## Cisco Networkers 2009

**Best Practices for Migrating Previous Versions of Cisco Unified Communications Manager (CUCM) to CUCM 7.1**

BRKVVT-2011

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the human network. cisco

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## Glossary of New Terms

- CUCM (Cisco Unified Communications Manager): formerly called CallManager; synonymous with Unified CM or UC Manager

- CUCM-BE (Cisco Unified Communications Manager Business Edition): CallManager and Unity Connection all in one platform

- DMA (Data Migration Assistant): Windows to appliance migration tool

- DRS (Disaster Recovery System): Unified CM backup tool

- PAK (Product Activation Key): paper or paperless key to request for product license

- sFTP (secure FTP): FTP over SSH

- SSH (Secure Shell): for remote console or CLI access (i.e., Putty client)

## Agenda

- Session Objectives and Scope
- Cisco Unified Communications Manager 7.X Upgrade Definition and Upgrade Path
- Cisco Unified Communications Manager 7.X Licenses
- Servers, Clusters, and UC Application Upgrade/Migration Definition
- Cisco Unified Communications Manager 7.X Installation Process and Best Practices
- Upgrade and Migration Strategy for Cisco Unified Communications Manager 5.X, 6.X, or 7.0 to 7.1
- Upgrade and Migration Strategy for Cisco Unified Communications Manager 4.1, 4.2, or 4.3 to 7.1
- Q&A

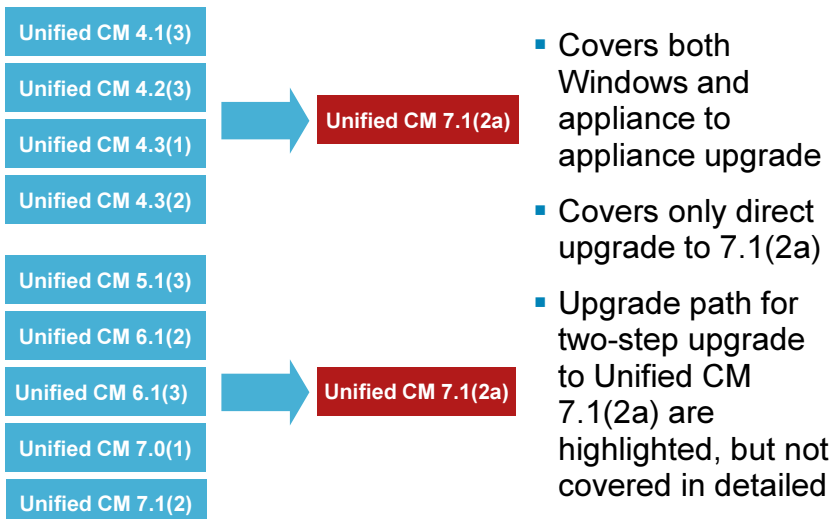Session Objectives and Scope

1

## Session Objectives

- Planning for a successful upgrade or migration to Unified CM 7.1

- To understand some of the considerations and approaches for migrating from a Unified CM 4.X, 5.X, 6.X, and 7.0 to a Unified CM 7.1

- To provide some best practice guidelines for Unified CM 7.1 installation

## Session Scope

| Unified CM 4.1(3) |
| Unified CM 4.2(3) |
| Unified CM 4.3(1) | → | **Unified CM 7.1(2a)** |
| Unified CM 4.3(2) |

| Unified CM 5.1(3) |
| Unified CM 6.1(2) |
| Unified CM 6.1(3) | → | **Unified CM 7.1(2a)** |
| Unified CM 7.0(1) |
| Unified CM 7.1(2) |

- Covers both Windows and appliance to appliance upgrade

- Covers only direct upgrade to 7.1(2a)

- Upgrade path for two-step upgrade to Unified CM 7.1(2a) are highlighted, but not covered in detailed

# Upgrade Path 7.1

Table 4 Supported Cisco Unified Communications Manager Upgrades for Release 7.1(x)

| Cisco Unified Communications Manager | 7.1(3) | 7.1(2b)SU1 | 7.1(2b) | 7.1(2a)SU1 | 7.1(2a) | 7.1(2) |
|---|---|---|---|---|---|---|
| Release Date | Sep 22 2009 | Sep 10 2009 | Sep 9 2009 | Jul 21 2009 | Jun 15 2009 | May 29 2009 |
| Standard Support | Direct upgrade [1]: 7.1(2b)SU1, 7.1(2b), 7.1(2a), 7.1(2), 7.0(2a), 7.0(2), 6.1(4)SU1, 6.1(4), 6.1(3b)SU1, 6.1(3b), 6.1(3a), 6.1(3)[1] Direct upgrade using DMA: 4.3(2), 4.2(3), 4.1(3) | Direct upgrade: 7.1(2b), 7.1(2a), 7.1(2), 7.0(2a), 7.0(2), 7.0(1)SU1a, 7.0(1)SU1, 7.0(1), 6.1(3b)SU1, 6.1(3b), 6.1(3a), 6.1(3), 6.1(2)SU1a, 6.1(2)SU1, 6.1(2) Direct upgrade using DMA: none | Direct upgrade: 7.1(2a), 7.1(2), 7.0(2a), 7.0(2), 7.0(1)SU1a, 7.0(1)SU1, 7.0(1), 6.1(3b)SU1, 6.1(3b), 6.1(3a), 6.1(3), 6.1(2)SU1a, 6.1(2)SU1, 6.1(2), 5.1(3g), 5.1(3f), 5.1(3e)[2], 5.1(3d), 5.1(3c), 5.1(3b), 5.1(3a), 5.1(3) Direct upgrade using DMA: 4.3(2), 4.3(1), 4.2(3), 4.1(3) | Direct upgrade: 7.1(2a), 7.1(2), 7.0(2a), 7.0(2), 7.0(1)SU1a, 7.0(1)SU1, 7.0(1), 6.1(3b)SU1, 6.1(3b), 6.1(3a), 6.1(3), 6.1(2)SU1a, 6.1(2)SU1, 6.1(2) Direct upgrade using DMA: none | Direct upgrade: 7.1(2), 7.0(2a), 7.0(2), 7.0(1)SU1a, 7.0(1)SU1, 7.0(1), 6.1(3b)SU1, 6.1(3b), 6.1(3a), 6.1(3), 6.1(2)SU1a, 6.1(2)SU1, 6.1(2), 5.1(3g), 5.1(3f), 5.1(3e)[2], 5.1(3d), 5.1(3c), 5.1(3b), 5.1(3a), 5.1(3) Direct upgrade using DMA: 4.3(2), 4.3(1), 4.2(3), 4.1(3) | Direct upgrade: 7.0(2a), 7.0(2), 7.0(1)SU1a, 7.0(1)SU1, 7.0(1), 6.1(3b)SU1, 6.1(3b), 6.1(3a), 6.1(3), 6.1(2)SU1a, 6.1(2)SU1, 6.1(2), 5.1(3g), 5.1(3f), 5.1(3e)[2], 5.1(3d), 5.1(3c), 5.1(3b), 5.1(3a), 5.1(3) Direct upgrade using DMA: 4.3(2), 4.3(1), 4.2(3), 4.1(3) |

Note Refer to the Engineering Special (ES) Upgrade Note concerning upgrades from ESs.

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# Cisco Unified Communications Manager 7.X Upgrade Definition and Upgrade Path

2

# Unified CM Major/Minor Upgrade Definition

- **Major upgrades (more difficult to perform)**

    OS change—Windows to appliance model

    Ex. Unified CM 4.1, 4.2, or 4.3 to 5.X, 6.X, or 7.X

    CAUTION
    MAJOR UPGRADE

- **Minor upgrades (trivial to accomplish)**

    MINOR UPGRADE

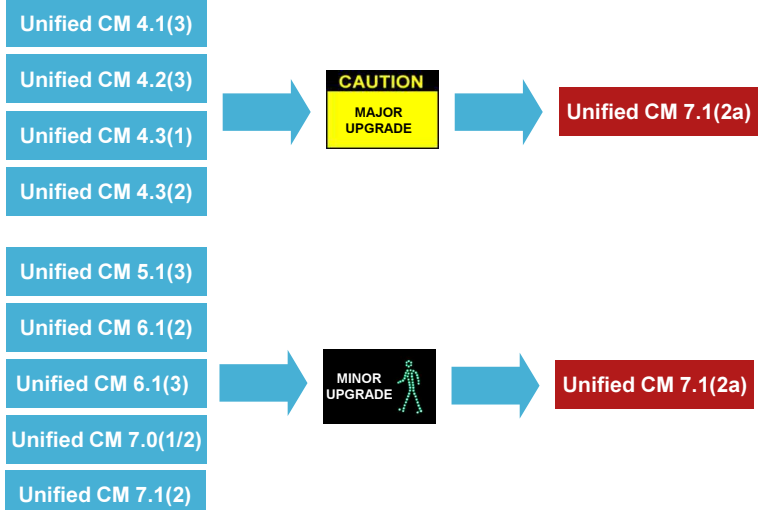    No OS change—Windows to Windows or appliance to appliance model

    Ex. Unified CM 4.3(1) to 4.3(2)

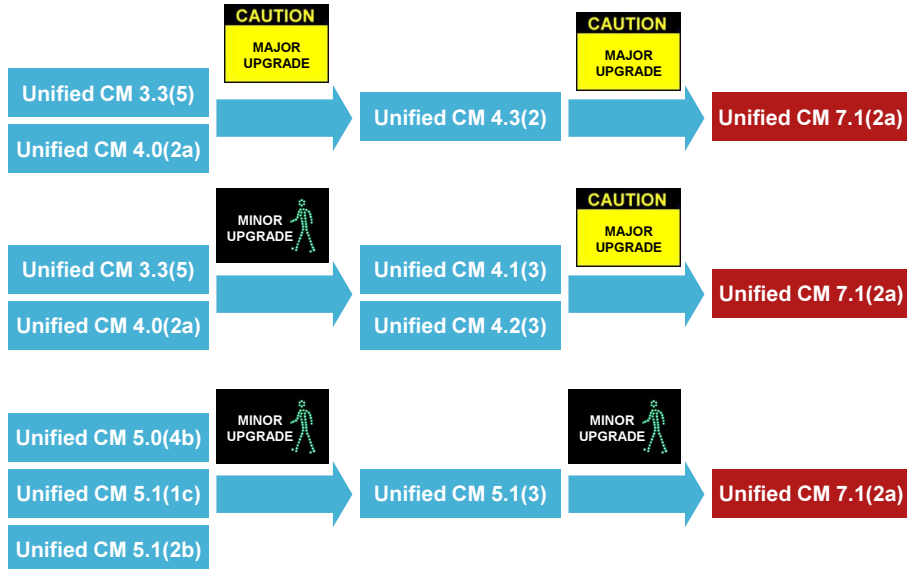    Ex. Unified CM 6.1(2) to 6.1(3) or Unified CM 5.1(3f) to 7.1(2a)

**Different Than Major or Minor Versions of Unified CM**

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# One-Step Major and Minor Upgrades

Unified CM 4.1(3)

Unified CM 4.2(3)

Unified CM 4.3(1)

Unified CM 4.3(2)

CAUTION MAJOR UPGRADE → Unified CM 7.1(2a)

Unified CM 5.1(3)

Unified CM 6.1(2)

Unified CM 6.1(3)

Unified CM 7.0(1/2)

Unified CM 7.1(2)

MINOR UPGRADE → Unified CM 7.1(2a)

**More Detailed Unified CM Version that can be upgrade to 7.1(2a) in Compatibility Matrix**

## Two-Step Major and Minor Upgrades

| | | | |
|---|---|---|---|
| **Unified CM 3.3(5)** | CAUTION MAJOR UPGRADE → | **Unified CM 4.3(2)** | CAUTION MAJOR UPGRADE → **Unified CM 7.1(2a)** |
| **Unified CM 4.0(2a)** | | | |

| | | | |
|---|---|---|---|
| **Unified CM 3.3(5)** | MINOR UPGRADE → | **Unified CM 4.1(3)** | CAUTION MAJOR UPGRADE → **Unified CM 7.1(2a)** |
| **Unified CM 4.0(2a)** | | **Unified CM 4.2(3)** | |

| | | | |
|---|---|---|---|
| **Unified CM 5.0(4b)** | MINOR UPGRADE → | **Unified CM 5.1(3)** | MINOR UPGRADE → **Unified CM 7.1(2a)** |
| **Unified CM 5.1(1c)** | | | |
| **Unified CM 5.1(2b)** | | | |

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## Unified CM 5.1 Versions and Build

| | | | | |
|---|---|---|---|---|
| **Unified CM 5.1(1)** | 5.1.1.1000-7 | **Unified CM 5.1(3)** | 5.1.2.1000-12 | • FCS build always have three zeros |
| **Unified CM 5.1(1a)** | 5.1.1.20002 | **Unified CM 5.1(3a)** | 5.1.2.2000-3 | • ES posted on CCO |
| **Unified CM 5.1(1b)** | 5.1.1.3000-5 | **Unified CM 5.1(3b)** | 5.1.3.3000-5 | • Numbering convention: |
| **Unified CM 5.1(1c)** | 5.1.1.4000-1 | **Unified CM 5.1(3c)** | 5.1.3.4000-4 | 1. Major version |
| **Unified CM 5.1(2)** | 5.1.2.1000-11 | **Unified CM 5.1(3d)** | 5.1.3.5000-3 | 2. Minor version |
| **Unified CM 5.1(2a)** | 5.1.2.2000-3 | **Unified CM 5.1(3e)** | 5.1.3.6000-2 | 3. Maint. rel. |
| **Unified CM 5.1(2b)** | 5.1.2.3000-2 | **Unified CM 5.1(3f)** | 5.1.3.7000-5 | 4. Build |
| | | | | 5. FCS =000 |

**Unified CM 5.1(3e) upgrade to 7.1(x) bug - CSCsy17534 and CSCsy23628**

## Unified CM 6 & 7 Versions and Build

| | | | |
|---|---|---|---|
| Unified CM 6.0(1) | 6.0.1.1000-37 | Unified CM 6.1(3a) | 6.1.3.2000-1 |
| Unified CM 6.0(1a) | 6.0.1.2000-3/4 | Unified CM 6.1(3b) | 6.1.3.3000-1 |
| Unified CM 6.0(1b) | 6.0.1.3000-7 | Unified CM 6.1(3b) SU1 | 6.1.3.3190-1 |
| Unified CM 6.1(1a) | 6.1.1.2000-3 | Unified CM 6.1(4) | 6.1.4.1000-10 |
| Unified CM 6.1(1b) | 6.1.1.3000-2 | Unified CM 7.0(1) | 7.0.1.11000-2 |
| Unified CM 6.1(2) | 6.1.2.1000-13 | Unified CM 7.0(1) SU1 | 7.0.1.11001-8 |
| Unified CM 6.1(2) SU1 | 6.1.2.1001-4 | Unified CM 7.0(2) | 7.0.2.10000-18 |
| Unified CM 6.1(2) SU1a | 6.1.2.1002-1 | Unified CM 7.0(2a) | 7.0.2.20000-5 |
| Unified CM 6.1(3) | 6.1.3.1000-16 | Unified CM 7.1(2)a | 7.1.2.20000-2 |

- FCS build always have three zeros
- ES posted on CCO
- Numbering convention:
1. Major version
2. Minor version
3. Maint. rel.
4. Build
5. FCS =000

**Unified CM 7.X Uses Two-Digits Build Versus One-Digits Build for 4.X, 5.X, or 6.X**

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## Unified CM 6.1(4) Upgrade Option

Unified CM 6.1(4) → MINOR UPGRADE (prohibited) → Unified CM 7.1(2a)

Unified CM 6.1(4) → MINOR UPGRADE → Unified CM 7.1(3)

# 3

## Cisco Unified Communications Manager 7.X Licenses

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## Unified CM 7.X License Types—Node, Device Unit and SW Feature License

**Unified CM Servers in Cluster**

Based on the Number of Unified CM Servers in the Cluster → **Node License**

**IP Phones in Cluster**

Based on the Number of IP Phones and the Types of Phones in the Cluster Including Video Terminals, ATA GW, and Mobility Feature → **Device Unit License**

**Unified CM 4.x, 5.X or 6.X** — Upgrade → **Unified CM 7.X** — Required for Upgrade to Unified CM 7.X → **SW Feature License**

*New in version 6.0

*Affects how appliance to appliance upgrades can be accomplish starting with 6.0 to 7.X

**License File Is Keyed to the MAC Address of the First Node of Unified CM Cluster**

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# Unified CM 7.X New Installation License Requirements

**Unified CM Software** → Based on the Number of Unified CM Servers in the Cluster → **Product Activation Key (PAK)** → Cisco Will Send in Email → **Node License**

**DLU Order** → Based on the Number of IP Phones and the Types of Phones in the Cluster → **Product Activation Key (PAK)** → Cisco Will Send in Email → **Device Unit License**

→ http://www.cisco.com/go/license *
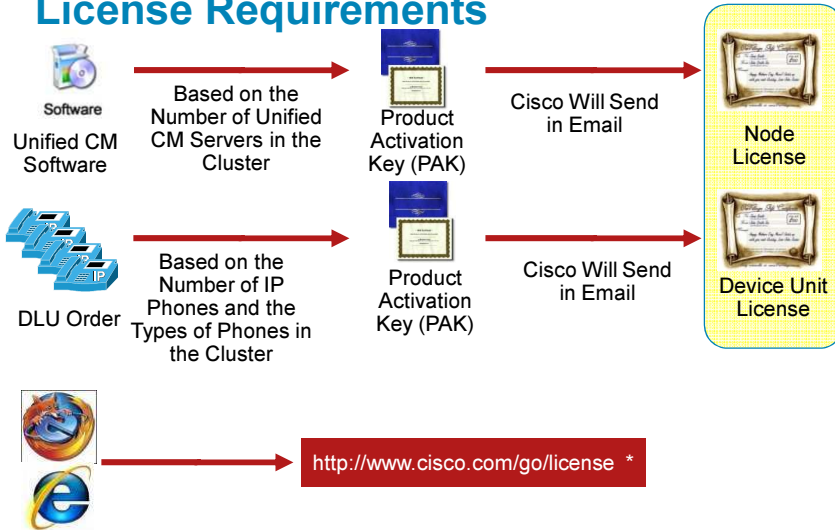
* Issue with using Entourage in MAC to upload license file. Use Outlook

**License File Is Keyed to the MAC Address of the First Node of Unified CM Cluster**

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# Unified CM 7.X Upgrade License Requirements

**Unified CM 4.X Cluster** → Migration Process * → **Unified CM 7.X Cluster** + Temporary Node and Device Unit License

**Unified CM Upgrade Order** → Based on the Number servers in the cluster → **Product Activation Key (PAK)** → Cisco will send in Email → **SW Feature License**

**Temporary Node and Device Unit License** → http://www.cisco.com/go/license
Cisco CallManager Device Upgrade License → **Permanent Node and Device Unit License**

* DMA 7.1(2) generate temporary license locally on old publisher

**Unified CM Licensing:**

http://www.cisco.com/en/US/docs/voice_ip_comm/cucm/admin/7_1_2/ccmsys/a02licen.html

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# Unified CM 7.X License—FAQ (1/2)

- If I do not run DMA and migrate my old cluster, how do I get the Node and Device Unit License?
    - DMA 7.1(2) will generate the temporary or the requested license file (Node and DLU) on the 4.X Publisher server
- How many upgrade kits will I need to order for a cluster of six servers with one Publisher and one TFTP that are not running CM service?
    - You need to order six copies of the upgrade kit
    - Node license will be six, but only four will be used
    - Only one upgrade PAK will be needed for SW feature license
- How are licenses handled for non-production lab clusters?
    - You can order CM7.0-K9-LAB which has one node and 100 DLU

# Unified CM 7.X License—FAQ (2/2)

- If I have servers or phones not programmed in my current Unified CM 4.X cluster, how do I ensure that I get the licenses for those devices?
    - You can provide order numbers for all of your UC purchases in conjunction with your Unified CM 7.X upgrade order
    - You add the phones and the servers into the current 4.X cluster before running DMA; if BAT is used to add those phones, do not use the Dummy MAC address check box
- What if my Publisher failed and it was replaced with a new server with a new MAC address?
    - You can ask to re-host your current Unified CM 7.X licenses to the new Publisher MAC address
- If I upgrade from 7.0 to 7.1, do I need SW Feature license?
    - No

# Servers, Clusters, and UC Application Upgrade/ Migration Definition

4

## Server Upgrade/Migration Definition
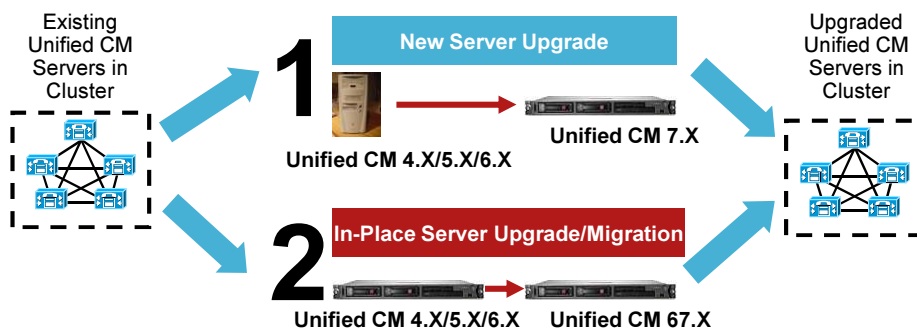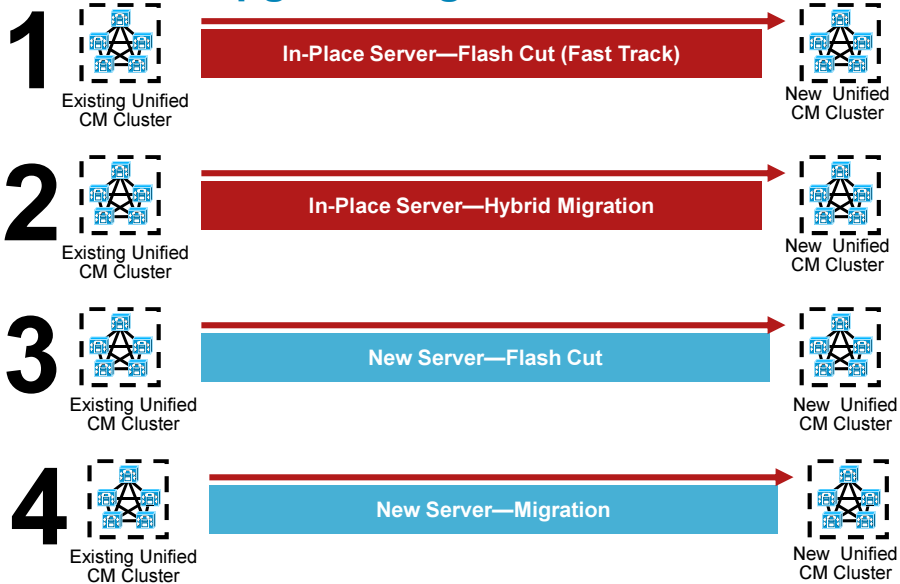
Existing Unified CM Servers in Cluster

**1** **New Server Upgrade**

Unified CM 4.X/5.X/6.X → Unified CM 7.X

**2** **In-Place Server Upgrade/Migration**

Unified CM 4.X/5.X/6.X → Unified CM 67.X

Upgraded Unified CM Servers in Cluster

# Cluster Upgrade/Migration Definition

**1** Existing Unified CM Cluster → In-Place Server—Flash Cut (Fast Track) → New Unified CM Cluster

**2** Existing Unified CM Cluster → In-Place Server—Hybrid Migration → New Unified CM Cluster

**3** Existing Unified CM Cluster → New Server—Flash Cut → New Unified CM Cluster

**4** Existing Unified CM Cluster → New Server—Migration → New Unified CM Cluster

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# In-Place Server—Flash Cut
# Unified CM 5.X or 6.X to 7.X

**1** Existing Publisher → New Publisher

- Upgrade servers in the order shown
- Upgrade should be done after hours if possible
- Complete all server upgrades before switching versions

**2** Existing TFTP → New TFTP

- Switching versions should be done as soon as upgrade of all servers is completed to avoid loss of MAC
- This approach is recommended for appliance to appliance upgrade

**3** Existing Backup Subscriber → New Backup Subscriber

**4** Existing Active Subscriber → New Active Subscriber

**For Existing Servers That Can Run Unified CM 7.X**

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## In-Place Server—Hybrid Migration Unified CM 4.X to 7.X

**1** Existing Backup Subscriber → New Publisher TFTP
- Existing backup subscriber is not the call processing server
- Be careful about duplicate IP addresses

**2** Existing TFTP → New Active Subscriber
- Can use new IP addresses in new cluster
- New DHCP option 150 points to new TFTP server
- Phones can re-home to new TFTP and new active subscriber *Make sure existing 4.X active sub is off

**3** Existing Active Subscriber → New Backup Subscriber
- New backup subscriber is online for redundancy

**4** Existing Publisher → New TFTP
- Save the Existing Publisher for last in case of downgrade
- Once upgrade is deemed acceptable
  Change DHCP option 150 back to new TFTP server
  Revise activated services as required

## New Server—Flash Cut Unified CM 4.X, 5.X or 6.X to 7.X
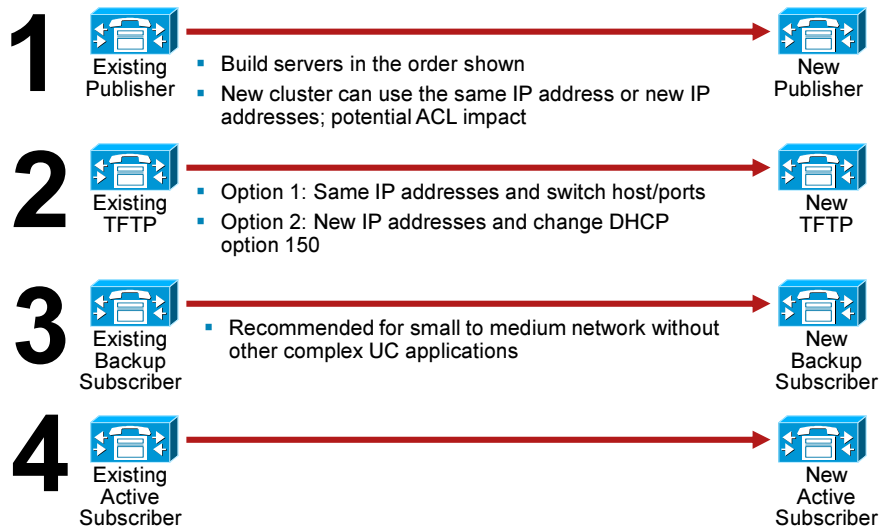
**1** Existing Publisher → New Publisher
- Build servers in the order shown
- New cluster can use the same IP address or new IP addresses; potential ACL impact

**2** Existing TFTP → New TFTP
- Option 1: Same IP addresses and switch host/ports
- Option 2: New IP addresses and change DHCP option 150

**3** Existing Backup Subscriber → New Backup Subscriber
- Recommended for small to medium network without other complex UC applications

**4** Existing Active Subscriber → New Active Subscriber

## New Server—Migration
## Unified CM 4.X, 5.X or 6.X to 7.X

**1** Existing Publisher → New Publisher
- Build servers in the order shown
- New cluster uses a new set of IP addresses; potential ACL impact

**2** Existing TFTP → New TFTP
- Use CSS and partitions to ensure call routing is correct

**3** Existing Backup Subscriber → New Backup Subscriber
- Build intercluster trunk between the existing and new cluster
- Recommended where there are many UC applications and phases of migration is important, i.e., CUCCX

**4** Existing Active Subscriber → New Active Subscriber
- Recommended for medium to large network especially where there are many sites and departments where migration is important
- Recommended to minimize outages

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## UC Application Upgrade/
## Migration Definition

### Upgrade Time Increases with Various Dependencies

| UC Applications | | Migration Strategy |
|---|---|---|

| | |
|---|---|
| CER | CUCCE |
| CUCCX | CUP |
| MP | MPE |
| Unity Connection | Unity |

**1** Pre-Upgrade Migration *
UC Applications Upgrade → Unified CM Upgrade
Down Time    Down Time

**2** Post Upgrade Migration *
Unified CM Upgrade + UC Applications Upgrade
Down Time
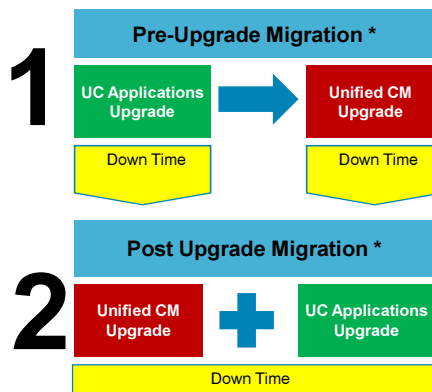
* Some UC Application requires a complete re-install for upgrade

**Cisco Unified Communications Manager Software Compatibility Matrix:**

http://www.cisco.com/en/US/docs/voice_ip_comm/cucm/compat/ccmcompmatr.html

**Overall Upgrade Strategy**
**Minimizing Down Time**

1

Phase I:
IP Phone
Firmware Upgrade

IP Phone
Firmware

2

Phase II:
UC Applications Pre-
Upgrade Migration

UC Applications
Upgrade

3

Phase III:
Unified CM and UC
Applications Post
Upgrade Migration

Unified CM
Upgrade

UC Applications
Upgrade
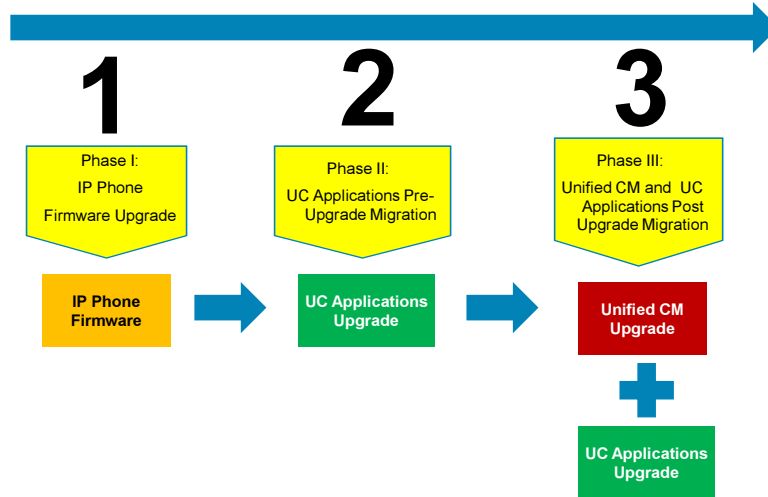
**Cisco IP Phone Firmware by Unified CM Releases:**
http://www.cisco.com/en/US/docs/voice_ip_comm/cucm/compat/ccmcompmatr.html



Cisco Unified Communications
Manager 7.X Installation Process
and Best Practices

5

# Overview of Unified CM 7.X
# DVD Kit Installation
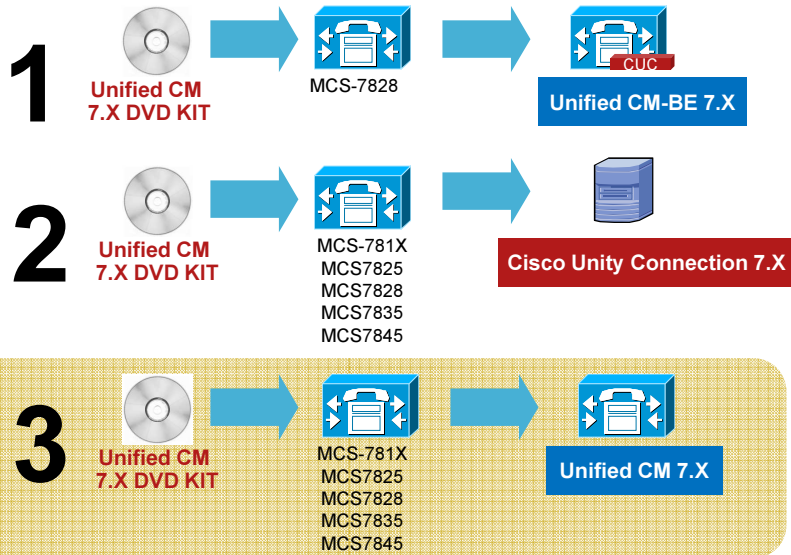
**1**  Unified CM 7.X DVD KIT → MCS-7828 → Unified CM-BE 7.X

**2**  Unified CM 7.X DVD KIT → MCS-781X MCS7825 MCS7828 MCS7835 MCS7845 → Cisco Unity Connection 7.X

**3**  Unified CM 7.X DVD KIT → MCS-781X MCS7825 MCS7828 MCS7835 MCS7845 → Unified CM 7.X

# Overview of Unified CM 7.X Installation

Unified CM 7.X DVD KIT + MCS-781X MCS7825 MCS7828 MCS7835 MCS7845

INSTALLATION PROCESS (PROCEED)

**1** Apply SR, ES or SU → **Upgrade During Installation i.e., 7.1(2) to 7.1(2a)**

**2** Import Data from Windows → **Upgrade From Windows i.e., 4.1(3) to 7.1(2a)**

**3** Basic Install → **New Installation, New Server—Flash Cut or New Server—Migration**

## Unified CM 7.X Upgrade Media

Unified CM
4.X
Cluster

DVD in Upgrade Kit

Bootable_UCSInstall_UCOS__<Build Number>.sgn.iso

Unified CM
7.X
Cluster

Unified CM
5.X
Cluster

DVD in Upgrade Kit

CMUpgrade_UCOS_<Build Number>.sgn.iso

or

cisco-ipt-k9-patch<build-number> directory patch set

(cisco-ipt-k9-patch<build-number> .tar.gz.X)

Unified CM
7.X
Cluster

Unified CM
6.X or 7.X
Cluster

DVD in Upgrade Kit

or

UCSInstall_UCOS__<Build Number>.sgn.iso
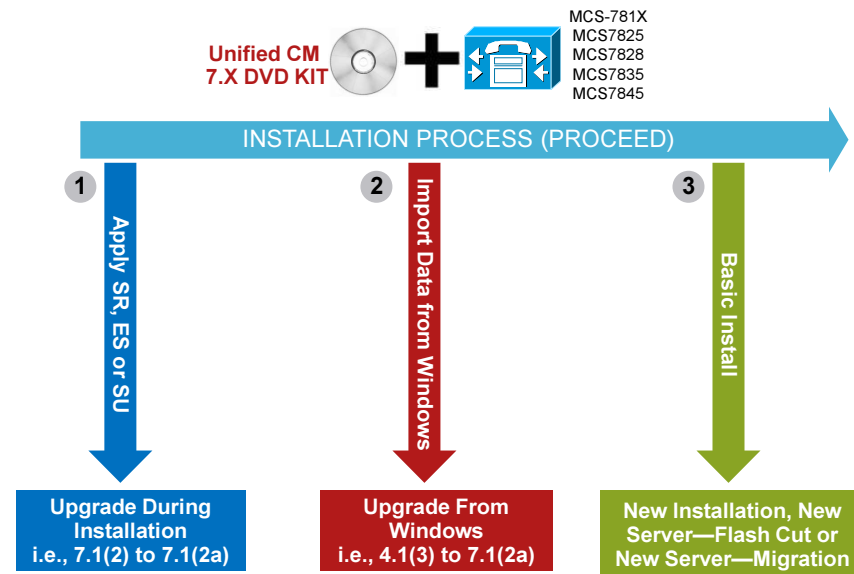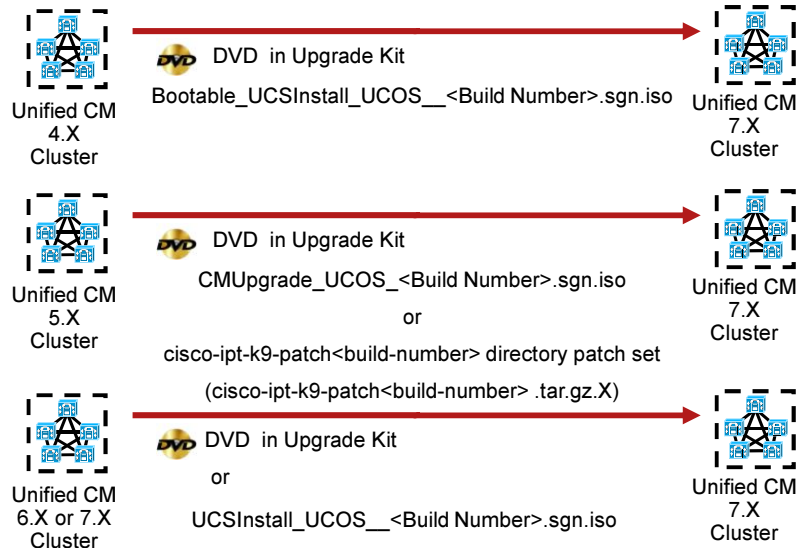
Unified CM
7.X
Cluster

## Unified CM 7.X Installation
## Best Practices

- Pre Defined Installation with configuration file(s) in USB key

  1. platformConfig.xml – same or new IP address and hostname

     A. DMA Answer File Generator – keep configuration data

        Built into DMA 7.1(2)

        Include Windows upgrade data (DMA Tarball, End User pin and password)

     B. Cisco Unified Communications Answer File Generator
        http://www.cisco.com/web/cuc_afg/index.html

        New installation or configuration data

  2. DMABackupInfo.inf – same IP address and hostname

     Generated during DMA file creation in D: \DMA

## Unified CM 7.1 Upgrade / Installation Caveat

- Upgraded Unified CM 7.1 system will have Cisco Attendant Console (CAC) Plug-in

- New Unified CM system 7.1 will not have Cisco Attendant Console (CAC) Plug-in

  Contact TAC if migration from previous release is a new installation of Unified CM 7.1 on new servers

- Migrate to Cisco Unified Enterprise Attendant Console (CUEAC) before Unified CM 8.0

**End-of-Sale and End-of-Life Announcement for the Cisco Unified Attendant Console:**
http://www.cisco.com/en/US/prod/collateral/voicesw/ps6789/ps7046/ps7282/end_of_life_notice_c51-499091.html

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# Upgrade and Migration Strategy for Cisco Unified Communications Manager 5.X, 6.X, or 7.0 to 7.1

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## Unified CM 5.X, 6.X, or 7.X Disk Partition Overview

Updated Unified CM SW

Unified CM Publisher

1

Active Partition

InActive partition

Unified CM Subscriber

Active Partition

InActive partition

2

Switch Version via OS Admin or CLI

Unified CM Publisher

inActive Partition

Active partition

Unified CM Subscriber

inActive Partition
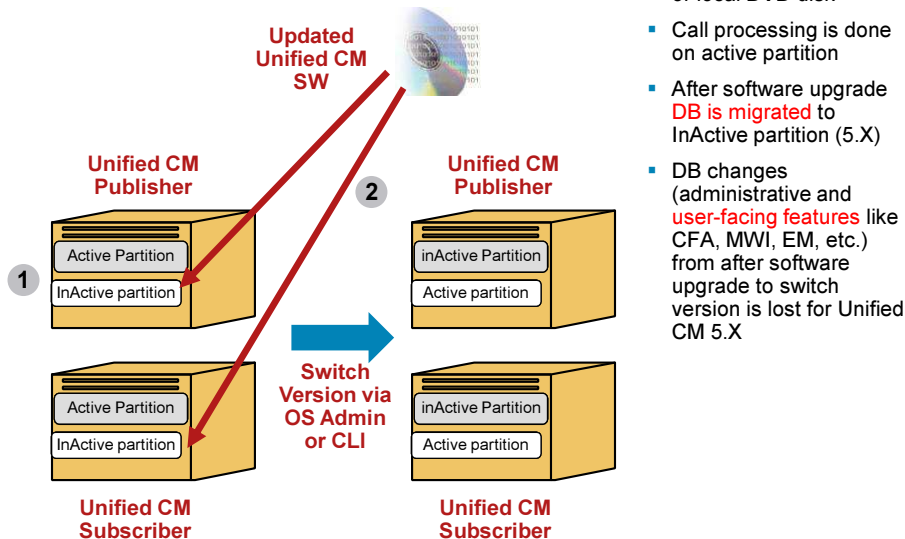
Active partition

- Software update can be done FTP, secure FTP, or local DVD disk
- Call processing is done on active partition
- After software upgrade DB is migrated to InActive partition (5.X)
- DB changes (administrative and user-facing features like CFA, MWI, EM, etc.) from after software upgrade to switch version is lost for Unified CM 5.X

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## Parallel Installation of Subscribers With Unified CM 5.X, 6.X o 7.0 to 7.1 Upgrade



- Parallel installation of subscribers can be started once the publisher or first node install log shows the following:
  - PRODUCT_TARGET is <product target id>
  - PRODUCT_NAME is <product name>
  - PRODUCT_VERSION is <product version to which you are upgrading to>
- Progress can be done via web (scrolling off) or CLI (install_log_<date+time>.log)

## Upgrading Cisco Unified Communications Manager 5.X, 6.X, or 7.0 to 7.1
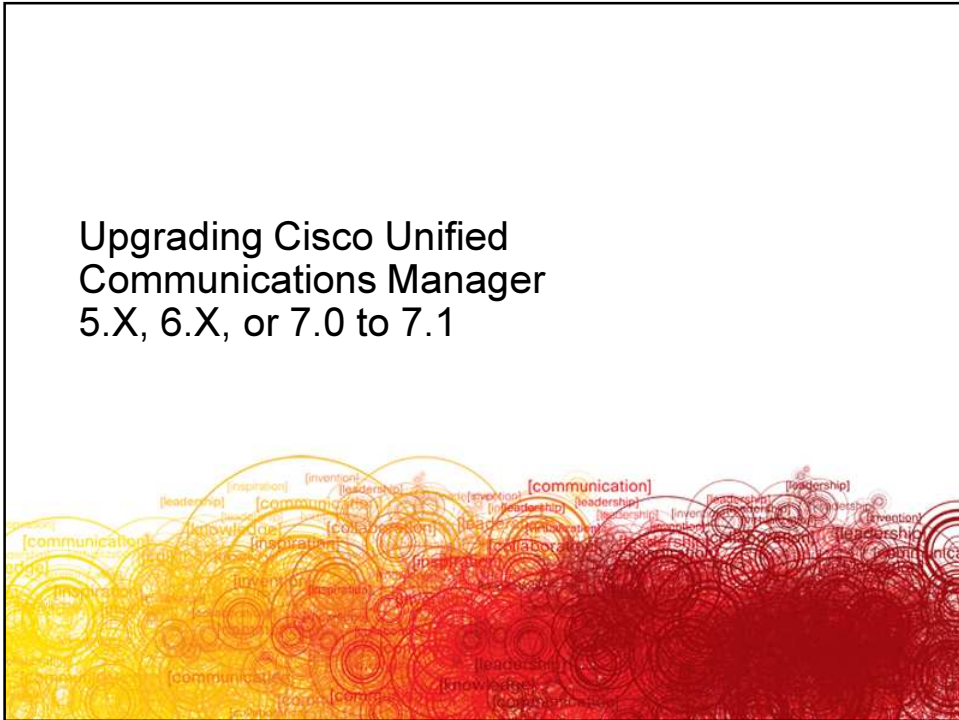
## Unified CM 5.X, 6.X, or 7.0 to 7.1 Upgrade Options

**Older MCS Server With 5.X or 6.x**

MCS-7825H-2.2-EVV1
MCS-7835H-2.4-EVV1
MCS-7835I-2.4-EVV1
MCS-7845H-2.4-EVV1

→ **New Server—Flash Cut**

→ **New Server—Migration**

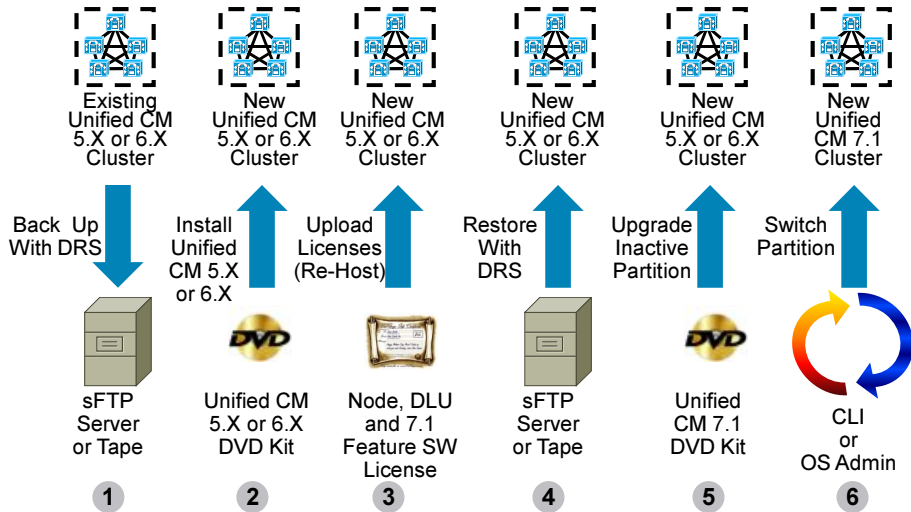**Newer MCS Server With 5.X, 6.x, or 7.0**

MCS-7825H/I
MCS-7835H/I
MCS-7845H/I

→ **In-Place Server—Flash Cut**

**Supported Cisco Unified Communications Manager Releases by Server**

http://www.cisco.com/en/US/partner/prod/collateral/voicesw/ps6790/ps5748/ps378/prod_brochure0900aecd8062a4f9.html

# Unified CM 5.X or 6.X to 7.1 Upgrade New Server—Flash Cut

Existing Unified CM 5.X or 6.X Cluster

New Unified CM 5.X or 6.X Cluster

New Unified CM 5.X or 6.X Cluster

New Unified CM 5.X or 6.X Cluster

New Unified CM 5.X or 6.X Cluster

New Unified CM 7.1 Cluster

Back Up With DRS

Install Unified CM 5.X or 6.X

Upload Licenses (Re-Host)

Restore With DRS

Upgrade Inactive Partition

Switch Partition

sFTP Server or Tape **1**

Unified CM 5.X or 6.X DVD Kit **2**

Node, DLU and 7.1 Feature SW License **3**

sFTP Server or Tape **4**

Unified CM 7.1 DVD Kit **5**

CLI or OS Admin **6**

*Starting with 6.0, upload 7.1 SW feature license file before 7.1 upgrade

**For Existing Servers That Cannot Run Unified CM 7.1. Small to Medium Size Network**

# Unified CM 5.X or 6.X to 7.1 Upgrade New Server—Migration
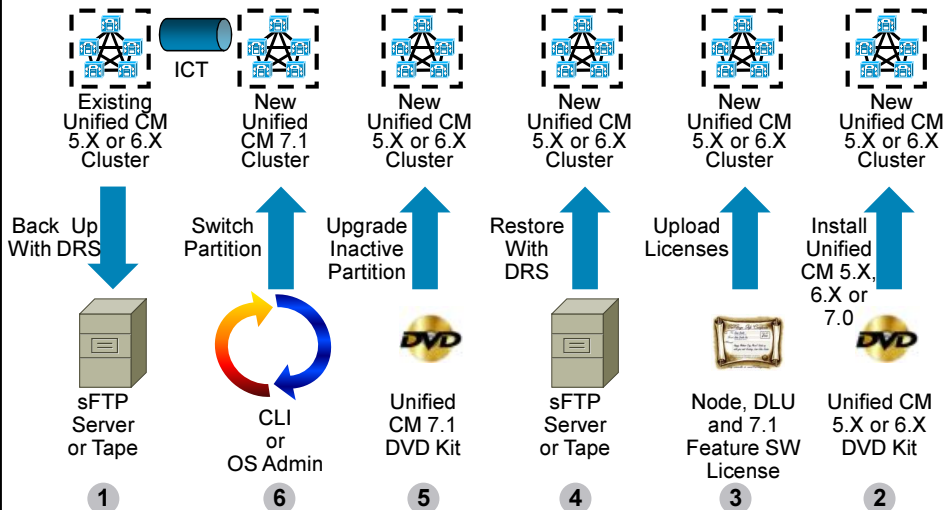
Existing Unified CM 5.X or 6.X Cluster

ICT

New Unified CM 7.1 Cluster

New Unified CM 5.X or 6.X Cluster

New Unified CM 5.X or 6.X Cluster

New Unified CM 5.X or 6.X Cluster

New Unified CM 5.X or 6.X Cluster

Back Up With DRS

Switch Partition

Upgrade Inactive Partition

Restore With DRS

Upload Licenses

Install Unified CM 5.X, 6.X or 7.0

sFTP Server or Tape **1**

CLI or OS Admin **6**

Unified CM 7.1 DVD Kit **5**

sFTP Server or Tape **4**

Node, DLU and 7.1 Feature SW License **3**

Unified CM 5.X or 6.X DVD Kit **2**

*Starting with 6.0, upload 7.1 SW feature license file before 7.1 upgrade

**For Existing Servers That Cannot Run Unified CM 7.1. Medium to Large Size Network**

## Unified CM 5.X, 6.X or 7.0 to 7.1 Upgrade In-Place Server—Flash Cut

| Existing Unified CM 5.X, 6.X or 7.0 Cluster | Existing Unified CM 5.X, 6.X or 7.0 Cluster | Existing Unified 5.X, 6.X or 7.0 Cluster | Existing Unified 5.X, 6.X or 7.0 Cluster | Existing Unified 5.X, 6.X or 7.0 Cluster | New Unified CM 7.1 Cluster |
|---|---|---|---|---|---|
| Back Up With DRS | Upload 7.1 SW Feature License | Upgrade Publisher Inactive Partition | Upgrade Subscribers Inactive Partition | Switch Partition on Publisher | Switch Partition on Subscriber |
| sFTP Server or Tape | Feature SW License* | Unified CM 7.1 DVD Kit | Unified CM 7.X DVD Kit | CLI or OS Admin | CLI or OS Admin |
| 1 | 2 | 3 | 4 | 5 | 6 |

*Starting with 6.0, upload 7.1 SW feature license file before 7.1 upgrade

For Existing Servers That Can Run Unified CM 7.1

## Unified CM 7.1 Downgrade to 5.X, 6.X or 7.0

| Unified CM 7.1 Cluster | Unified CM 7.1 Cluster | Unified CM 5.X, 6.X or 7.0 Cluster |
|---|---|---|
| Switch Partition on Publisher | Switch Partition on Subscriber | Utils dbreplication reset all |
| CLI or OS Admin | CLI or OS Admin | CLI |
| 1 | 2 | 3 |
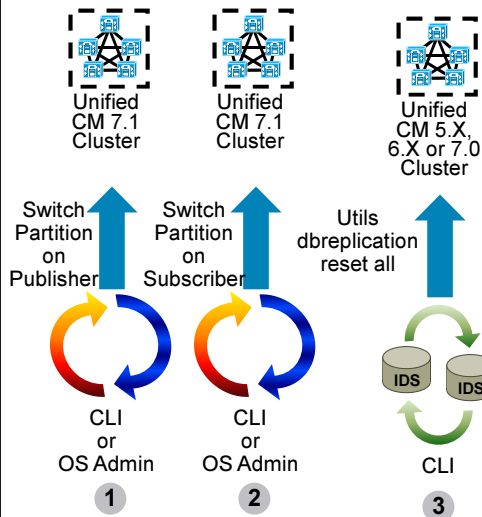
- Reverting back to Unified CM 5.X, 6.X, or 7.0 requires resetting DB replication

  CLI: utils dbreplication reset all

- Documented in caveats CSCsl57629 and CSCsl57655

CSCsl57629 and CSCsl57655

# UC Applications Upgrade Strategy

- **Pre-Upgrade Migration**

  Cisco Unity:
  - SCCP -TSP 8.3(1):                                                                   Unity 4.0(1) to 7.0(2)
  - SIP:                    Unity 4.2(1), 5.0(1) or 7.0(2)

  Cisco Unity Connection:
  - SCCP -TSP 8.3(1):                   Unity Connection 1.1 to 1.2

        Unity Connection 2.0(1) to 7.1(2a)
  - SIP:                     Any version of Unity Connection 1.X , 2.X and 7.X
  - Mobility Manager:                 1.2(5a) to 1.2(6b) export for migration
  - Cisco Unified Personal Communicator:     1.2, 7.0(1) or 7.0(2) with CUP 7.0(1) to 7.0(4)
  - Cisco Unified Presence:            7.0(1) to 7.0(4)
  - Meeting Place Express:            2.1(1.2)
  - Meeting Place:                     6.0

        7.0 for Unified CM 6.0 and 7.0
  - Unified Contact Center Express :        7.0(1)SR3 – For Unified CM 6.1(1) to 7.0(2)
  - Cisco Emergency Responder:         CER 7.0(3)

- **Post-Upgrade Migration**
  - Unified Contact Center Express:        7.0(1)SR3 – For Unified CM 5.1 or 6.1 and CUCCX 5.0

**Check with latest release notes for accuracy**

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# Unsupported UC Applications and Voicemail Integration

**Unified CM 5.X**                                     **Unified CM 7.1**

| Non-Compatible UC Applications | | Compatible UC Applications |
|---|---|---|
| Mobility Manager Server | ➡ | Imbedded Unified Mobility |
| Unified Communications Manager Assistant With Cisco IP Communicator | ➡ | Unified Communications Manager Assistant with IP Phone |
| WS-6624 with SMDI for Voicemail | ➡ | VG224 with SMDI |
| DPA 7610/7630 | ➡ | QSIG Trunk |

**Unsupported Third-Party Voicemail Integration**

http://www.cisco.com/en/US/docs/voice_ip_comm/cucm/srnd/7x/vmail.html#wp1043531

## Upgrade Considerations for Unified CM 5.1 to 7.1 Upgrade

- For Unified CM 5.1(3e) and ES listed below - CSCsy17534 and CSCsy23628 .  Upgrade to Unified CM 7.0 before 7.1 or download and install COP (ciscocm.513e_upgrade.cop.sgn) file
    1) 5.1.3.6000-2
    2) 5.1.3.6103-1
    3) 5.1.3.6102-1
    4) 5.1.3.6101-1

- Unified CM 5.X partitions is fixed size whereas Unified CM 6.X and later is percentage of disk using LVM

    Common partition size on 72GB versus 146GB

    DVD versus sftp/ftp upgrade size requirement in common partition

    Use  "Replacing a Single Server or Cluster " documentation

    http://www.cisco.com/en/US/partner/docs/voice_ip_comm/cucm/install/7_1_2/cluster/clstr712.html#wp103703

**Unified CM 5.1(3e) to 7.1 Upgrade Caveats:**

http://www.cisco.com/web/software/282204704/18582/ciscocm.513e_upgrade.html

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## Pre/Post Upgrade Tasks

- Pre: Check RTMT and use Cisco Unified Reporting:

    Number devices registered (phones, GW, CTI port, CTI RP, etc.)

    Alerts and errors

    Database replication

- Pre: Update any old COP file, i.e., Nokia COP file to version 2

    (cmterm-nokia_s60_2.0-sccp.cop)

- Pre: Export Mobility 1.2(5a) data for Unified 5.X cluster

- Post: Check RTMT * and use Cisco Unified Reporting:

    Number devices registered (phones, GW, CTI port, CTI RP, etc.)

    Alerts and errors

    Database replication

- Post: BAT in Mobility data into Unified CM

- Post: check current service parameters verses default parameters

    Related Links: Parameters for All Servers > Modified Parameters for All Servers

    EM: Default Unified CM 4.X = 3  Unified CM 5.X = 5  Unified CM 6.1 =15

    Timers, conference, QoS, etc.

Upgrade and Migration Strategy
for Cisco Unified Communications
Manager 4.1, 4.2, or 4.3 to 7.1

7

Upgrade Primer for Cisco Unified
Communications Manager

## Installation Options and Recommendations

- Upgrading from Windows to appliance hostname and IP address change

    Unified CM 7.1 installed IP address override DMA file old IP address

    If issue occurs, try to upgrade with same IP address then change IP after upgrade is done.

    Unified CM 7.1 installed hostname override DMA file old hostname

    If issue occurs, try in CLI: set network hostname (new Publisher hostname)

- Options that can be change once in appliance mode starting with 6.1(2)

    Hostname change

**Changing IP address or hostname of appliances:**

http://www.cisco.com/en/US/customer/docs/voice_ip_comm/cucm/install/6_1_2/ipchange/ipchg612.html#wp178281

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## Overview of Unified CM 4.1, 4.2, or 4.3 Data Migration

| Existing Unified CM 4.X Cluster | Existing Unified CM 4.X Cluster | Existing Unified CM 4.X Cluster | New Unified CM 7.1 Cluster | New Unified CM 7.1 Cluster | New Unified CM 7.1 Cluster |
|---|---|---|---|---|---|
| Back Up With BARS | Install and Run Upgrade Utility on **All Servers** | Install, Run, and Download DMA on **Publisher** | Install Unified CM 7.1 | Upload DMA File | Upload Licenses **(Publisher)** |
| Tape or Network Share | Latest Upgrade Utility From CCO / Download From CCO | Data Migration Assistant (DMA) 7.1(2) / Save DMA File to Tape or Network Share | Unified CM 7.X DVD Kit | Tape, FTP or sFTP Server | Node, DLU and 7.1 Feature SW License |
| 1 | 2 | 3 | 4 | 5 | 6 |

Step 2 and 3 Should Be Done During Non-Production Hours Due to Load on Servers

## Upgrade Utility, DMA and Unified CM 7.1 Upgrade Process
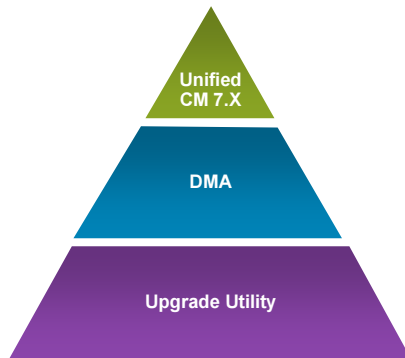


- Finish each process before going to the next in the order of:

  Upgrade Utility (UU) formerly named Upgrade Assistant (UA)

  Data Migration Assistant (DMA)

  Install and Import DMA file into new Unified CM 7.X installation

- Each process are independent

  A successful upgrade utility check does not guarantee DMA will be successful

  A successful and completed DMA run does not guarantee Unified CM 7.1 will install successfully

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## Upgrade Utility (UU)



**Publisher**

**TFTP**

**Upgrade Utility**

**Subscriber**

**Subscriber**
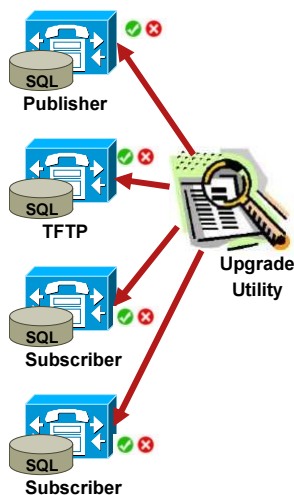
- Install on Unified CM 4.1, 4.2 or 4.3
- Download from CCO and install on every Unified CM servers in the cluster

  Voice and Unified Communications > Cisco Unified Communications Manager Version 4.X > Unified Communications Manager/CallManager Upgrade Assistant

- Use console or VNC to install and run; do not use remote desktop client or ILO
- Run during off hours and one server at a time, to validate and check the health of all of the servers for upgrade to Unified CM 7.1; choose version upgrade to when run
- Upgrade utility generates summary reports of errors and suggested corrective actions
- Keep fixing the issues until validation is successful

*If under time constraint, suggest to use lab servers to complete this process.

# Data Migration Assistant (DMA)



**Existing Publisher**

**DMA**

**DMA tar file and configuration file**

**Fix issue**

1. Export success and validation success but with warnings
2. Export success and validation failure
3. Export failure
4. Export success and validation success

- Install on Unified CM 4.1, 4.2 or 4.3
- Download from CCO and install on **only** Unified CM Publisher in the cluster; requires a reboot

  Voice and Unified Communications > Cisco Unified Communications Manager Version 7.0 > Unified Communications Manager Data Migration Assistant

- Use console or VNC to install and run' do not use remote desktop client
- Run during off hours to validate, fix and export a backup of the Unified CM 4.X information by creating a DMA tar file and a configuration file*
- New: Pre-DMA Export Tasks - detect and check
- New: Custom Options for CAR
- Also used for Cisco Emergency Responder (CER) 1.3 to validate, fix and export a backup of CER information for migration to CER 7.X

*If under time constraint, suggest to use lab servers to complete this process.

---

# Data Migration Assistant (DMA)

- Successful DMA produces two files
  - DMAExportSuccessful10-15-08#16-27.tar – DB file
  - platformConfig.xml – configuration file
- platformConfig.xml or DMABackupInfo.inf should be copy to USB thumb drive for Publisher unattended install when no change in hostname or IP address during the upgrade
- DMA file(s) can be saved to:
  - Network drive
  - Local drive
  - Tape drive
- DMABackupInfo.inf is on the same drive as the DMA tar file, except for tape drive option where it is in D:\DMA; make sure it is copied before formatting the drive
- DMA export
  - Cisco Unified Communications Manager data
  - Cisco Unified Communications Manager Attendant Console (AC)
  - Cisco Extension Mobility (EM)
  - Cisco Unified Communications Manager CDR Analysis and Reporting (CAR)
  - Certificate Authority Proxy Function (CAPF)
  - Certificate Trust List (CTL)
  - International Dial Plan (IDP)
  - Quality Reporting Tool (QRT)
  - RTMT reports

---

## DMA Considerations

- DMA does not export:

  Custom MOH files—save and reapply

  Background pictures—save and reapply

  Bulk Administration Tool Templates

  Passwords and PINs—Users impact

- Install CAR on 4.x prior to upgrading to ensure that ART database is migrated to Unified CM 7.1 CAR.

  DMA: Custom Options – Time for ART DB to CAR migration

  DMA will only migrate ART DB base on "Configure Automatic Database Purge

  Unified CM 7.1 will truncate CAR to 180 days after upgrade

  Purge CAR data to minimize DMA file and Unified CM 7.1 install time

  DMA tar file is limited to 2GB

- DMA: Pre-DMA Export Tasks will copy Attendant Console and CAPF files from Subscribers to Publisher

---

## Building the First Node of Unified CM 7.1



USB Drive

New first node of Unified CM 7.1 server

New first node of Unified CM 7.1 server

Copy DMA config. file

Plug in USB port of server

Upload DMA file

DMA config file (plattformConfig.xml)

**1**

Use DMAconfig file for unattended installation

**2**

Tape, FTP or sFTP server

**3**

- Use DMA configuration file on USB drive if no hostname or IP address change during the upgrade
- FTP or sFTP can be used to upload DMA tar file
- Common issues with FTP with large files with Unified CM

  3Com FTP Daemon

  FreeFTP

  Microsoft FTP on Microsoft Windows XP

  MS Windows FTP on Microsoft Windows 2000/2003

- No issues found with the following tool for sFTP

  FreeFTP sFTP server on Microsoft Windows XP, or Microsoft Windows 2000/2003 running as an application

  http://freeftpd.com/?ctt=download

Upgrade for Cisco Unified Communications Manager Version 4.0, 4.1, and 4.2 to Version 7.1

## Server and Cluster Upgrade/ Migration Strategy

- SW check: Unified CM 4.1(3), 4.2(3), 4.3(1), or 4.3(2)

- HW check: server hardware requirements for 7.X are significantly different than 4.X; hardware check is required

    Cisco Unified Communications Manager Server Support Matrix

    http://www.cisco.com/en/US/partner/prod/collateral/voicesw/ps6790/ps5748/ps378/prod_brochure0900aecd8062a4f9.html

    Recommended cluster migration strategy in preferred order

    New server—migration

    New server—flash cut

    In-place server—hybrid migration

Supported Upgrades From Unified CM 4.1(3), 4.2(1), 4.3(1) and 4.3(2)

## New Server—Migration
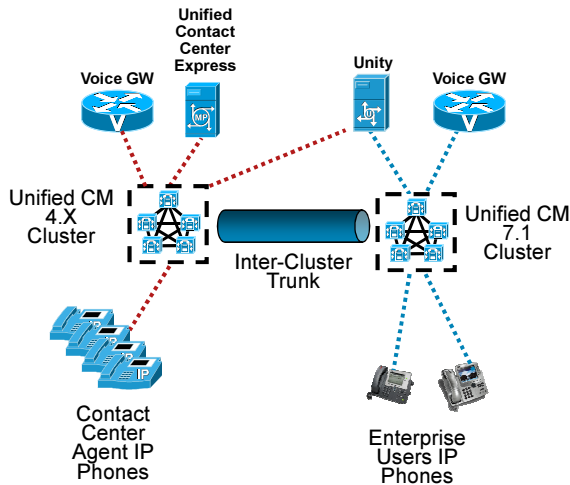


- Build new Unified CM cluster
- Build **intercluster trunk** between the existing and new cluster
- Leverage CSS/partitions to **route calls** to the appropriate devices (phones, applications, etc.)
- Pay attention to UC applications that cannot support multiple clusters like CUCCX
- Break UC application dependencies from Unified CM compatibility
  - Minimize upgrade duration
  - Migrate as the organization needs it
  - Migrate applications that are not cluster-aware at the desired pace

## Leveraging Forward Unregister in 4.2 or Later for Migration Strategy
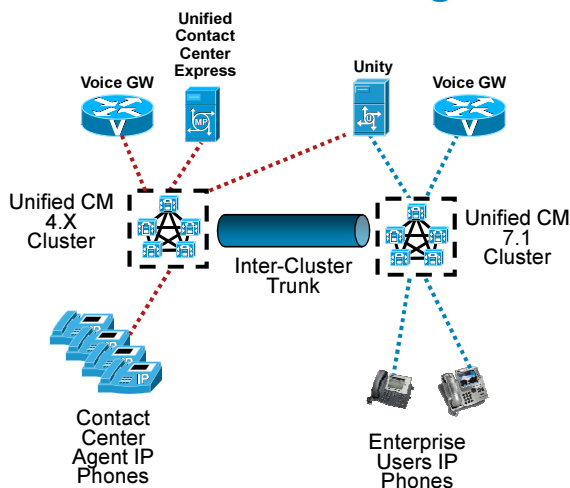


- Leverage forward unregister feature in 4.2 and later
- BAT forward unregister feld or all phones in the older cluster with wild card to match extension range (extension 1000 = XXXX)
- Move phones as needed from old cluster to new Unified CM 7.1 cluster
- All inbound calls should search the old cluster first and if not register than is forwarded to new cluster
- Unity should be integrated to the new cluster to catch last forwarded extension

## New Server—Flash Cut—New IP Addresses

**Existing Unified CM 4.X Cluster**

**New Unified CM 7.1 Cluster**

Unity

Unified MeetingPlace Express

**4** Revert

1. Shut down the new Unified CM 7.1 cluster TFTP server/service
2. Change first TFTP address back to the first cluster
3. Reset phones via Unified CM administrator page or network ports
4. Take care of GWs and applications as needed

**3**
To ensure that phones re-home properly: to a cluster: (new or old)
1. Reset (not restart) phones via the old cluster admin page
2. Cold boot phone with switch port disable/enable

**1**
1. Use DMA file to build new Unified CM 7.1 Publisher using new IP address (optional new hostname)
2. Add new Subscribers with new IP addresses that points to the new Publisher
3. Upload the Node, Device and SW feature license file to new cluster and start services

**2**
1. Change first TFTP address to the new cluster TFTP server
2. Reset phones, GWs and change applications as needed to re-home to TFTP server/new cluster

## New Server—Flash Cut—Same IP Addresses

**Existing Unified CM 4.X Cluster**

**New Unified CM 7.1 Cluster**

Unity

Unified MeetingPlace Express

**3** Revert

1. Gracefully shutdown the new Unified CM 7.1 cluster.
2. Gracefully bring up the old Unified CM 4.X cluster
3. Reset phones via network ports
4. Take care of GWs and applications as needed

**1**
1. Use DMA file to build new Unified CM 7.1 cluster using same IP addresses in isolated VLAN
2. Upload the Node, Device and SW feature license file to new cluster and start services

**2**
1. Gracefully shutdown the new Unified CM 7.1 cluster.
2. Gracefully shutdown the old Unified CM 4.X cluster
3. Change isolate VLAN to production network and bring up new Unified CM 7.1 cluster (ARP)

## In-Place Server—Hybrid Migration

**Primary**

**Secondary/ Backup**

**2,500 IP Phones (5,000 Device Units)**

**Cisco MCS 7835**

**Publisher and TFTP Server (Not Req. < 1,000)**

**Primary 1 to 2,500**

**Backup**

- Use spare capacity servers in existing Unified CM clusters to convert to Unified CM 7.X servers
- Upgrade as many backup subscribers to Unified CM 7.1 as possible to support the phones, GWs, etc. in the order shown
  1. Unified CM 7.X Pub
  2. Unified CM 7.X TFTP
  3. Unified CM 7.X subscribers
- 7x24 organizations need to be supported on Unified CM 4.X and Unified CM 7.1 servers for fast switch over
- Try to retain as many Unified CM 4.X servers in case downgrade is needed
- Save Unified CM 4.X Pub as last upgraded server

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## Migration Considerations for Unified CM 7.X

- External Unified Communications applications
- Unsupported SW and HW
- Co-resident Cisco Unified Communications and network applications
- Third-party Unified Communications applications and endpoint dependencies
- Infrastructure dependencies
- Management interface changes
- Unified CM 4.X OS to Unified CM 7.1-related application
- Pre-/post-installation tasks

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# UC Applications Upgrade Strategy

- **Pre-Upgrade Migration**

  Cisco Unity:

  | | |
  |---|---|
  | SCCP -TSP 8.3(1): | Unity 4.0(1) to 7.0(2) |

  Cisco Unity Connection:

  | | |
  |---|---|
  | SCCP -TSP 8.3(1): | Unity Connection 1.1 to 1.2 |
  | | Unity Connection 2.0(1) to 7.1(2) |
  | Mobility Manager: | 1.2(5a) to 1.2(6b) export for migration |
  | Cisco Unified Personal Communicator: | 1.2 , 7.0(1) or 7.0(2) with CUP 7.0(1) to 7.0(4) |
  | Cisco Unified Presence: | 7.0(1) to 7.0(4) |
  | Meeting Place Express: | 2.1(1.2) |
  | Meeting Place: | 6.0 |
  | Unified Contact Center Express : | 7.0(1)SR3 – For Unified CM 6.1(1) to 7.0(2a) |
  | Cisco Emergency Responder: | CER 7.0(3) |

- **Post-Upgrade Migration**

  | | |
  |---|---|
  | Unified Contact Center Express: | 7.0(1)SR3 |
  | Meeting Place: | 7.0 |

**Check with latest release notes for accuracy**

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# Unsupported UC Applications

**Unified CM 4.X**  **Unified CM 7.1**

| Non-Compatible UC Applications | | Compatible UC Applications |
|---|---|---|
| IPMA With CIPC | → | Unified CMA With IP Phone |
| Cisco Unified Mobility | → | Cisco Unified CM |
| Cisco Conference Connection | → | MeetingPlace Express |
| Cisco Soft Phone | → | IP Communicator |
| Managed CSA Agent | → | Unmanaged CSA Agent |
| Personal Assistant | → | Unified CM 7.X Mobility Speech Connect |

# Unsupported HW Products

| Unified CM 4.X | | Unified CM 7.1 |
|---|---|---|
| **Non-Compatible HW** | | **Compatible HW** |
| **Cisco DT-24+ Cisco DE-30** | → | **ISR—PVDM2 + VWIC** |
| **Cisco AS and AT GW** | → | **ISR—PVDM2 + VIC** |
| **WS-6624 with SMDI for Voicemail** | → | **VG224 with SMDI** |
| **DPA 7610/7630** | → | **QSIG Trunk** |

**Unsupported Third-Party Voicemail Integration**

http://www.cisco.com/en/US/docs/voice_ip_comm/cucm/srnd/7x/vmail.html#wp1043531

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# Co-Resident UC and Network Applications

**Unified CM 4.X** + **CRS—TAPS, AA, IP-IVR or Unified CCE** + **DHCP or DNS**

Upgrade Process →

1. Move DHCP and DNS → **DHCP or DNS**
2. Upgrade to Unified CM 7.1 → **Unified CM 7.1**
3. Install Unified CCX 7.0 → **CRS—AA, IP-IVR or Unified CCE** *
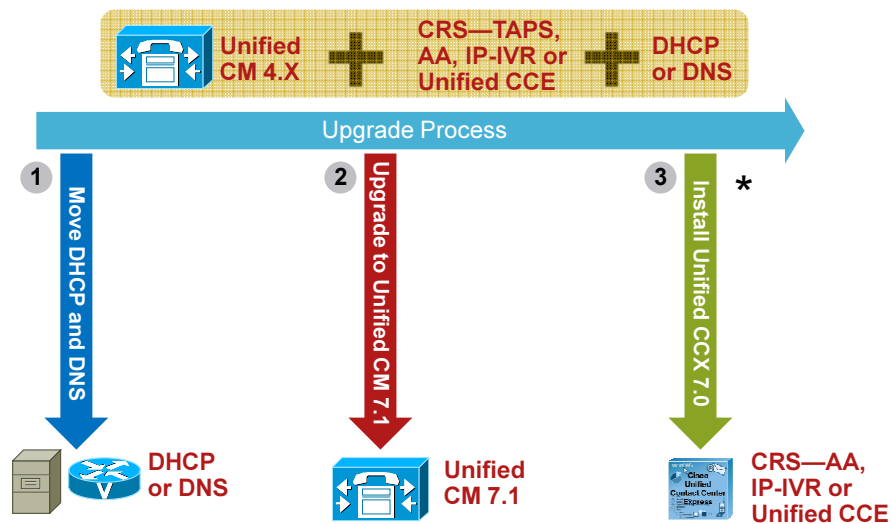
*Additional server and potential software upgrade to move Unified CCX

# Third-Party Application Dependencies



- Antivirus software—McAfee, Symantec, etc.
  - Not supported
- Third-party onboard agents
  - Billing: FTP, sFTP and SOAP
  - Management: SNMP and SOAP API (new version of third-party)*

*Make sure that the third-party application supports the new Unified CM 7.1 methods

# Third-Party Endpoint Dependencies



- Tandberg: 550MXP, 770MXP, T1000MXP, 1500MXP, 2000MXP
- Sony: PCS TL-50 and PCS-1
- Polycom: VSX8000, 7000e, 7000s, 6000s, 5000 and 3000
- Upgrade to the latest Unified CM 4.X plug-in before running DMA
- Tandberg, Polycom and Sony Unified CM 5.1 plug-in worked with Unified CM 7.0
  - Tandberg 5.1 SCCP COP file
    - ftp://ftp.tandberg.no/pub/CallManagerSw/CallManager_v5/
  - Polycom 5.1 SCCP COP file
    - http://downloads.polycom.com/video/vsx/8_6/cmterm-PolycomVideoDevice-SCCP.cop.sgn

*Make sure these vendors' COP files are available for Unified CM 7.1

## Infrastructure Dependencies

**Informix Dynamic Server (IDS) Replication**

SQL → IDS
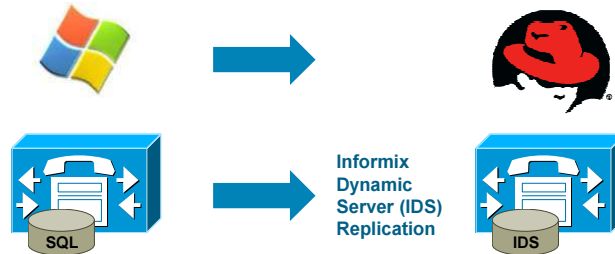
- These changes might affect your ACLs for security and QoS
- Microsoft vs. Linux
- MS SQL vs. IBM IDS
- New services—ex. BARS vs. DRS

Cisco Unified Communication Manager Port Usage
http://www.cisco.com/en/US/docs/voice_ip_comm/cucm/port/7_0/CCM_7.0PortList.pdf
http://www.cisco.com/application/pdf/en/us/guest/products/ps6729/c1693/ccmigration_09186a008071672a.pdf
http://zolli-lnx.cisco.com/CCMPortList/index.shtml

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## Management Console Changes

Web Browser → Web Browser

SSH2 (Secure SHell)

Windows Share → sFTP/SSH/RTMT

Rtmt.lnk → Rtmt.lnk *

*RTMT for Unified CM 4.X, 5.X, 6.X and 7.X can be installed on the same machine with different directories for mixed version cluster management and migration

## Secure FTP Server Recommendations

- Any SFTP servers are supported

- Recommends SFTP products that have been certified with Cisco through the Cisco Technology Developer Partner program (CTDP), such as GlobalSCAPE

- Internally Cisco uses the following servers but you must contact the vendor for support:

    1. Open SSH (refer to http://sshwindows.sourceforge.net/)
    2. Cygwin (refer to http://www.cygwin.com/)
    3. Titan (refer to http://www.titanftp.com/)

List of ftp and SFTP servers used for CDR in 6.1 are in the Notes Section

---

## UPS Caveats and Considerations

- Unified CM 4.0(2a) and 4.1 supports UPS from TripLite and APC

- On MCS7835-H2, Unified CM 6.0(1a) and later supports APC Smart-UPS 1500VA USB and APC Smart-UPS 750VA XL USB

- Unsupported MCS server models and UPS vendors/models can use Secure Shell (SSH) or terminal to serial to access the CLI and execute the "utils system shutdown" command; preferably on the same circuit



Unified CM 4.X

TRIPP·LITE
APC
Legendary Reliability™

Unified CM 7.X

APC
Legendary Reliability™
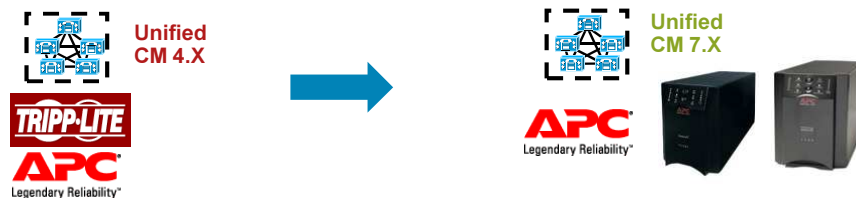
APC Models for Unified CM 6.0(1a) and later
http://apc.com/resource/include/techspec_index.cfm?base_sku=SUA1500
http://apc.com/resource/include/techspec_index.cfm?base_sku=SUA750XL&total_watts=50

## LDAP Integration Caveats and Considerations

- Schema changes and OU(s) created in 4.X is not used

- Unified CM 4.X normalized user IDs to upper case; Unified CM 5.X, 6.X or 7.X is case sensitive

  - Phone association might be lost

  - CUCCX agent flag might be lost

- Users: password (non-AD integration) and PIN changed

- Users: password is sync, but PIN changed for LDAP authentication

- Fast dial is migrated starting with Unified CM 6.1(2)

## Pre/Post Upgrade Tasks

- Pre:   Baseline the system with RTMT
- Pre:   Recommend to have an NTP servers on the network
- Pre:   Move DHCP off the Unified CM server
- Pre:   Record SNMP settings in Windows Services
- Pre:   Establish new administrator ID/password, secret cluster password, application user password
- Pre:   Establish new passwords and Pins for CM 4.X DCD users and evaluate impact to users
- Post: Re-integrate with Directory—Password is saved, but PIN is reset; evaluate impact to users
- Post: Reconfigured SNMP settings
- Post: Change UC application related "end users" to "application users"—IPCC Express, IPCelerate, Cistera, etc.
- Post: If UC applications authentication is still "end users" then reset password to default password
- Post: Re-install AC application on desktop; download from CCO if new install of Unified CM
- Post: Baseline the system with RTMT

## Migration Recommendations for Unified CM Upgrade

- Break the system upgrade into phases to minimize downtime

  - Phase 1: Upgrade phone firmware to match destination version

  - Phase 2: Finish all of the pre-upgrade migration UC applications

  - Phase 3: Upgrade Unified CM for flash cut or migration using ICT and CSS/partitions

- Have USB key available for diagnostic information dump in case of upgrade failure

Q&A
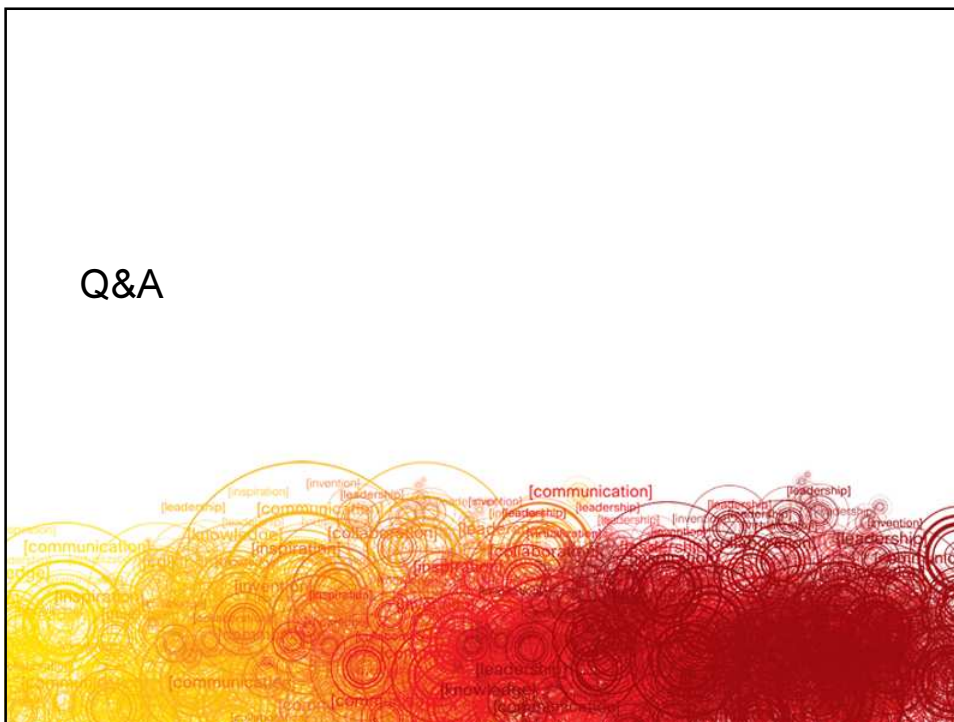
## Complete Your Session Evaluation

- Please give us your feedback!!

  Complete the evaluation form you were given when you entered the room

- This is session **BRKVVT-2011**

  **Don't forget to complete the overall event evaluation form included in your registration kit**

  **YOUR FEEDBACK IS VERY IMPORTANT FOR US!!! THANKS**

**Cisco Networkers 2009**

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# CISCO

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Appendix A

Server Links

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# Useful Server Links

- Server

  Supported Cisco Unified Communications Manager Releases by Server

  http://www.cisco.com/en/US/partner/prod/collateral/voicesw/ps6790/ps5748/ps378/prod_brochure0900aecd8062a4f9.html

  Cisco MCS Server Solutions

  http://www.cisco.com/en/US/products/hw/voiceapp/ps378/prod_models_home.html

  HP Server Solutions

  http://www.cisco.com/en/US/prod/collateral/voicesw/ps6790/ps5748/ps378/product_solution_overview09186a0080107d79.html

  IBM Server Solutions

  http://www.cisco.com/en/US/prod/collateral/voicesw/ps6790/ps5748/ps378/product_solution_overview0900aecd80091615.html

  End-of-Sale Models

  http://www.cisco.com/en/US/products/hw/voiceapp/ps378/products_eol_models.html

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# Appendix B

License in Details

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## Obtain Unified CM License via Windows Migration (Node, Device Unit)

Unified CM 4.0, 4.1 and 4.2 → Migration Process → Unified CM 6.X + Temporary License

View and Copy Text of Temporary License File Systems > Licensing > License File Upload > View File to Notepad

http://www.cisco.com/go/license

Cisco CallManager Version Upgrade

Paste Text of Temporary License File to Link and Add MAC of Publisher

★ MAC Address of Production Publisher

Cisco Will Send Permanent License File

Permanent License Generated and Upload

Note: A 5% oversubscription is provided to the permanent license.

# Obtain Unified CM License via Windows Migration (SW Feature)

**NEW**

Upgrade Kit has PAK in Envelope

Unified CM DVD

**+**

Product Activation Key—PAK

One PAK for Node License; One PAK for Device Unit

http://www.cisco.com/go/license

Enter PAK or Software Serial Number: [          ] SUBMIT
(Enter one value at a time including dashes and capitalization)

Cisco Will Send SW Feature License File

Permanent License

Generated and Upload

---
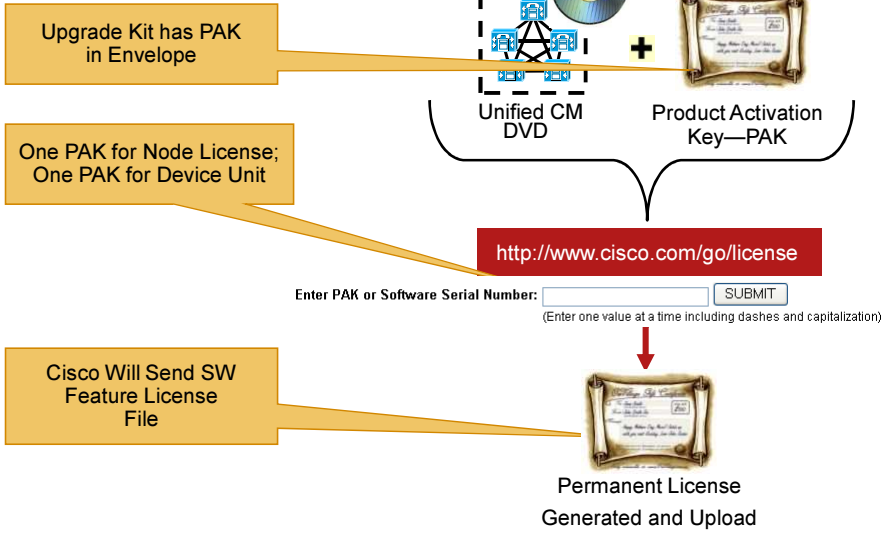
# Obtain CM License via New Installation (Node and Device Unit)

New Purchases Get Two or More PAKs in Envelopes

Unified CM DVD

**+**

Product Activation Key—PAK

One PAK for Node License; One PAK for Device Unit

http://www.cisco.com/go/license

Enter PAK or Software Serial Number: [          ] SUBMIT
(Enter one value at a time including dashes and capitalization)

Cisco Will Send Permanent License Files with 5% over Subscription Limit

Permanent License

Generated and Upload

Presentation_ID.scr
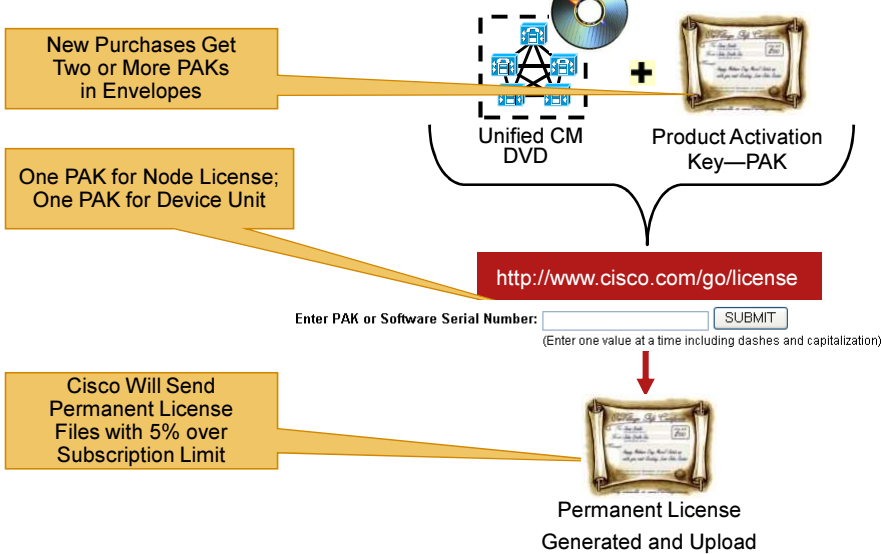
## Sample Temporary/Upgrade 6.0 License

```
<?xml version="1.0"?>
<!DOCTYPE LicenseUpgrade SYSTEM
   "http://tools.cisco.com/SWIFT/Licensing/DTD/SWIFTUpgradeLicenseRequest.dtd"
   >
<LicenseUpgrade>
   <ProductFamily>CCM</ProductFamily>
   <ProductSku>CallManager</ProductSku>
   <LicenseFeature>
        <FeatureName>CCM_NODE</FeatureName>
        <Version>6.0</Version>
        <Count>2</Count>
   </LicenseFeature>
   <LicenseFeature>
        <FeatureName>PHONE_UNIT</FeatureName>
        <Version>6.0</Version>
        <Count>397</Count>
   </LicenseFeature>
        <Timestamp>20070411173327554</Timestamp>
        <Signature>85f4a13fb1652617f61d14fb884b8554e2255ab...
</LicenseUpgrade>
```

Upgraded Temporary License Use for Request

Upgraded to Unified CM 6.0 with Two Nodes Used in Previous Unified CM

Upgraded to Unified CM 6.0 with 397 Device Units Used in Previous Unified CM

Time and Date File was Created or Imported in Unified CM 6.0

## Sample Permanent License—6.0—Change Below

```
INCREMENT CCM_NODE cisco 6.0 permanent uncounted \
   VENDOR_STRING=<Count>20</Count><OrigMacId>XXXXXXXXXXX</OrigMacId><LicFileVersion>1.0</Lic
FileVersion> \
   HOSTID=XXXXXXXXXXX \
   NOTICE="<LicFileID>20070414164824706</LicFileID><LicLineID>1</LicLineID> \
   <PAK></PAK>" SIGN="13CA 9BA2 9648 3125 9F2A 27C2 2914 B316 \
   1ADE A812 C085 856C DC8C DF9F D2CF 0B40 C6CF 7033 8988 9802 \
   A221 00D3 CA94 1CCF 9C08 8952 5D42 1A0C 526D 6CAD"

INCREMENT PHONE_UNIT cisco 6.0 permanent uncounted \
   VENDOR_STRING=<Count>150000</Count><OrigMacId>XXXXXXXXXXX</OrigMacId><LicFileVersion>1.0
</LicFileVersion> \
   HOSTID=XXXXXXXXXXX OVERDRAFT=7500 \
   NOTICE="<LicFileID>20070414164813222</LicFileID><LicLineID>1</LicLineID> \
   <PAK></PAK>" SIGN="0FAE 1A32 CFC6 6969 9B40 6514 CAA4 AB00 \
   AD0E B718 6835 0DC8 DDCC BF03 9947 0C6C 58E3 7F67 6724 367B \
   F98A 683B 5921 726C 9FDE 83C4 EC59 F0A9 02E7 C14E"
```

Permanent License

MAC Original Server

Node Unit

MAC of Current Server

Device Unit

Oversubscription

## SW Feature License for 4.X and 5.X to 6.X Upgrade

**NEW**

INCREMENT **SW_FEATURE** cisco 6.X permanent uncounted \
    VENDOR_STRING=<Count>1</Count><OrigMacId>**XXXXXXXXXXXX**</OrigMacId><LicFileVersion>1.0</LicFileVersion> \
    HOSTID=**XXXXXXXXXXXX** \
    NOTICE="<LicFileID>2007020818195?743</LicFileID><LicLineID>1</LicLineID> \
    <PAK></PAK>" SIGN=" E74 05E4 31BE B?7C 772E 933A FC26 5280 \
    F86E FE57 4220 49CD 584? 9E55 9ABA 0715 8??? 521D 7C25 616A \
    3525 8919 51C6 7CE5 185B 8??? 915D C6E6 C22C 5??D"

MAC and Host ID

MAC of Current Server

SW Feature License

PAK (product activation key) comes with the upgrade order

Submit PAK via http://www.cisco.com/go/license to get SW_FEATURE license file

---

## License Report Without SW Feature License



RTMT > Alert Central > Critical Service Down > Alert Detail

Service status is DOWN .
The following service(s) are down: Cisco CallManager.

# RTMT Without SW Feature License

Tools
- Alert Central
- Trace & Log Central
- Job Status
- SysLog Viewer
- VLT

Logs
- System Logs
- Application Logs
  - CiscoSyslog
- Security Logs

RTMT > SysLog Viewer > Application Logs > Cisco Syslog—Cisco License Manager

| Date | Machine Name | Severity | App ID | |
|---|---|---|---|---|
| Apr 24 19:43:05 | HRN-IPT1 | Error | Cisco License Manager | : 0: Apr 24 23:43:05.600 UTC : %CCM_LICENSEMANAGER-JAVAAPPLICATIONS-3-CiscoLicenseFile |
| Apr 24 19:43:05 | HRN-IPT1 | Error | Cisco License Manager | : 1: Apr 24 23:43:05.605 UTC : %CCM_LICENSEMANAGER-JAVAAPPLICATIONS-3-CiscoLicenseFile |

RTMT > SysLog Viewer > Application Logs > Cisco Syslog > Show Detail

%CCM_LICENSEMANAGER-JAVAAPPLICATIONS-3-CiscoLicenseFileError
: License File Error Reason:Invalid or tampered License File Cluster ID:

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# License Report With SW Feature License

**License Unit Report**

**License Unit Distribution**

**Phone License Feature**

| License Server | Units Authorized | Units Used | Units Remaining |
|---|---|---|---|
| 10.82.79.110 | 150000 | 459 | 149541 |
| **Total Units for Feature** | **150000** | **459** | **149541** |

**CCM Node License Feature**

| License Server | Units Authorized | Units Used | Units Remaining |
|---|---|---|---|
| 10.82.79.110 | 20 | 2 | 18 |
| **Total Units for Feature** | **20** | **2** | **18** |

**Software License Version**

| License Server | SW Version |
|---|---|
| 10.82.79.110 | 6.0 |

**CM Services**

| | Service Name | Status* | Activation Status | Start Time | Up Time |
|---|---|---|---|---|---|
| ○ | Cisco CallManager | Started | Activated | Wed Apr 25 21:28:07 2007 | 0 days 00:01:19 |
| ○ | Cisco Tftp | Started | Activated | Tue Apr 24 19:43:42 2007 | 1 days 01:45:44 |
| ○ | Cisco Messaging Interface | Not Running | Deactivated | | |
| ○ | Cisco Unified Mobile Voice Access Service | Started | Activated | Tue Apr 24 23:27:43 2007 | 0 days 22:01:43 |
| ○ | Cisco IP Voice Media Streaming App | Started | Activated | Tue Apr 24 19:43:43 2007 | 1 days 01:45:43 |
| ○ | Cisco CTIManager | Started | Activated | Tue Apr 24 19:43:44 2007 | 1 days 01:45:42 |
| ○ | Cisco Extension Mobility | Started | Activated | Tue Apr 24 19:43:46 2007 | 1 days 01:45:40 |
| ○ | Cisco Dialed Number Analyzer | Started | Activated | Tue Apr 24 19:44:20 2007 | 1 days 01:45:06 |
| ○ | Cisco DHCP Monitor Service | Not Running | Deactivated | | |

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## Sample Demo License 6.X



No License File

## Unified CM 6.X Adjunct Licensing



| | 7970 | IP Communicator | CUPC | CUMC | TOTAL |
|---|---|---|---|---|---|
| | Primary Phone | ONLY 2 of 3 soft clients per Primary phone | | | |
| Unified CM 5.X | 5 | 3 | 3 → | | 11 |
| Unified CM 6.X | 5 | 1 | 1 → | | 7 |

Primary Phone  SEP00096B9F048A

## Unified CM 5.1(3)+ and 6.1(1)+ Device Unit Licensing—CSCsj43015

**License Unit Distribution**

**Phone License Feature**

| License Server | Units Authorized | Units Used | Units Remaining | Units Pending |
|---|---|---|---|---|
| 10.82.79.111 | 125 | 65 | 60 | 0 |
| **Total Units for Feature** | **125** | **65** | **60** | **0** |

**CCM Node License Feature**

| License Server | Units Authorized | Units Used | Units Remaining |
|---|---|---|---|
| 10.82.79.111 | 2 | 1 | 1 |
| **Total Units for Feature** | **2** | **1** | **1** |

- UNITS PENDING = Dummy MAC Addresses

- Resolve CSCsi43015—using TAPS/BPS in 5.X/6.X requires double the device init

  Fixed in Unified CM 5.1(3) and later or 6.1(1) and later

  Dummy MAC addresses used Units Pending versus Units Used

  New phones auto-register will change Units Pending to Units Used

- Potentially can cause licensing issue with upgrade if extra devices not used is BAT in using Dummy MAC addresses; only units used is transfer during permanent license file request

## License Related Issues and Considerations

- CSCsc89347 and CSCsg70752: ATA currently use **only** one device units per port in Unified CM 6.X

- Mobility license migration: migration of mobility manager into mobility capability in Unified CM 6.X will require two Unified CM device units per user; obtain additional device unit license ahead of migration; send SO# of mobility manager to licensing@cisco.com

- CER license migration: new Flex-LM license file for CER 2.0; submit PAK that came with the DVD media kit; hint: Windows to Unix migration like Unified CM 5.X or 6.X migration

- Phones purchased with phone license and not configured in Unified CM 4.X should be added into the Unified CM 4.X before running DMA to obtain the licenses for these phones; dummy MAC addresses cannot be used with Unified CM 5.1(3) and later or 6.1(1) and later

# Appendix C

Unity, CER, and CUCCX Upgrade

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## High Level Unity 7.0 Upgrade
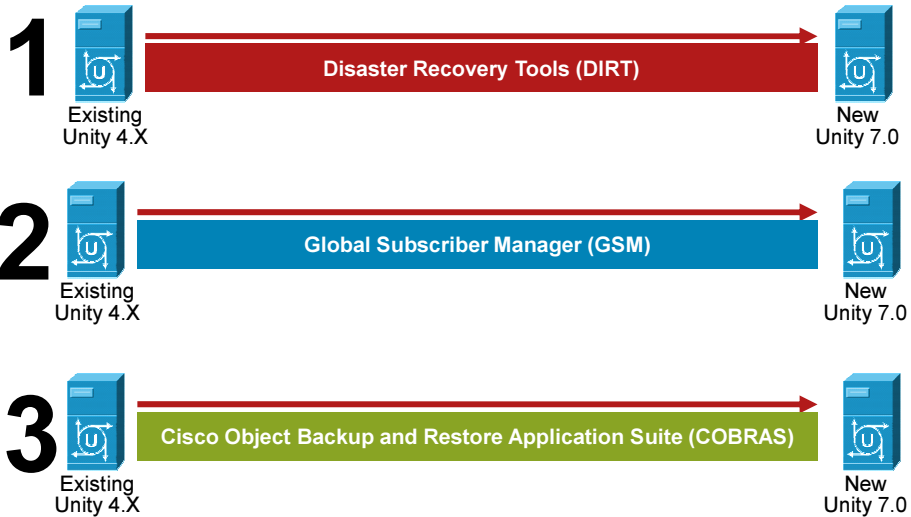
**Unity 4.x to 7.0 Upgrade**

Existing
Unity 4.X

New
Unity 7.0

- For Unified CM 7.X, only TSP 8.3(1) is required with Cisco Unity 4.0(1) and higher
- Collateral
  - Unity 7.0 upgrade kit
  - Unity 7.0 license file types
    - Upgrade license file
    - 7.0 license file
- Prior to any DIRT backup or upgrade, use dbWalker to ensure Unity DB is clear of any errors
- For Unity 7.0 upgrade or installation perform
  - Use ADSchemaSetup off Unity 7.0 DVD
  - Use latest Permissions Wizard or Permissions Wizard on Unity 7.0 DVD
  - Patch MS Service Patch and Exchange Service Patch on Unity 7.0 DVD
  - Cisco Unity System Preparation Assistant to ensure MS component are set properly for Unity 5.0 Install
  - If Exchange 2000 is on the system, make sure Exchange 2003 System Manager

Cisco Unity 7.X License Information:
http://www.cisco.com/en/US/docs/voice_ip_comm/unity/white/paper/culicenses.html#wp38747

## Cisco Unity 4.X to 7.0/Windows 2003/Exchange 2003 Upgrade/Migration

**1** Existing Unity 4.X → Disaster Recovery Tools (DIRT) → New Unity 7.0

**2** Existing Unity 4.X → Global Subscriber Manager (GSM) → New Unity 7.0

**3** Existing Unity 4.X → Cisco Object Backup and Restore Application Suite (COBRAS) → New Unity 7.0

## Cisco Unity 7.0/Windows 2003/Exchange 2003 Upgrade via DIRT

**1** Existing Unity 4.X → Disaster Recovery Tools (DIRT) → New Unity 7.0

- Option 1
  - DIRT backup
  - Build Windows 2003, Exchange 2003 and Unity 4.X
  - DIRT restore
  - Perform Unity 4.X to 7.0 upgrade
- Characteristics
  - Same server or new server option
  - DIRT is performed twice
  - ADSchemaSetup is performed once

- Option 2
  - DIRT backup
  - Perform Unity 4.X to 7.0 upgrade
  - DIRT backup
  - Build Windows 2003, Exchange 2003 and Unity 7.0
  - DIRT restore
- Characteristics
  - Same server or new server option
  - DIRT is perform three times
  - ADSchemaSetup is perform twice

Cisco Disaster Recovery Tools (DIRT) Information:
http://www.ciscounitytools.com/App_DisasterRecoveryTools.htm

# Cisco Unity 7.0/Windows 2003/Exchange 2003 Migration via GSM

**2**

Existing Unity 4.X → Global Subscriber Manager (GSM) → New Unity 7.0

- High level tasks
  - Build Windows 2003, Exchange 2003 and Unity 7.0 on new server
  - Digitally networked existing Unity 4.X and new Unity 7.0 server
  - Use GSM to move users as needed to the new Unity 7.0 server

- Characteristics
  - New server option only
  - Migrate users as needed

Cisco Global Subscriber Manager (GSM) Information:
http://www.ciscounitytools.com/App_DisasterRecoveryTools.htm

---

# Cisco Unity 7.0/Windows 2003/Exchange 2003 Upgrade via COBRAS

**3**

Existing Unity 4.X → Cisco Object Backup and Restore Application Suite (COBRAS) → New Unity 7.0

- Option 1—new server
  - DIRT backup
  - COBRAS export the data from existing Unity 4.X server
  - Build Windows 2003, Exchange 2003 and Unity 7.0 on new server
  - COBRAS import the data to new Unity 7.0 server

- Characteristics
  - Has existing server to fall back
  - Can be use to consolidate Unity servers
  - Please check link below for data that will be migrated

- Option 2—existing server
  - DIRT backup
  - COBRAS Export the data from existing Unity 4.X server
  - Build Windows 2003, Exchange 2003 and Unity 7.0 on existing Unity 4.X server
  - COBRAS Import the data to new Unity 7.0 server

- Characteristics
  - Can be use to consolidate Unity servers
  - Please check link below for data that will be migrated

Cisco Object Backup and Restore Application Suite (COBRAS) Information:
http://www.ciscounitytools.com/App_COBRAS.htm

# CER Upgrade

---

## CER Major and Minor Upgrades

| CER 1.3 | → | **CAUTION** <br> MAJOR UPGRADE | → | Unified CM 7.0(1) |
|---------|---|--------------------------------|---|-------------------|
| CER 2.0 | → | MINOR UPGRADE | → | Unified CM 7.0(1) |
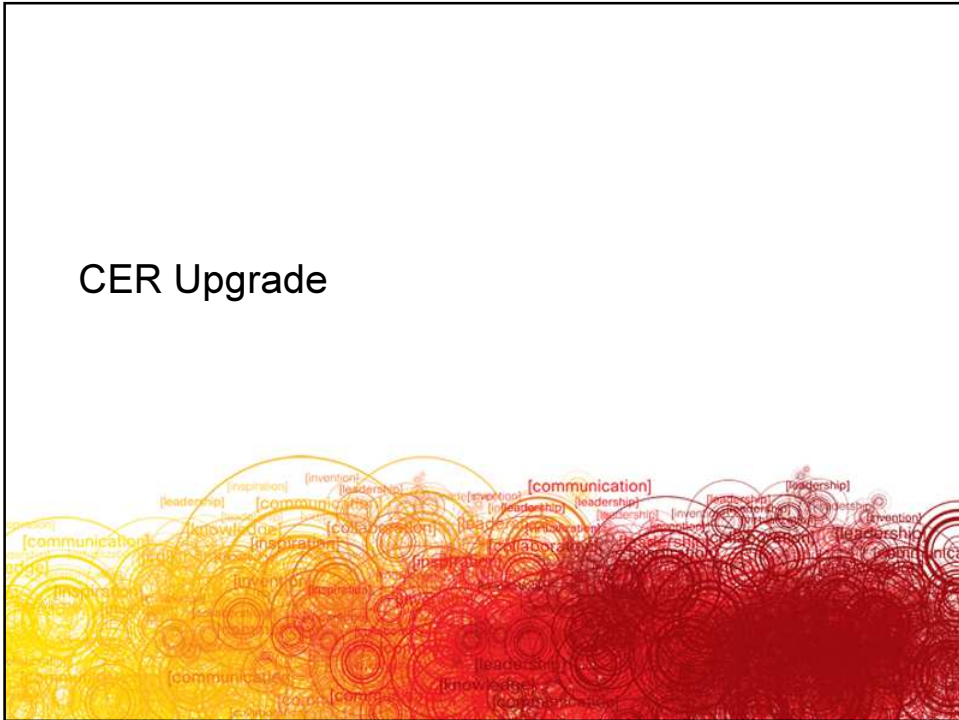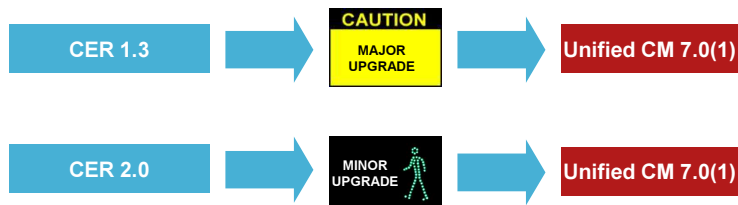
- For CER upgrade to see the upgrade file, apply COP file (ciscocm.cerisorename.cop)

- Download from CCO at Voice and Unified Communications > Cisco Emergency Responder Version 2.x > Emergency Responder Updates > CER-Upgrade

- Downgrading with switch version is suggested only with CER 2.0(2) and 2.0(3)

**For CER 2.0 to 7.0 Upgrade, Install COP File Prior to Upgrade**

# High Level CER 7.0 Upgrade

**ER** → **ER**

**Cisco Emergency Responder (CER) 2.0 Upgrade**

Existing CER 1.3 → New CER 7.0

- CER 7.0(1) is compatible with Unified CM 4.1(3) and above
- Collateral
    - CER 7.0 upgrade kit—DVD and PAK for server license
    - CER 7.0 license file types
        - Server license for each CER server* (include 100 endpoints)
        - User license upgrade for each existing user license
- HW check: table 6 in the release notes below
- SW check: upgrade from CER 1.3(1a) or 1.3(2)
- Minor version (i.e., 4.3, 5.1, etc.) must match for all Unified CM clusters supported by same CER server group

\* Unlike Unified CM, server license for each CER is bound to that server MAC address

Cisco Emergency Responder 7.0(1) Release Notes:
http://www.cisco.com/en/US/partner/docs/voice_ip_comm/cer/7_0/english/release/notes/cer_70.html

---

# Overview CER 1.3 Data Migration

**1**  Existing CER Group/Cluster → **BARS backup**

**2**  Existing CER Group/Cluster → **DMA software**

**3**  Existing CER Group/Cluster → **DMA tar file** → **Fix issue**

**4**  Existing CER Group/Cluster ← **CER 7.0 software**

**5**  Existing CER Group/Cluster ← **DMA tar file**

1. BARS backup
2. Install DMA 7.0(1a)
3. Run DMA and fix any issue to get a good DMA file
4. Install CER 7.0(1) installation
5. Import DMA file
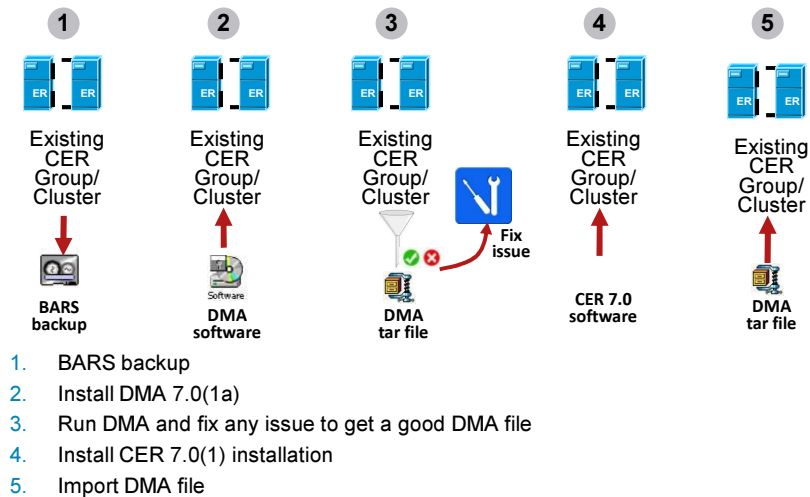
CER 7.0 Installation and DMA info:
http://www.cisco.com/en/US/partner/docs/voice_ip_comm/cer/7_0/english/administration/guide/e911inst.html#wp1045170

## CER Group or CER Cluster Upgrade

**1**

ER
Existing
CER 1.3
Publisher

ER
New
CER 7.0
Publisher

- Make sure there is a good BARS back up
- If this is a CER cluster, then take the cluster DB host off line by stopping the CER server and CER phone tracking service
- If this is a CER group, then take the Publisher off line
- Make sure that the subscriber in that CER group is taking calls
- Build and import data on the new CER 2.0 publisher
- Upload license, perform phone discovery to refresh the DB

**2**

ER
Existing
CER 1.3
Subscriber

ER
New
CER 7.0
Subscriber

- Make sure that the new Publisher in the CER group is taking calls
- Add CER subscriber into the group and rebuild that server
- Continue with other CER group with the publisher and then subscriber

---

## CUCCX Upgrade

## Unified CCX Upgrades for Existing Unified CM 4.X, 5.X and 6.X
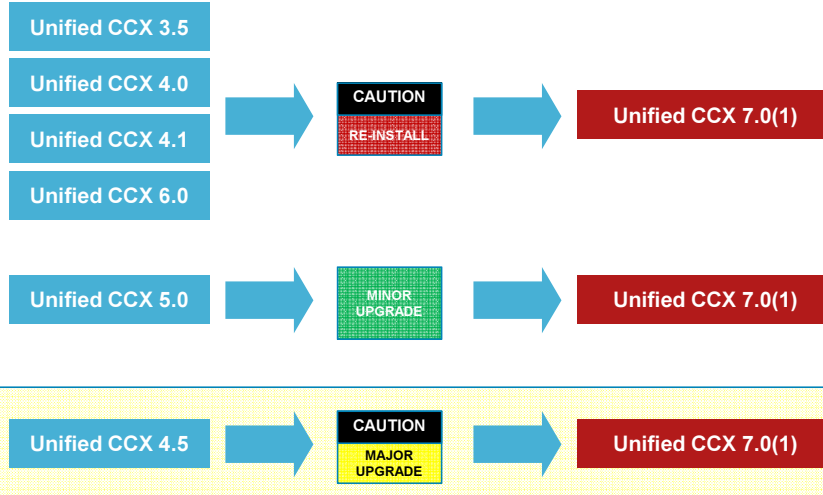
| | | |
|---|---|---|
| Unified CCX 3.5 | | |
| Unified CCX 4.0 | | |
| Unified CCX 4.1 | → CAUTION RE-INSTALL → | Unified CCX 7.0(1) |
| Unified CCX 6.0 | | |

| | | |
|---|---|---|
| Unified CCX 5.0 | → MINOR UPGRADE → | Unified CCX 7.0(1) |

| | | |
|---|---|---|
| Unified CCX 4.5 | → CAUTION MAJOR UPGRADE → | Unified CCX 7.0(1) |

## High Level Unified CCX 7.0(1) Major Upgrade from 4.5

Unified CCX 4.5 → **Cisco Unified Contact Center Express Major Upgrade** → Unified CCX 7.0(1)
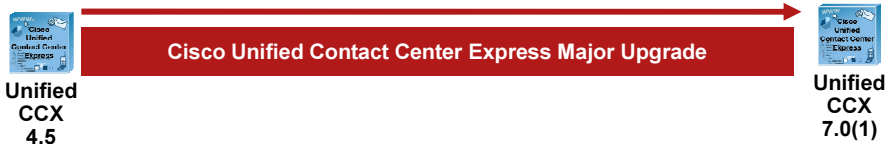
- Unified CCX 7.0(1) is compatible with Unified CM 6.1(1), 6.1(2) and 7.0(1)
- Collateral
  - Unified CCX 7.0(1) upgrade kit—DVD and PAK for upgrade license
    - https://tools.cisco.com/SWIFT/Licensing/PrivateRegistrationServlet
  - Unified CCX 7.0 license file types
    - Existing 4.5 Unified CCX licenses
    - New 7.0 Unified CCX upgrade license
  - Unified CCX 4.5 backup file
- HW
  - http://www.cisco.com/en/US/docs/voice_ip_comm/cust_contact/contact_center/crs/express_compatibility/matrix/crscomtx.pdf

CRS hardware and software compatibility:
http://www.cisco.com/en/US/docs/voice_ip_comm/cust_contact/contact_center/crs/express_compatibility/matrix/crscomtx.pdf

## Overview Unified CCX 4.5 to 7.0 Data Migration

**1** Existing Unified CCX 4.5 — **Validate licenses for 7.0**

**2** Existing Unified CCX 4.5 — **Validate script for 7.0**

**3** Existing Unified CCX 4.5 — **AppAdmin Backup**

**4** New Unified CM 7.X — **Max AXL writes = 999**

**5** New Unified CCX 7.0(1) — **Unified CCX software**

**6** New Unified CCX 7.0(1) — **Restore Backup**
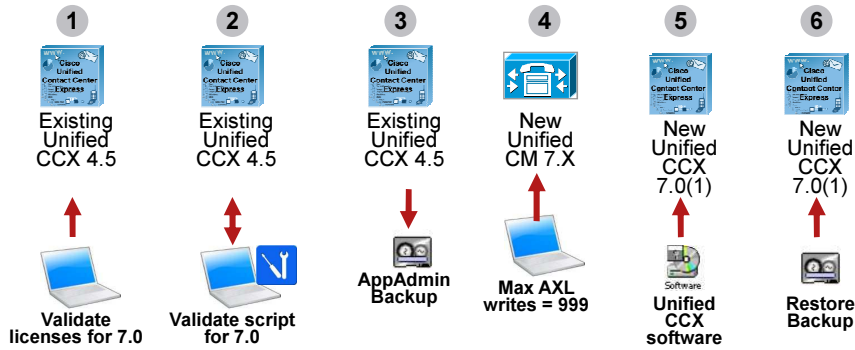
- Validate 7.0 licenses (upgrade and 4.5 license); required for 5.0 upgrade to 7.0.
- Validate and fix existing Unified CCX 4.5 script for 7.0(1)
- Backup Unified CCX 4.5 via AppAdmin to share or tape

- Change Unified CM 7.0 max. AXL writes to 999 per minute
- Install Windows 2003 OS and Unified CCX 7.0(1) software
- Restore backup file

---

## Overview Unified CCX 4.5 to 5.0 Data Migration

**7** New Unified CCX 7.0(1) — **Upload Upgrade license file**

**8** New Unified CCX 7.0(1) — **CRS 4.5 profile**

**9** New Unified CCX 7.0(1) — **Sync'ed**

**10** New Unified CCX 7.0(1) — **Upload validated scripts**

**11** Agent and supervisor desktop — **CAD and CSD software**

**12** New Unified CM 7.X — **Max AXL writes = default**
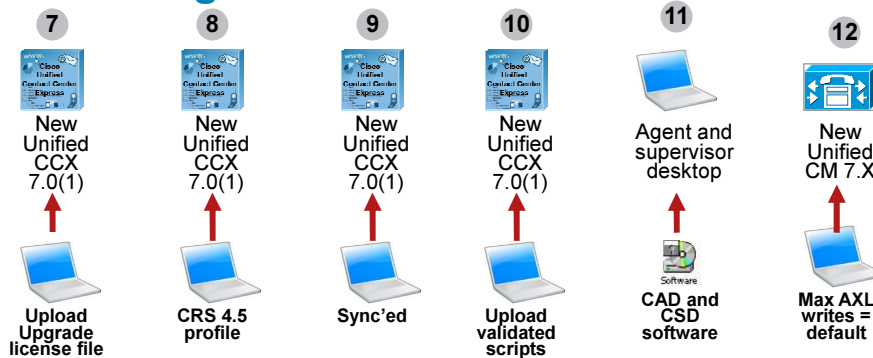
- Upload Unified CCX 7.0 Upgrade license file
- Choose CRS 4.5 cluster profile
- Perform the Unified CM Telephony synchronization

- Upload validated scripts
- Install Cisco Agent Desktop and supervisor software
- Change Unified CM 7.X max. AXL writes back to default

## Appendix D

Unified CM 5.1(3) to 7.1 Caveats

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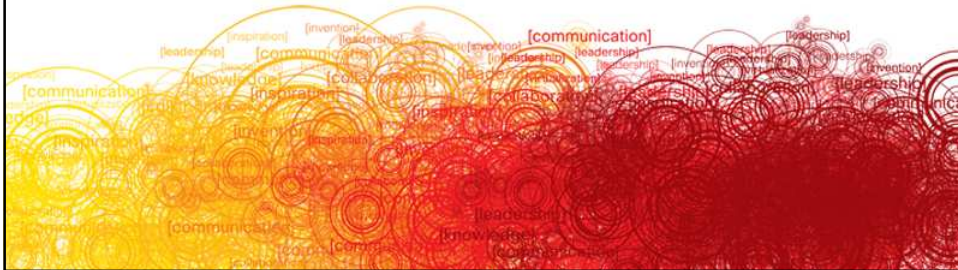
# Unified CM 5.1(3) to 7.X Upgrade DVD File Systems

**Directory of Patch Set on root of DVD**

DVD/CD-RW Drive (Z:) CDROM
cisco-ipt-k9-patch7.0.1.11000-2

**Patch Set or upgrade files in directory of DVD**

| Name | Size | Type |
|---|---|---|
| Files Currently on the Disc (10) | | |
| cisco-ipt-k9-patch7.0.1.11000-2.tar.gz.a | 236,200 KB | A File |
| cisco-ipt-k9-patch7.0.1.11000-2.tar.gz.b | 236,200 KB | B File |
| cisco-ipt-k9-patch7.0.1.11000-2.tar.gz.c | 236,200 KB | C File |
| cisco-ipt-k9-patch7.0.1.11000-2.tar.gz.d | 236,200 KB | D File |
| cisco-ipt-k9-patch7.0.1.11000-2.tar.gz.e | 236,200 KB | E File |
| cisco-ipt-k9-patch7.0.1.11000-2.tar.gz.f | 236,200 KB | F File |
| cisco-ipt-k9-patch7.0.1.11000-2.tar.gz.g | 236,200 KB | G File |
| cisco-ipt-k9-patch7.0.1.11000-2.tar.gz.h | 234,350 KB | H File |
| cisco-ipt-k9-patch7.0.1.11000-2.tar.gz.sha1.sgn | 1 KB | SGN File |
| TRANS.TBL | 3 KB | TBL File |

**Upgrade shows patch set without tar.gz.sgn**

Software Installation/Upgrade

Available Software
Options/Upgrades *          cisco-ipt-k9-patch7.0.1.11000-2 ▾

Cancel Install    Previous    Next
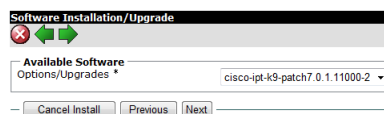
- Unified CM 5.X to 6.X major version upgrade file

  cisco-ipt-k9-patch<build-number> .tar.gz.sgn

- Unified CM 5.X to 7.X major version upgrade file is a patch set or directory of smaller files to avoid 2GB limit of

  Unified CM 5 upgrade applications

  ISO 9660 DVD limit of RHEL 3

- Patch set cannot be seen with Windows version of FTP or sFTP server (CSCsl21150) unless:

  Patched with COP file provided by TAC

  ciscocm.5x_ftp_fix.cop.sgn

  Upgrade to 5.1(3d) or 5.1(3e)

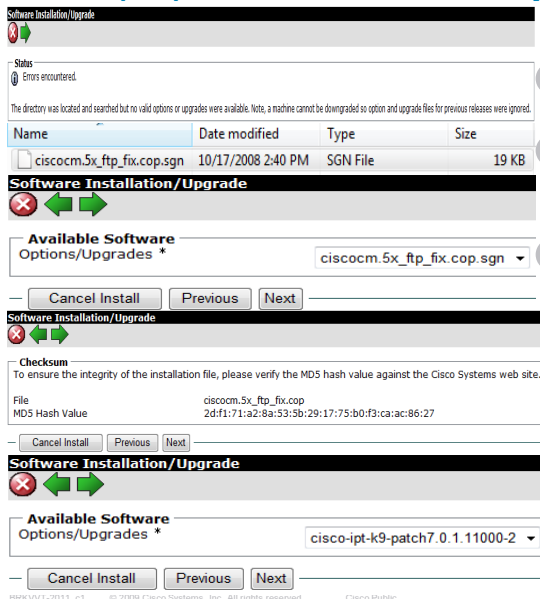# Unified CM 5.1(3) to 7.X Upgrade Recommendations

Recommendation for Installing Upgrade Patch Set

1. Local upgrade with local DVD drive

2. Remote upgrade with Linux Secure FTP server

3. Remote upgrade by upgrading to 5.1(3d) or 5.1(3e) and use Windows FTP or sFTP; reboot will be required

4. Remote upgrade by patching with COP file (ciscocm.5x_ftp_fix.cop.sgn) and use Windows FTP or sFTP; no reboot required

| Name | Date modified | Type | Size |
|------|--------------|------|------|
| ciscocm.5x_ftp_fix.cop.sgn | 10/17/2008 2:40 PM | SGN File | 19 KB |

**Linux and Windows FTP/sFTP Server Tested for CDR Are in the Notes Section**

---

# Collateral Screen Captures for Unified CM 5.1(3c) or Earlier When Upgrading Remotely

1. Remote upgrade process from Unified CM version 5.1(3c) or earlier to 7.0(1), cannot find upgrade patch set on sFTP sever

2. COP (Cisco Optional Package) file (cocm.5x_ftp_fix.cop.sgn) is located at sFTP site to patch Unified CM 5.1(3c) or earlier; Cop file allows upgrade process to see Unified CM 7.X patch set

3. Patch with COP file using OS Admin with Software Upgrades > Install/Upgrade menu

4. MD 5 Hash COP file

5. Remote upgrade process from Unified CM version 5.1(3c) or earlier to 7.0(1), found upgrade patch set on sFTP sever

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## Appendix E

User Facing Feature with Unified CM
6.0 and greater during upgrade

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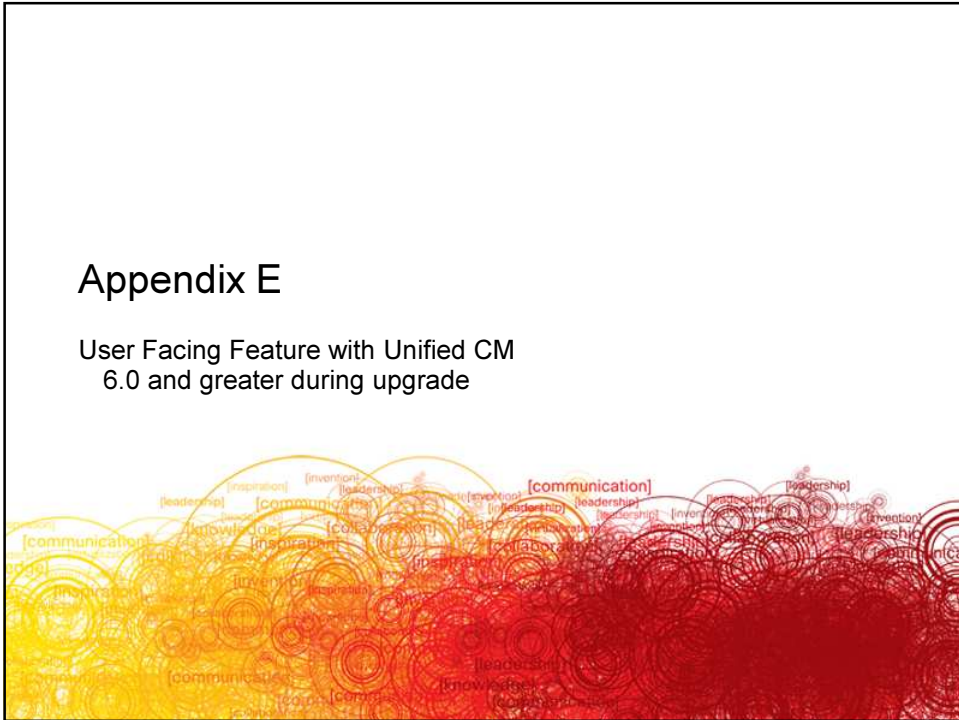
## Feature Retention
## Changes After Upgrade Is Completed

| Unified CM 5.X Active Partition | Upgrade → MAC UFF | Unified CM 7.X InActive Partition | Switch Version → | Unified CM 7.X Active Partition | Switch Version → | Unified CM 5.X Active Partition |
|---|---|---|---|---|---|---|

| Unified CM 6.X Active Partition | Upgrade → MAC UFF | Unified CM 7.X InActive Partition | Switch Version → | Unified CM 7.X Active Partition | Switch Version → | Unified CM 6.X Active Partition |
|---|---|---|---|---|---|---|

MAC (Move, Add, or Changes) to the DB. (i.e., change directory number)

UFF (User-Facing Features) such as CFA, MWI, EM, Privacy, DND, Hunt Group Login/Logout, etc.
(new starting with 6.0)

# Appendix F

Miscellaneous

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## Additional Supported Hardware

- UPS support in Unified CM 6.0(1a) and later on MCS7825-H2 or MCS7835-H2 with APC Smart UPS 1500VA USB and APC 750VA XL USB; for others use UPS on another server to drive shutdown

    Same power circuit as Unified CM server

    Terminal via serial port (USB-SERIAL-CA=)

    SSH with scripting or command line SSH pass via Windows NT command script

    Pay attention to certificate import and save profile

    Script ensure shutdown is initiated

APC Smart
UPS 1500VA
USB

APC 750VA
XL USB

---

## Users Caveats and Considerations

- Users: personal address book change location and usage. Workaround is add a service or map to a button; add userID and PIN as mandatory parameters; **not** supported by TAC

  http://<Unified CM IP address>/ccmpd/login.do

- Users: directory button menu order changed—intercom history

  Intercom history is deleted in firmware 8.3(4)SR1 or later

  Optional in Unified CM 7.0 using priority and name order

- Users: fast dial might be retain during migration not like 6.1(2) and older releases

---

## Secure FTP (sFTP) Server—5.1 to 6.X (1/2)

- In my testing, some sFTP servers seems to have issue with large file for upgrade or back up via DRS

- Free FTPD seems to work well if other sFTP fails

  http://freeftpd.com/?ctt=download

- Use user home directory where upgrade file exist
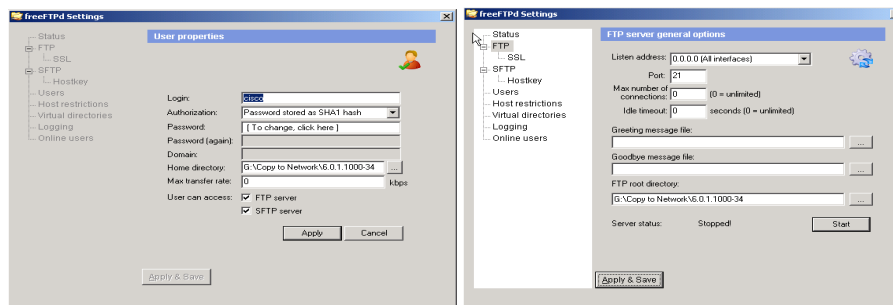
## Secure FTP (sFTP) Server (2/2)

- File name for Unified CM 5.X to 6.X upgrade is:
  cisco-ipt-k9-patch<build-number>.tar.gz.sgn

---

## FTP Server

- Some upgrades failed with 3Com FTP server
- Windows FTP servers works
- Else burn to DVD

## Peer-to-Peer Information Download (PPID)

**NEW**

**Unified CM Pubscriber**

**LAN/MAN/WAN**

**7941G Hierarchy**    **7970G Hierarchy**

**Child Phone**   **Root Phones**   **Child Phone**

······ **TFTP**    ······ **RAW/TCP**
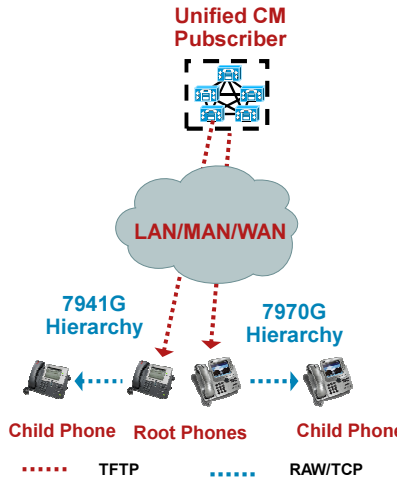
- Unified CM support: 4.1(3), 4.2(3), 4.3(1), 5.0(4), 5.1(1+), and 6.X
- Phones support: 7906G, 7911G, 7931G, 7941G/G-GE, 7961G/G-GE, 7970G, and 7971G-GE phones
- Lower load off TFTP server
  - System > Service Paramters > TFTP—Max Serving Count
  - Unified CM 4.X = 500  Unified CM 5.X & 6.X = 2000-3000
- PPID hierarchy
  - One phone model will TFTP the firmware file
  - Other phones will get file via raw over TCP
  - (Root phone and child phones)
  - Subnets, device pool
- Requirements to enable and change
  - CM 4.X—AXL script
  - CM 5.X and 6.X—Device Pack and BAT
- Resetting device pool = phone model and subnet
- Firmware 8.3.1 for PPID; enhanced and recommended with firmware 8.3.3

Cisco PPID AXL Script:
http://www.cisco.com/cgi-bin/tablebuild.pl/ip-7900ser

**NEW**

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## Upgrade Path 7.1.3

Table 4 Supported Cisco Unified Communications Manager Upgrades for Release 7.1(x)

| Cisco Unified Communications Manager | 7.1(3) | 7.1(2b)SU1 | 7.1(2b) | 7.1(2a)SU1 | 7.1(2a) | 7.1(2) |
|---|---|---|---|---|---|---|
| Release Date | Sep 22 2009 | Sep 10 2009 | Sep 9 2009 | Jul 21 2009 | Jun 15 2009 | May 29 2009 |
| Standard Support | Direct upgrade [1] : 7.1(2b)SU1, 7.1(2b), 7.1(2a), 7.1(2), 7.0(2a), 7.0(2), 6.1(4)SU1, 6.1(4), 6.1(3b)SU1, 6.1(3b), 6.1(3a), 6.1(3)[1] Direct upgrade using DMA: 4.3(2), 4.2(3), 4.1(3) | Direct upgrade: 7.1(2b), 7.1(2a), 7.1(2), 7.0(2a), 7.0(2), 7.0(1)SU1a, 7.0(1)SU1, 7.0(1), 6.1(3b)SU1, 6.1(3b), 6.1(3a), 6.1(3), 6.1(2)SU1a, 6.1(2)SU1, 6.1(2) Direct upgrade using DMA: none | Direct upgrade: 7.1(2a), 7.1(2), 7.0(2a), 7.0(2), 7.0(1)SU1a, 7.0(1)SU1, 7.0(1), 6.1(3b)SU1, 6.1(3b), 6.1(3a), 6.1(3), 6.1(2)SU1a, 6.1(2)SU1, 6.1(2), 5.1(3g), 5.1(3f), 5.1(3e)[2], 5.1(3d), 5.1(3c), 5.1(3b), 5.1(3a), 5.1(3) Direct upgrade using DMA: 4.3(2), 4.3(1), 4.2(3), 4.1(3) | Direct upgrade: 7.1(2a), 7.1(2), 7.0(2a), 7.0(2), 7.0(1)SU1a, 7.0(1)SU1, 7.0(1), 6.1(3b)SU1, 6.1(3b), 6.1(3a), 6.1(3), 6.1(2)SU1a, 6.1(2)SU1, 6.1(2) Direct upgrade using DMA: none | Direct upgrade: 7.1(2), 7.0(2a), 7.0(2), 7.0(1)SU1a, 7.0(1)SU1, 7.0(1), 6.1(3b)SU1, 6.1(3b), 6.1(3a), 6.1(3), 6.1(2)SU1, 6.1(2), 5.1(3g), 5.1(3f), 5.1(3e)[2], 5.1(3d), 5.1(3c), 5.1(3b), 5.1(3a), 5.1(3) Direct upgrade using DMA: 4.3(2), 4.3(1), 4.2(3), 4.1(3) | Direct upgrade: 7.0(2a), 7.0(2), 7.0(1)SU1a, 7.0(1)SU1, 7.0(1), 6.1(3b)SU1, 6.1(3b), 6.1(3a), 6.1(3), 6.1(2)SU1a, 6.1(2)SU1, 6.1(2), 5.1(3g), 5.1(3f), 5.1(3e)[2], 5.1(3d), 5.1(3c), 5.1(3b), 5.1(3a), 5.1(3) Direct upgrade using DMA: 4.3(2), 4.3(1), 4.2(3), 4.1(3) |

Note Refer to the Engineering Special (ES) Upgrade Note concerning upgrades from ESs.