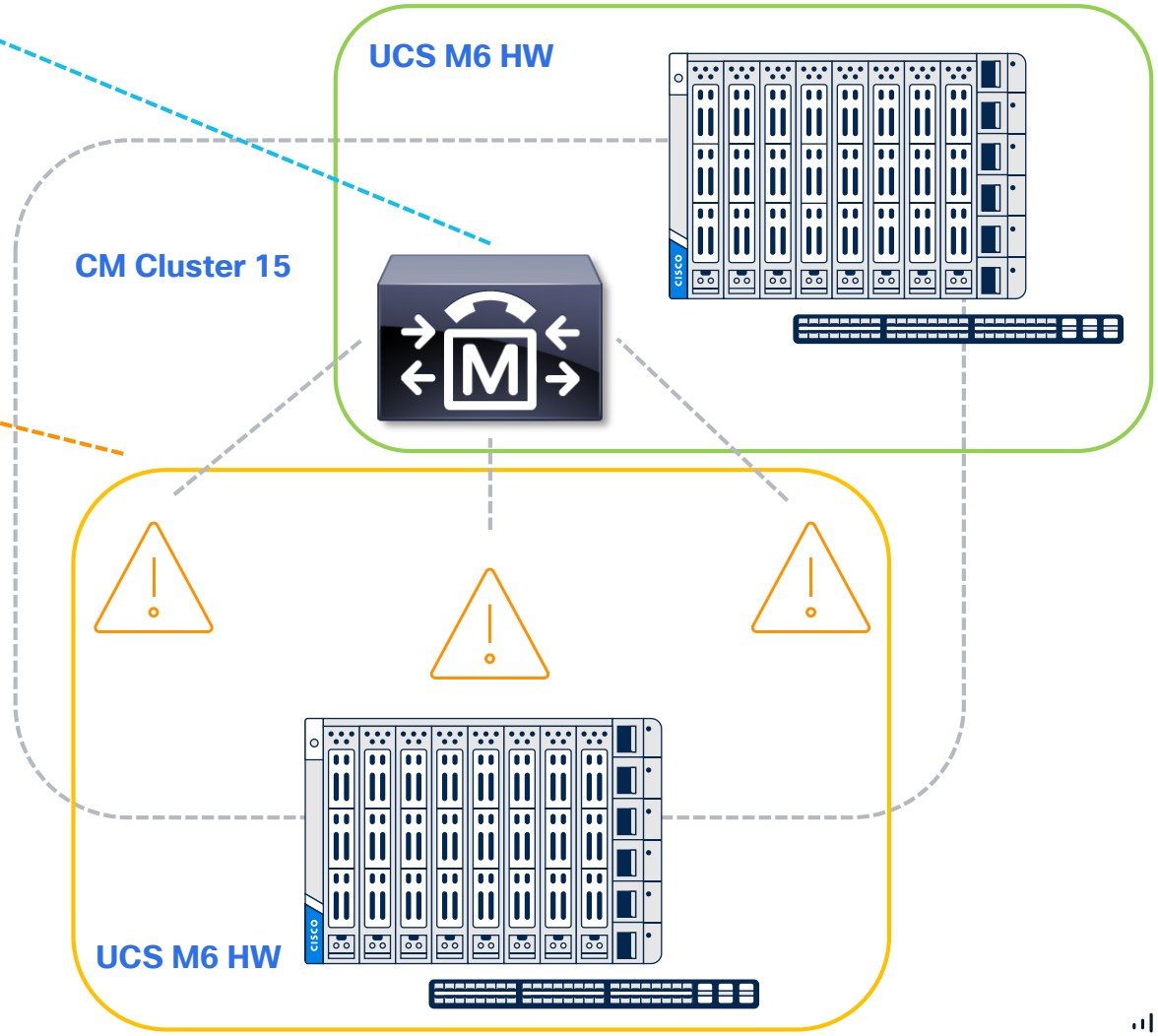
Let’s Upgrade!

```
utils network capture-rotate file TAC sizePerFile 1 maxFiles 2 size all host all ccmsub1
```

```
06/11/2025 09:00:00 display_screen|Arguments:
"Critical Error" "The installation has
encountered a unrecoverable internal error.
For further assistance report the following
information to your support provider
```



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Let’s Upgrade!

```
admin:utils network capture-rotate file TAC sizePerFile 1 maxFiles 2 size all host all ccmsub1


Available common partition disk space       14681M
Projected disk usage from capture           2M
Total common partition size                 67613M


Projected common partition utilization after capture is 73%.
The configured common partition low water mark is 90%.
For any given set of parameters, utilization must remain below 85%.
```

“Ctrl + C” to stop it

```
admin:file list activelog platform/cli/*.cap*
TAC.cap0
TAC.cap1
dir count = 0, file count = 2
```

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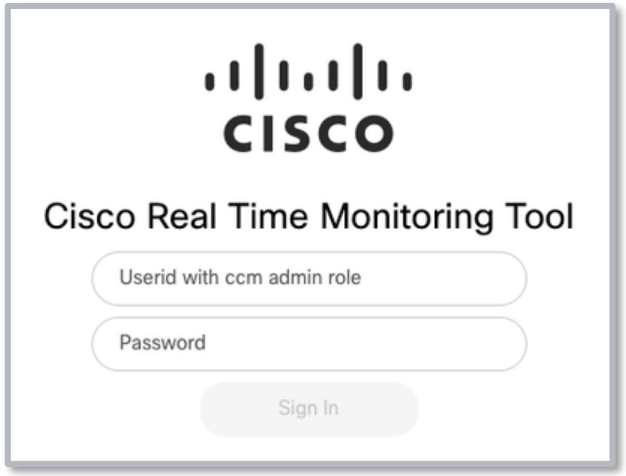
Let's Upgrade!



Packet Capture Logs

22: Cisco SFTP service

1515: Database replication between nodes during installation

8500: Intra-cluster replication of system data by IPSec Cluster Manager

1500: Database connection (1501 / TCP is the secondary connection)

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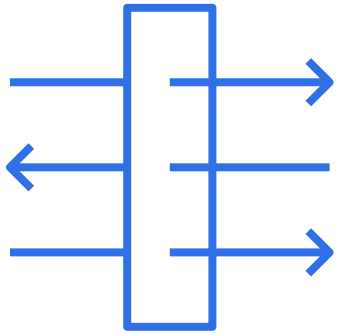
Let’s Upgrade!

PUB = 10.1.74.61

SUB = 10.3.74.62



1515: Database replication between nodes during installation

No.	Time	Source	Destination	Prt	Len	Info
27050	2025-06-11 12:07:55.397488	10.3.74.62	10.1.74.61	TCP	74	35294 → **1515** **[SYN]** Seq=0 Win=29200 Len=0 MSS=1316
27051	2025-06-11 12:07:55.397564	10.1.74.61	10.3.74.62	TCP	74	**1515** → 35294 **[SYN, ACK]** Seq=0 Ack=1 Win=28960 Len=0
27052	2025-06-11 12:07:55.399163	10.3.74.62	10.1.74.61	TCP	66	35294 → **1515** **[ACK]** Seq=1 Ack=1 Win=29312 Len=0
27053	2025-06-11 12:07:55.399204	10.3.74.62	10.1.74.61	TCP	60	35294 → **1515** **[RST, ACK]** Seq=1 Ack=1 Win=29312 Len=0
27057	2025-06-11 12:07:55.402711	10.3.74.62	10.1.74.61	TCP	60	35296 → **1515** **[RST, ACK]** Seq=1 Ack=1 Win=29312 Len=0
29361	2025-06-11 12:08:55.442365	10.3.74.62	10.1.74.61	TCP	60	35298 → **1515** **[RST, ACK]** Seq=1 Ack=1 Win=29312 Len=0

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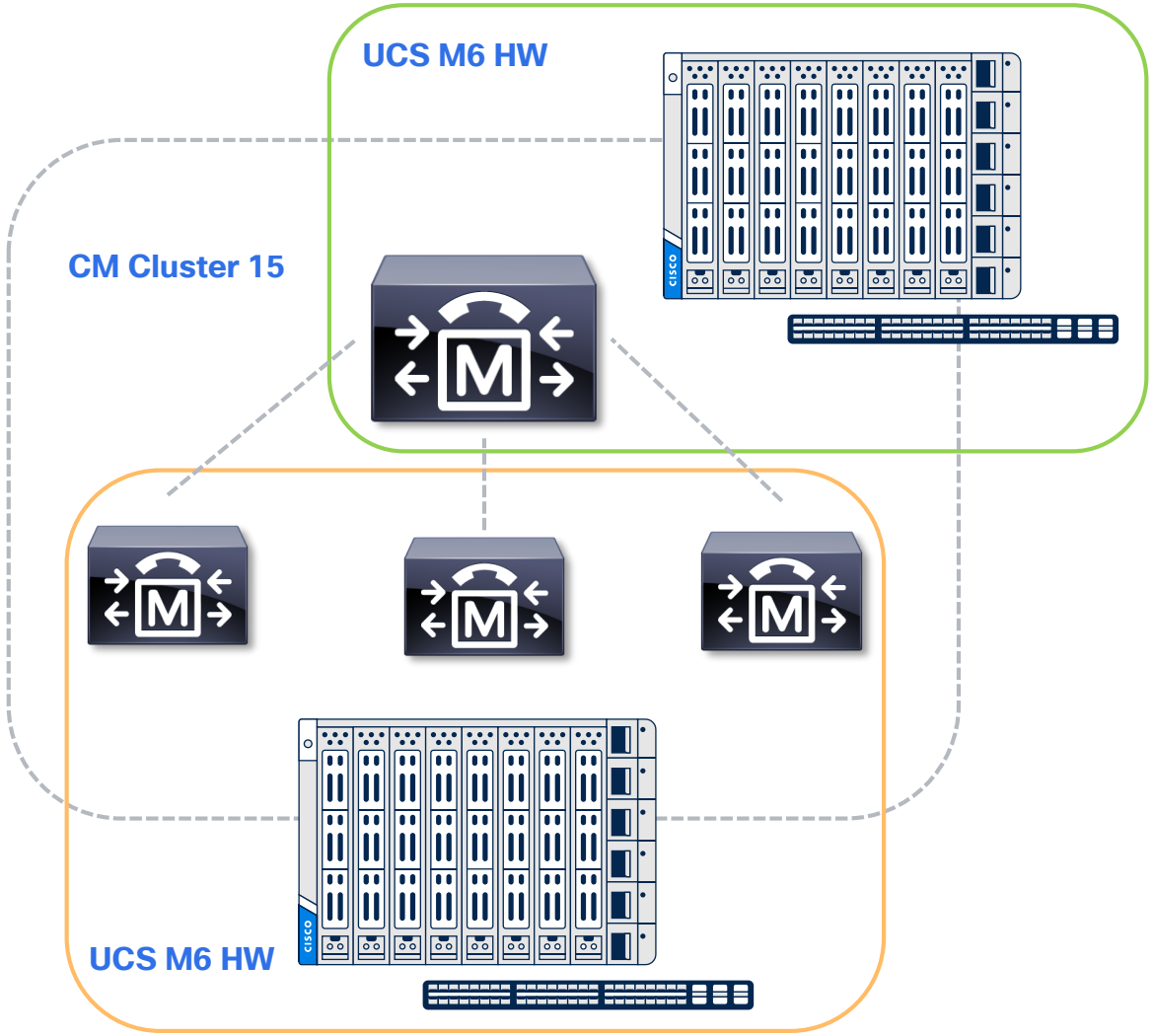
Let’s Upgrade!



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Key Takeaways

Run Pre-Upgrade COP file and **Choose** Upgrade Method

Plan the Upgrade and **Minimize** downtime

Collect Install Logs and Packet Capture Logs

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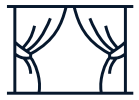

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Thank you

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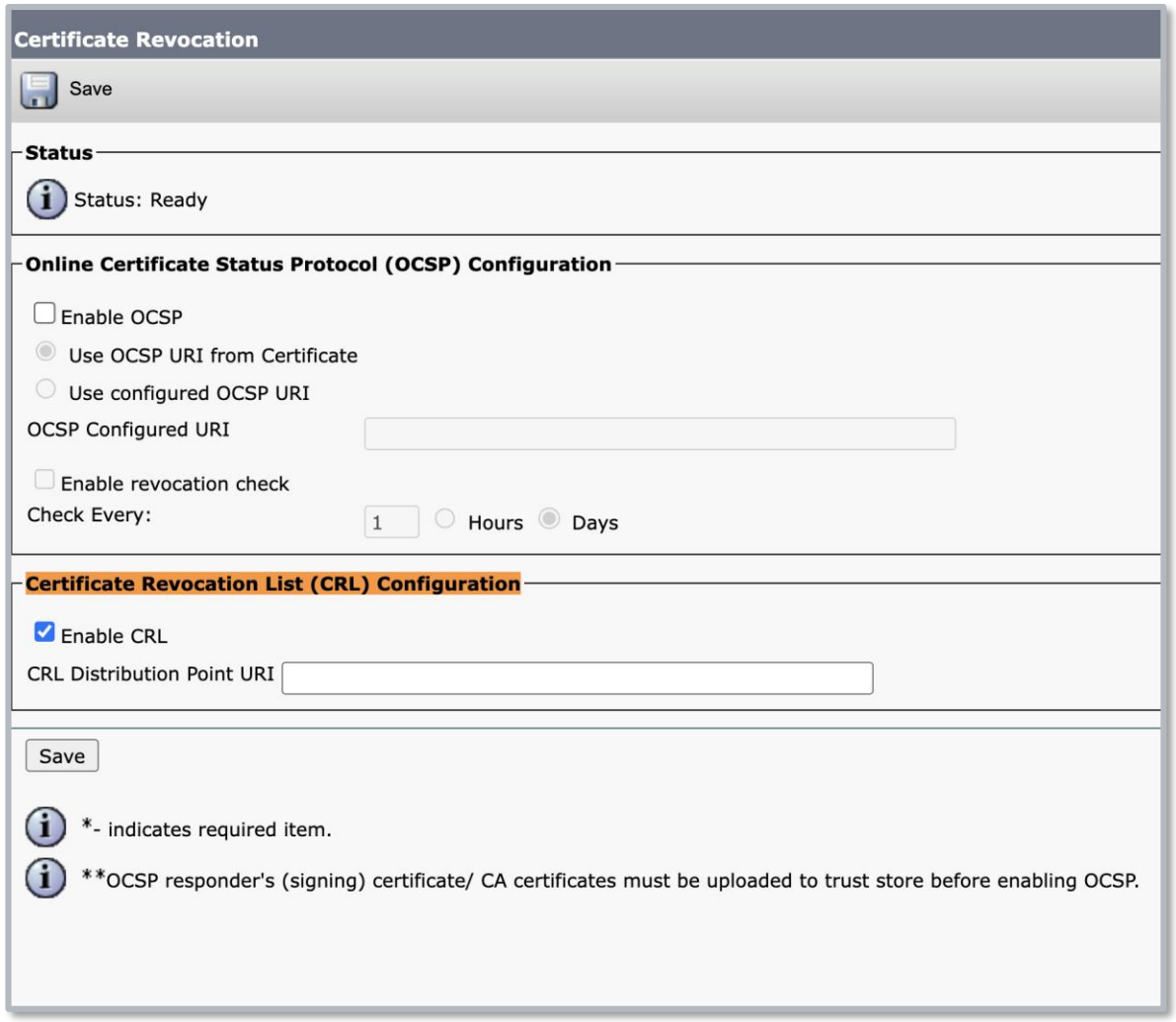
CISCO

Appendix

OCSP Certificate Revocation List

Cisco Unified OS Administration > Security > Certificate Revocation



- TLS connections now support **CRL VERIFICATION**
- Performed for **ALL SECURE CLIENTS**
- Connections are **NOT MADE** with entities whose **CERTIFICATES** have been **REVOKED**

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TLS 1.3 Connections (15 SU2)

Renegotiation

Renegotiation is not possible in a TLS v1.3 connection

Cipher Suites

TLS 1.3 supports cipher suites that do not include key exchange or signature algorithms

Supports:
TLS_AES_256_GCM_SHA384

TLS_CHACHA20_POLY1305_SHA256

TLS_AES_128_GCM_SHA256

Removes: DES, AES-CBC,SHA-1,etc.

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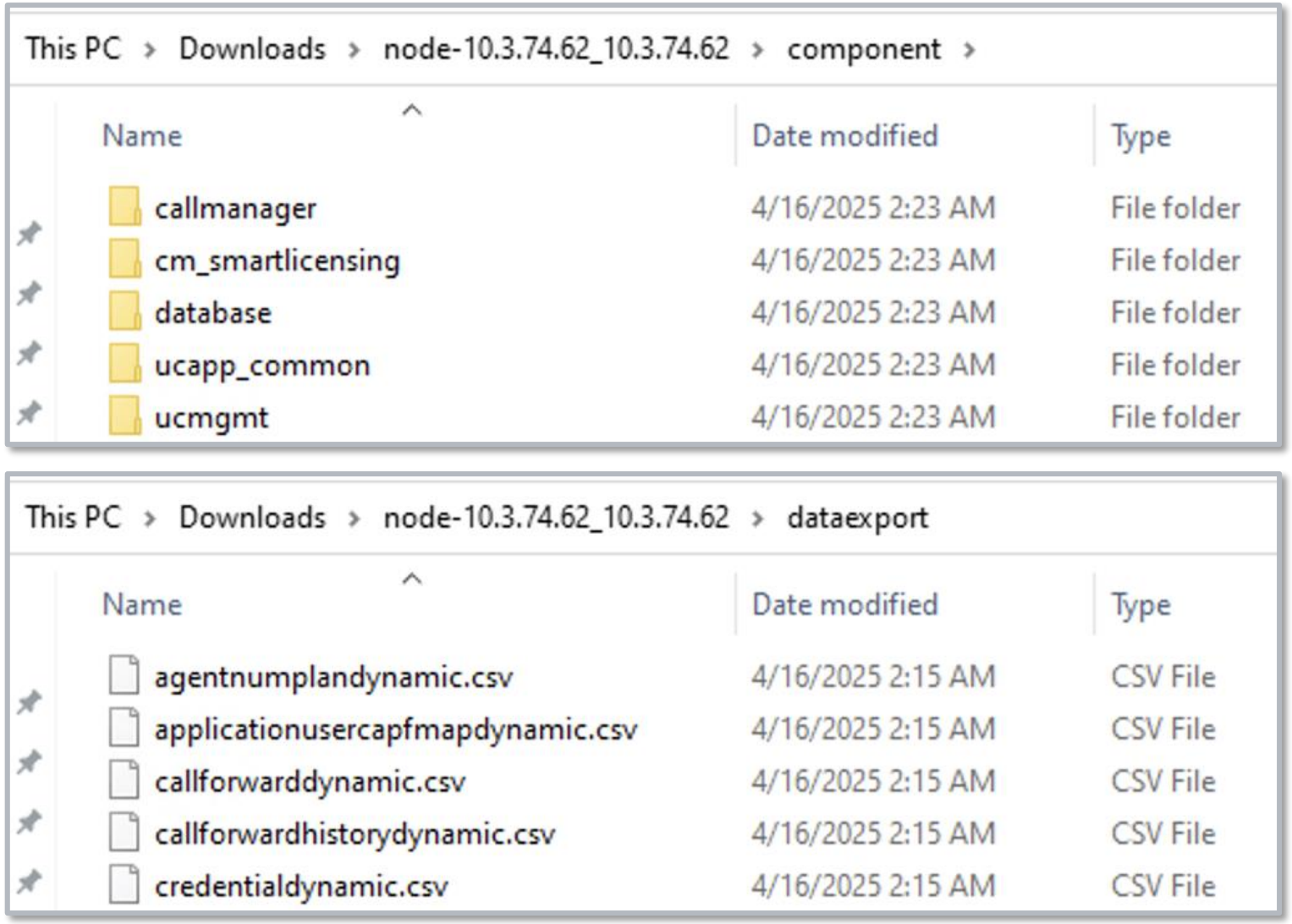
Export the Data



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