



Upgrading IPT Software Components

This topic discusses in more detail the upgrade sequence for all the IP telephony (IPT) components configured in specific deployment models for Cisco Unified Communications System Release 5.0(2).

Upgrade procedures for individual IPT components are not described in this document, since they are available in individual component upgrade documents. See the [Related Documentation](#) section at the end of this topic for the appropriate upgrade documents and their URLs.

This topic contains the following sections:

- [IPT Deployment Models](#)
- [Upgrading IPT Components](#)
- [Related Documentation](#)

IPT Deployment Models

Upgrade procedures in this document are specifically tailored for each of the deployment models in the IPT test environment, since each of the sites includes different components.

Detailed information about IPT deployment models that are tested for Cisco Unified Communications System Release 5.0(2) is available in the *System Test Architecture Reference Manual for IP Telephony* at: <http://www.cisco.com/univercd/cc/td/doc/systems/unified/uc502/starmipt/stipt502.pdf>

Listed below are the various deployment models possible in the Cisco Unified Communications System IPT test environment:

- [Single-site](#)
- [Multisite Centralized and SRST](#)
- [Multisite WAN Distributed](#)

Compare the above deployments to your specific deployment to best understand the upgrade process that is applicable in your environment.

This section provides the general upgrade sequence for the various components in the different deployment models. More detailed upgrade procedures are discussed later in this topic.

Single-site

In the IPT single-site model, upgrade the components in the following order:

1. Infrastructure components including Catalyst 6000 switches and routers
2. CRS (Cisco Unified Contact Center Express)
3. Cisco Unified CallManager servers (Cisco Unified IP Phones are upgraded at the same time), including Cisco Unified CallManager Express
4. Cisco Emergency Responder and Music On Hold
5. Cisco Analog Phone Gateways (VG224, VG248)
6. PSTN Gateways (IOS, Cisco Communications Media Module)
7. Gatekeepers
8. Cisco Unified MobilityManager
9. Cisco Unified MeetingPlace and Cisco Unified MeetingPlace Express
10. Cisco Unity components and Cisco Unity Connection
11. Video components
12. Cisco applications co-resident on Cisco Media Convergence Servers (MCS) (such as Cisco Security Agent, JTAPI software, etc.)
13. Third-party applications co-resident on MCS servers (Antivirus, Backup agent, Management agent (SNMP), etc.)

**Note**

For Unified CallManager Release 5.0(4), co-residency of third-party applications is not supported.

14. Cisco and third-party adjunct applications or endpoints on other servers (MIND CTI, Tandberg, etc.)

Multisite Centralized and SRST

You must first upgrade central sites followed by the remote SRST sites in the multisite centralized model.

In each central site, upgrade the components in the following order:

1. Infrastructure components including Catalyst 6000 switches and routers
2. CRS (Cisco Unified Contact Center Express)
3. Cisco Unified CallManager servers (Cisco Unified IP Phones are upgraded at the same time), including Cisco Unified CallManager Express
4. Cisco Emergency Responder and Music On Hold
5. ICT Gateways
6. Cisco Analog Phone Gateways (VG224, VG248)
7. PSTN Gateways (IOS, Cisco Communications Media Module)
8. Gatekeepers
9. Cisco Unified MobilityManager
10. Cisco Unified MeetingPlace and Cisco Unified MeetingPlace Express

11. Cisco Unity components and Cisco Unity Connection
12. Video components
13. Cisco applications co-resident on Cisco Media Convergence servers (MCS servers) (such as Cisco Security Agent, JTAPI software, etc.)
14. Third-party applications co-resident on MCS servers (Antivirus, Backup agent, Management agent (SNMP), etc.)

**Note**

For Unified CallManager Release 5.0(4), co-residency of third-party applications is not supported.

15. Cisco and third-party adjunct applications or endpoints on other servers (MIND CTI, Tandberg, etc.)

In each remote site, upgrade the components in the following order:

1. Infrastructure components including Catalyst 6000 switches and routers
2. Cisco Analog Phone Gateways (VG224, VG248)
3. PSTN Gateways (IOS, Cisco Communications Media Module)
4. Cisco Unified IP Phones (are upgraded along with the Cisco CallManager clusters)
5. Cisco applications co-resident on MCS servers (such as Cisco Security Agent, JTAPI software, etc.)
6. Third-party applications co-resident on MCS servers (Antivirus, Backup agent, Management agent (SNMP), etc.)

**Note**

For Unified CallManager Release 5.0(4), co-residency of third-party applications is not supported.

7. Cisco and third-party adjunct applications or endpoints on other servers (MIND CTI, Tandberg, etc.)

Multisite WAN Distributed

The multisite distributed model includes several Unified CallManager cluster sites inter-connected by ICT or H.323 trunks.

You should treat the upgrade of each site as a separate stage in the overall upgrade process.

Upgrade the components within each site in the following order:

1. Infrastructure components including Catalyst 6000 switches and routers
2. CRS (Cisco Unified Contact Center Express)
3. Cisco Unified CallManager servers (Cisco Unified IP Phones are upgraded at the same time)
4. Cisco Emergency Responder and Music On Hold
5. Cisco Analog Phone Gateways (VG224, VG248)
6. PSTN Gateways (IOS, Cisco Communications Media Module)
7. Gatekeepers
8. Cisco Unified CallManager Express
9. Cisco Unified MobilityManager
10. Cisco Unified MeetingPlace and Cisco Unified MeetingPlace Express
11. Cisco Unity components and Cisco Unity Connection

12. Video components
13. Cisco applications co-resident on MCS servers (such as Cisco Security Agent, JTAPI software, etc.)
14. Third-party applications co-resident on MCS servers (Antivirus, Backup agent, Management agent (SNMP), etc.)

**Note**

For Unified CallManager Release 5.0(4), co-residency of third-party applications is not supported.

15. Cisco and third-party adjunct applications or endpoints on other servers (MIND CTI, Tandberg, etc.)

Upgrading IPT Components

This section describes the following upgrade strategies for IPT components:

- [Single-stage Upgrade](#)—Recommended for small single/multisite installations.
- [Multistage System Upgrade](#)—Recommended for medium/large single-site and medium multisite installations.
- Multisite Migration—To upgrade large, multisite IPT installations to the Cisco Unified Communications System release set using the Multisite Migration Upgrade strategy, you can use either the Single-stage or Multistage System upgrade procedures listed in this section.

See “[Planning Your System Upgrade](#)” for detailed information on the above upgrade strategies and [Chapter 2, “Preparing for System Upgrade](#)” for the software release versions of the components involved in the upgrade. For more information about the number of seats in these various types of sites, see [Table 1-1 the Summary of Upgrade Strategies table](#) in “[Planning Your System Upgrade](#).”

**Note**

For detailed information on upgrading Unified CallManager clusters, see [Upgrade Cisco Unified CallManager Clusters](#).

Single-stage Upgrade

The Single-stage upgrade process is recommended for small single-site/multisite installations and can be performed in a single maintenance window. This enables you to upgrade all the components in a brief period of time with no loss of functionality.

North America IPT Components

In a North America IPT environment, you should upgrade the components in the order listed in [Table 3-1](#).

Table 3-1 *Single-stage Upgrade Order for North America IPT Components*

Order of Upgrade	Components being Upgraded
1	Cisco Catalyst 6506 (core switch)
2	Cisco Catalyst 6509 (access switch)
3	CRS (Cisco Unified Contact Center Express)

Table 3-1 *Single-stage Upgrade Order for North America IPT Components (continued)*

Order of Upgrade	Components being Upgraded
4	Cisco Unified CallManager cluster (Cisco Unified IP Phones, Cisco IP Communicator, and Cisco ATA186/188 analog telephony adaptors are upgraded along with cluster)
5	Cisco Emergency Responder
6	Music on Hold
7	Cisco Catalyst 6000 FXS Gateway
8	IOS Gateway (MGCP)
9	IOS Gateway (H.323)
10	Cisco Communications Media Module
11	Cisco VG248 Analog Phone Gateway
12	Cisco VG244 Analog Phone Gateway
13	Cisco Unified MobilityManager
14	Cisco 3745 Gatekeeper
15	Cisco Unified MeetingPlace
16	Cisco Unified MeetingPlace Express
17	Cisco Unity components
18	Cisco Unity Connection
19	Windows Exchange 2000/2003
20	Domain Controller (including Active Directory)
21	Tandberg T1000 (Video Endpoints)
22	Cisco Unified Videoconferencing System 3540
23	Cisco Unified Video Advantage (Video PC Endpoint)
24	Cisco Aironet Access Point 1200

EUEM IPT Components

In an EUEM IPT environment, you should upgrade the components in the order listed in [Table 3-2](#).

Table 3-2 *Single-stage Upgrade Order for EUEM IPT Components*

Order of Upgrade	Components being Upgraded
1	Cisco Catalyst 6506 (core switch)
2	Cisco Catalyst 3524 (access switch)
3	Cisco Unified CallManager cluster (Cisco Unified IP Phones, Cisco IP Communicator, and Cisco ATA186/188 analog telephony adaptors are upgraded along with cluster)
4	Cisco Catalyst 6000 FXS Gateway
5	IOS Gateway (MGCP)
6	IOS Gateway (H.323)

Table 3-2 *Single-stage Upgrade Order for EUEM IPT Components (continued)*

Order of Upgrade	Components being Upgraded
7	IOS Gateway
8	IOS Gatekeeper
9	Cisco VG248 Analog Phone Gateway
10	Cisco VG224 Analog Phone Gateway
11	Cisco Unified CallManager Express
12	Cisco Unity-IBM/Lotus Domino
13	Windows Exchange 2000/2003
14	Domain Controller (including Active Directory)
15	Tandberg T1000 (Video Endpoints)
16	Cisco Unified Videoconferencing MCU 3511
17	Cisco Unified Videoconferencing H.323 Gateway 3526
18	Cisco Unified Videoconferencing Gatekeeper 3725
19	Cisco Unified Video Advantage (Video PC Endpoint)
20	Cisco Aironet Access Point 1200

Multistage System Upgrade

A Multistage System upgrade is the recommended approach for medium/large single-site and medium multisite installations.

In this upgrade process, components are grouped together for upgrading in several stages or maintenance windows. Within each maintenance window, there is a recommended order for upgrading each component.

The grouping of the components into the stages may vary depending on the size of the network being upgraded. For smaller networks, one or more separate maintenance windows may be collapsed into a single maintenance window. Additional stages may be necessary for larger sites.

After each maintenance window, we recommend that you verify that the operation of all basic and critical call types remains unaffected, before you initiate the next upgrade stage listed.

See [Chapter 2, “Preparing for System Upgrade”](#) for the software release versions of the components involved in the upgrade.

North America IPT Components

In a North America IPT environment, the stages and the components you should upgrade during each stage are listed in [Table 3-3](#):

Table 3-3 Multistage System Upgrade Order for North America IPT Components

Stage	Component Groupings	Upgrade Order of Components in Each Stage
1	Core and Access Switches	1. Core Switch 2. Access Switch
2	CRS, Cisco Unified CallManager, Cisco Unity TSP, Cisco Unified IP Phones, Cisco Emergency Responder, Music On Hold, and FXS Gateways	1. CRS (Cisco Unified Contact Center Express) 2. Cisco Unified CallManager (includes ATA) 3. Cisco Unity TSP 4. Cisco Unified IP Phones 5. Cisco IP Communicator 6. Cisco Emergency Responder 7. Music On Hold 8. Cisco Catalyst 6000 FXS Gateway
3	Gateways, Gatekeepers, Cisco Unified CallManager Express, and Cisco Unified MobilityManager	1. IOS Gateway (MGCP) 2. IOS Gateway (H.323) 3. Cisco VG248 Analog Phone Gateway 4. Cisco VG244 Analog Phone Gateway 5. PSTN Gateway (Cisco Communications Media Module) 6. Gatekeeper 7. Cisco Unified CallManager Express 8. Cisco Unified MobilityManager
4	Cisco Unified MeetingPlace Components	1. Cisco Unified MeetingPlace 2. Cisco Unified MeetingPlace Express
5	Cisco Unity components	1. Cisco Unity 2. Cisco Unity Express¹ 3. Windows Exchange 2000/2003 4. Domain Controller (including Active Directory) 5. Cisco Unity Connection
6	Video and Wireless components	1. Tandberg T1000 (Video Endpoints) 2. Cisco Unified Videoconferencing System 3540 3. Cisco Unified Video Advantage (Video PC Endpoint) 4. Cisco Aironet Access Point 1200
7	Cisco applications co-resident on MCS servers	Depends on the applications being upgraded
8	Third-party applications co-resident on MCS servers	For Unified CallManager Release 5.0(4), co-residency of third-party applications is not supported
9	Cisco and third-party applications on other servers	Depends on the applications being upgraded

1. See additional compatibility information in [Cisco Unified CallManager Upgrade and Compatibility Considerations](#).

EUEM IPT Components

In an EUEM IPT environment, the stages and the components you should upgrade during each stage are listed in [Table 3-4](#):

Table 3-4 Multistage System Upgrade Order for EUEM IPT Components

Stage	Component Groupings	Upgrade Order of Components in Each Stage
1	Core and Access Switches	1. Core Switch 2. Access Switch
2	CRS, Cisco Unified CallManager, Cisco Unity TSP, Cisco Unified IP Phones, Cisco Emergency Responder, Music On Hold, and FXS Gateways	1. CRS (Cisco Unified Contact Center Express) 2. Cisco Unified CallManager (includes ATA) 3. Cisco Unity TSP 4. Cisco Unified IP Phones 5. Cisco IP Communicator 6. Cisco Emergency Responder 7. Music On Hold 8. Cisco Catalyst 6000 FXS Gateway
3	Gateways, Gatekeepers, and Cisco Unified CallManager Express	1. IOS Gateway (MGCP) 2. IOS Gateway (H.323) 3. Cisco VG248 Analog Phone Gateway 4. Cisco VG244 Analog Phone Gateway 5. Gatekeeper 6. Cisco Unified CallManager Express
4	Cisco Unity components	1. Cisco Unity 2. Cisco Unity Express¹ 3. Windows Exchange 2000/2003 4. Domain Controller (including Active Directory) 5. Cisco Catalyst 6000 Gateway for Unity Bridge 6. Cisco Unity Bridge
5	Video and Wireless components	1. Tandberg T1000 (Video Endpoints) 2. Cisco Unified Videoconferencing System 3540 3. Cisco Unified Video Advantage 4. Cisco Aironet Access Point (AP) 1200
6	Cisco applications co-resident on MCS servers	Depends on the applications being upgraded

Table 3-4 Multistage System Upgrade Order for EUEM IPT Components (continued)

Stage	Component Groupings	Upgrade Order of Components in Each Stage
7	Third-party applications co-resident on MCS servers	For Unified CallManager Release 5.0(4), co-residency of third-party applications is not supported
8	Cisco and third-party applications on other servers	Depends on the applications being upgraded

1. See additional compatibility information in [Cisco Unified CallManager Upgrade and Compatibility Considerations](#).

Related Documentation

Compatibility Documentation

- *Cisco Unity and the Software on Subscriber Workstations:*
http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_device_support_table09186a080531eba.html
- *Cisco Unity, the Cisco Unity-CM TSP, Cisco CallManager, and Cisco CallManager Express:*
http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/cmptblty/tspmtx.htm
- *Cisco Response Solutions (CRS) Software and Hardware Compatibility Guide:*
http://www.cisco.com/univercd/cc/td/doc/product/voice/sw_ap_to/crscomtx.pdf
- *Cisco CallManager Express and Cisco IOS Software Version Compatibility Matrix:*
http://www.cisco.com/en/US/products/sw/voicesw/ps4625/prod_installation_guide09186a00805acf50.html

Cisco Unified CallManager Installation and Upgrade Documentation

- *Release Notes for Cisco Unified CallManager Release 5.0(4):*
http://www.cisco.com/application/pdf/en/us/guest/products/ps6164/c1178/ccmigration_09186a00806d06f4.pdf
- *Installing Cisco Unified CallManager Release 5.0(4):*
http://www.cisco.com/en/US/products/sw/voicesw/ps556/prod_installation_guide09186a00806c3ca6.html
- *Upgrading Cisco Unified CallManager Release 5.0(4):*
http://www.cisco.com/en/US/products/sw/voicesw/ps556/prod_installation_guide09186a00806c3cc3.html
- *Cisco Unified CallManager Standalone Upgrade Time Estimates for Planning Purposes:*
http://www.cisco.com/application/vnd.ms-excel/en/us/guest/products/ps556/c1609/ccmigration_09186a00806b0ef6.xls
- *Disaster Recovery System Administration Guide Release 5.0(4):*
http://www.cisco.com/en/US/products/sw/voicesw/ps556/products_administration_guide09186a00806c51cb.html

- *Data Migration Assistant User Guide Release 5.0(2a):*
http://www.cisco.com/en/US/products/sw/voicesw/ps556/products_administration_guide09186a00806c51d6.html
- *Installing Cisco IPC Express: Cisco CallManager Express and Cisco Unity Express:*
http://www.cisco.com/en/US/products/sw/voicesw/ps4625/products_installation_guide_book09186a00805267ac.html
- *Installing Cisco Unified CallManager Release 5.0(2):*
http://www.cisco.com/en/US/products/sw/voicesw/ps556/prod_installation_guide09186a0080631ef5.html
- *Upgrading Cisco Unified CallManager Release 5.0(2):*
http://www.cisco.com/en/US/products/sw/voicesw/ps556/prod_installation_guide09186a0080631df2.html
- *Disaster Recovery System Administration Guide Release 5.0(2):*
http://www.cisco.com/en/US/products/sw/voicesw/ps556/products_administration_guide09186a0080631a03.html
- *Data Migration Assistant User Guide Release 5.0(2):*
http://www.cisco.com/en/US/products/sw/voicesw/ps556/products_administration_guide09186a0080631d80.html

Cisco Unity Installation and Upgrade Documentation

- Cisco Unity Install and Upgrade Guides:
http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_installation_guides_list.html
- *Cisco Unity Express Installation and Upgrades:*
http://www.cisco.com/en/US/products/sw/voicesw/ps5520/prod_installation_guide09186a00804db8a.html
- *Installing Cisco IPC Express: Cisco CallManager Express and Cisco Unity Express:*
http://www.cisco.com/en/US/products/sw/voicesw/ps4625/products_installation_guide_book09186a00805267ac.html

Cisco Unified MeetingPlace and Cisco Unified Videoconferencing Documentation

- *Installation Planning Guide for Cisco MeetingPlace:*
http://www.cisco.com/en/US/products/sw/ps5664/ps5669/products_pre-installation_guide_book09186a0080334283.html
- *Installation and Upgrade Guide for Cisco Unified MeetingPlace Express:*
http://www.cisco.com/en/US/products/ps6533/products_installation_guide_book09186a008057b547.html
- Cisco IP/VC 3500 Series Videoconferencing Products Install and Upgrade Guides:
http://www.cisco.com/en/US/products/hw/video/ps1870/prod_installation_guides_list.html

CRS and Cisco Contact Center Express Installation and Upgrade Documentation

- *Release Notes for Customer Response Solutions 4.5(2):*
http://www.cisco.com/application/pdf/en/us/guest/products/ps6879/c1178/ccmigration_09186a008063b195.pdf
- *Cisco CRS Installation Guide:*
http://www.cisco.com/application/pdf/en/us/guest/products/ps6879/c1097/ccmigration_09186a0080610e12.pdf
- *Getting Started with Cisco IPCC Express Edition:*
http://www.cisco.com/application/pdf/en/us/guest/products/ps6879/c1689/ccmigration_09186a0080611815.pdf
- *Backup and Restore System for Cisco Customer Response Solutions 4.5:*
http://www.cisco.com/application/pdf/en/us/guest/products/ps6879/c1097/ccmigration_09186a0080612a78.pdf

