



CHAPTER 5

Preparing for Your System Upgrade

This topic discusses information to be aware of before the actual upgrade process such as the general upgrade approach for the different contact center components, upgrade release versions of components involved in the upgrade, and upgrade dependencies and considerations.

This topic contains the following sections:

- [System Upgrade Approach](#)
- [System Upgrade Dependencies](#)
- [Upgrade Release Versions](#)



Note

Many of the contact center component names have changed as part of Cisco Unified Communications System releases. Only the latest product names are used in this document, even when referencing products from previous releases.

System Upgrade Approach

The general approach is to upgrade each Unified Communications Manager cluster and its associated contact center components at one time, before upgrading the next cluster.

For each cluster, upgrade the components in the Cisco Unified Communications family of contact center components in the following order:

1. Infrastructure and security components, including core and access switches, routers, and security components
2. Cisco voice gateways and gatekeepers/proxy servers



Note

These components should be upgraded first to ensure that the infrastructure is able to support the services required by Cisco Unified Communications System components.

3. Network management components
4. Contact center routing components
5. Agent management components
6. Agent desktop application clients
7. Call processing components

8. Queuing and self-service components
9. Messaging components

After all the Unified Communications Manager clusters in the network have been upgraded, install any new components included in the target release set and remove obsolete or end-of-life components.

See [Chapter 6, “Performing Your System Upgrade”](#) for detailed information about the order in which the above components have to be upgraded.

**Note**

Ensure that you have a comprehensive “backout” plan in the event of an upgrade failure.

The upgrade sequence of the contact center components should also be dictated by the following considerations:

- The criticality of the service that these components provide. For example, basic phone service is considered to be of greater importance than supplementary services or voice messaging services.
- Backward compatibility of the software releases of these components. For additional information, see [Backward Compatibility Issues](#).
- See [Upgrade Release Versions](#) for details on each base release set, which indicate which components need to be upgraded before or after upgrading Unified Communications Manager, or if the upgrade order does not matter.

System Upgrade Dependencies

Cisco Unified Communications System Release 8.5(1) offers support for new hardware for several components and has removed support for other hardware platforms. The bridge upgrade provides a migration path for customers who use discontinued server models. A bridge upgrade works on unsupported or discontinued hardware for the purpose of creating a DRS backup. The DRS backup can be restored on new hardware after a fresh installation completes. When preparing for an upgrade to Release 8.5(1), read all product upgrade documentation if you plan to migrate to the new hardware offerings.

**Note**

You can set up a virtualized environment by running Unified Communications applications on a virtual machine on a Unified Computing System (UCS). For additional details, including UCS hardware information and third-party requirements, see: www.cisco.com/go/uc-virtualized

Components within each release set should be compatible with each other and interoperate correctly. For example, components in a specific base release set are compatible with each other and interoperate, as also the components in the target release set.

The order of operations also needs to take into account the impact of backward compatibility or incompatibility as described later in this section, especially for multistage system and multisite migration upgrades, where each stage (or maintenance window) only upgrades some of the components in the release set.

However, as you upgrade individual components of the integrated system, the overall system may operate in a state of degraded service where one or more components have been upgraded to the next release level and may not interoperate with components that are still at the previous release level.

Components that are upgraded first should interoperate with other components that are still at the previous release level. For example, gateways are upgraded before Unified Communications Manager. Therefore, gateways, which are now at the next release level, must interoperate with Unified Communications Manager that has not been upgraded and is still at the previous release level.

For additional upgrade limitations and issues, see *System Release Notes for Contact Center, Cisco Unified Communications System Release 8.5(1)* at:

http://www.cisco.com/en/US/docs/voice_ip_comm/uc_system/UC8.5.1/release_notes/rnipc851.html

Cisco Unified System Contact Center Enterprise Upgrade Considerations

Cisco Unified System Contact Center Enterprise (Unified SCCE) cannot be upgraded to version 8.5(1). If you have a Unified SCCE installed, you have two options:

1. If it is the child in a parent-child system, you may elect to keep it at version 8.0(1).
2. If you want to upgrade to version 8.5(1), you will need to migrate all Unified SCCE servers to Unified Contact Center Enterprise (Unified CCE) servers. This migration can be done by using the Unified Contact Center Installer to upgrade a Unified SCCE server. When this is done, your version 8.0(1) Unified SCCE will be converted to version 8.5(1) Unified CCE server.

For further details, see the *Upgrade Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted, Release 8.5(1)* at:

http://www.cisco.com/en/US/docs/voice_ip_comm/cust_contact/contact_center/ipcc_enterprise/ipccenterprise8_5_1/installation/guide/icm85ug.pdf

Cisco Unified Presence Upgrade Considerations

Unified Presence Service Activation and Feature Services pages do not display properly when doing a bridge upgrade from Unified Presence Release 8.0(2) to Release 8.5(1) on unsupported (discontinued) hardware. You should do the following if you are using unsupported hardware during the upgrade process:

1. Instead of performing a bridge upgrade to Unified Presence 8.5(1), you should first perform a DRF backup of Unified Presence Release 8.0(2) on the unsupported hardware.
2. Then complete a fresh installation of Unified Presence Release 8.0(2) on the supported hardware.
3. Finally perform a DRF restore of Unified Presence Release 8.0(2) on the above hardware and upgrade to Unified Presence Release 8.5(1).

Cisco Unified IP IVR Upgrade Considerations

If you have a Unified IP IVR (Unified CCX) deployment in your network, before you proceed with the Unified IP IVR upgrade, consider the following requirements and recommendations.

Upgrade Requirements

1. Use the Backup n' Restore (BnR) system to perform the regular backup of the Unified IP IVR 8.0(2) server before you start the backup process using the Pre-Upgrade Tool (PUT).
2. After running PUT and before installing Unified IP IVR 8.5(1), you must upgrade the system running Unified Communications Manager to the latest compatible version.



Note You should install Unified IP IVR 8.5(1) on a new system or re-image your existing Unified IP IVR 8.0(2).

3. After installing Unified IP IVR 8.5(1), retrieve the backed up data on the system using the Unified CCX Administration web interface.

For information on how to upgrade to Unified IP IVR Release 8.5(1) from the 8.0(2) release, see *Upgrading to Cisco Unified Contact Center Express, Release 8.5(1)* at:

http://www.cisco.com/en/US/docs/voice_ip_comm/cust_contact/contact_center/crs/express_8_5/installation/guide/uccx851_ug.pdf

Cisco recommends the following two upgrade options:

- Same Maintenance Window—You can upgrade all the call processing components first and Unified IP IVR next. Be aware that time estimates for this option are approximately 16 hours.
- Different Maintenance Windows—You must first upgrade Unified IP IVR to Release 8.5(1) *before* upgrading Unified Communications Manager to Release 8.5(1).

See [Table 6-2](#) in [Chapter 6, “Performing Your System Upgrade”](#) for additional upgrade information on the above components.

Cisco Unified IP Phone Upgrade Considerations

The following are considerations to be aware of when upgrading Unified IP Phones:

- When you upgrade your Unified Communications Manager servers, note that the Unified IP Phone firmware is also automatically upgraded to the version bundled with the Unified Communications Manager.

For more detailed information about SIP Unified IP Phones and the differences between features on the SCCP and SIP phones, see the documentation at:

- Cisco Unified IP Phones 7900 Series Maintain and Operate Guides:
http://www.cisco.com/en/US/products/hw/phones/ps379/prod_maintenance_guides_list.html
- Cisco Unified IP Phones 7900 Series End-User Guides:
http://www.cisco.com/en/US/products/hw/phones/ps379/products_user_guide_list.html
- “Unified Communications Endpoints” Chapter in the *Cisco Unified Communications System 8.x SRND*:
http://www.cisco.com/en/US/docs/voice_ip_comm/cucm/srnd/8x/endpnts.html

Backward Compatibility Issues

In multistage system upgrade scenarios, you may have to consider additional issues such as backward compatibility across components.

A version of one component is backward compatible with a previous version of another component when service functionality and behavior are maintained between the two component versions. Backward compatibility between two components or applications may limit the order of upgrade of the components and cause service outage during upgrades.

If two components are upgraded during separate maintenance windows, as in the multistage system or multisite migration upgrade scenarios, the whole system exists in a partially upgraded state in the interval between the two maintenance windows.

The service capability during the period between maintenance windows depends on backward compatibility between the two components as discussed in this section. If the two components are not backward compatible, then service outages occur in the interval between the two maintenance windows.

Some backward compatibility situations described in [Backward Compatibility Scenarios](#) may occur during the upgrade process. For more information, see the component compatibility matrices listed in [Chapter 6, “Related Documentation”](#).

Backward Compatibility Scenarios

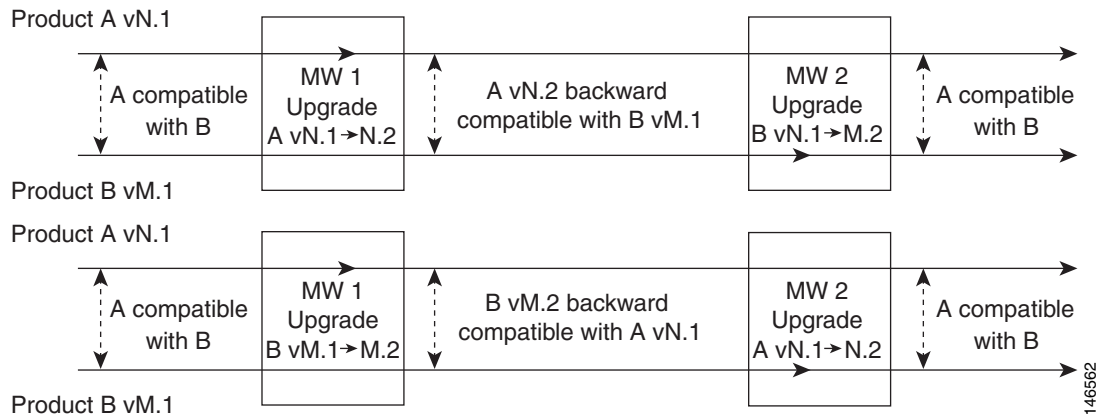
Both New Versions Are Backward Compatible

Both new versions of the two components are backward compatible with the previous version of the other component,

In this case, there is no restriction in the order of upgrades relating to backward compatibility. Either component may be upgraded first and be able to interoperate with the other component as shown in [Figure 5-1](#). An example of this are Unified CCE and Unified Communications Manager.

You can perform the upgrade for these components across multiple maintenance windows. This type of upgrade is described in the multistage system and multisite migration upgrade approaches in [Chapter 4, “Planning Your System Upgrade.”](#)

Figure 5-1 Both New Release Versions Are Backward Compatible

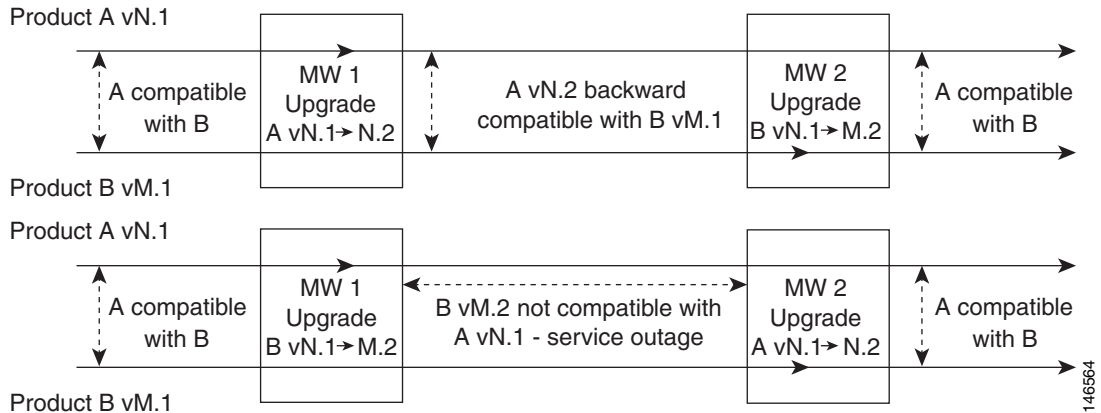


Only One New Version is Backward Compatible

Only one of the new versions is backward compatible with the previous version of the other component.

In this case, the component that is backward compatible should be upgraded first to avoid a service outage during the upgrade as shown in [Figure 5-2](#). An example of this are Unified Communications Manager and Unified Expert Advisor, where Unified Communications Manager is backward compatible with Unified Expert Advisor.

You should perform the upgrade for these components across two separate maintenance windows. This type of upgrade is described in the Multistage System and Multisite Migration upgrade approaches in [Chapter 4, “Planning Your System Upgrade.”](#)

Figure 5-2 One New Release Version Is Backward Compatible

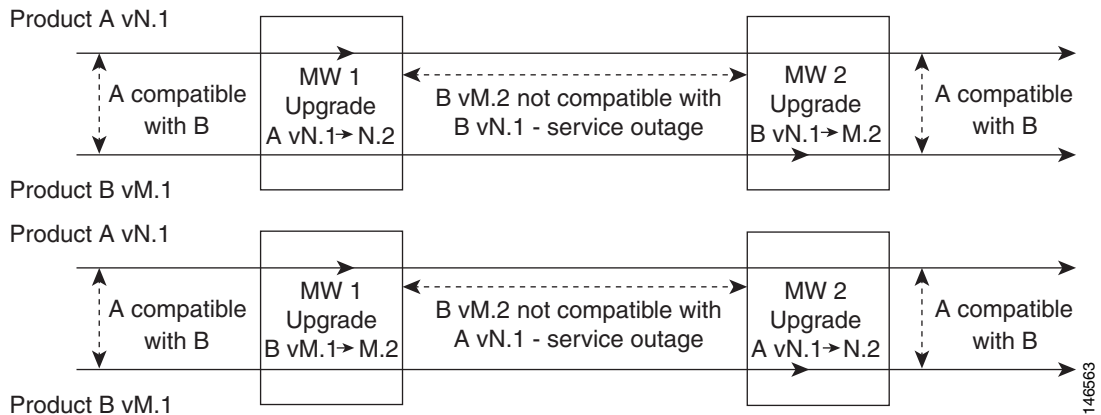
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Neither New Version is Backward Compatible

Neither of the new versions is backward compatible with the previous version of the other component.

A service outage exists from the time the first product is upgraded until the second component has completed its upgrade as shown in [Figure 5-3](#). Unified IP IVR 8.0(2) is not backward compatible with Unified Communications Manager 7.1(2a) and Unified Communications Manager 8.0(2) is not backward compatible with Unified IP IVR 7.0(1) SR3. So both components must be upgraded in the same maintenance window.

Because neither component is backward compatible with the other, both components have to be upgraded in the same maintenance window to avoid service outage. This upgrade is described in the Single-Stage upgrade approach in [Chapter 5, “Preparing for Your System Upgrade.”](#)

Figure 5-3 Neither New Release Version is Backward Compatible

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Upgrade Release Versions

The table in this section lists the component release versions of the base and target release sets and has the following elements:

- Column 1—Contact center components involved in the upgrade process.
- Column 2—Release version of contact center components in the target release set.
- Columns 3 —Release version of contact center components in the base release set.

Release 8.5(1) and Release 8.0(2) Software Release Sets

Table 5-1 lists the software versions for the contact center components in the Cisco Unified Communications System Release 8.5(1) and Release 8.0(2) release sets.


Note

Table cells with “—” indicate products that were not tested, either because of unavailability or because they are not part of the base release sets.

Table 5-1 Contact Center Components in Cisco Unified Communications System Release 8.5(1) and Release 8.0(2) Release Sets

Component	Release 8.5(1)	Release 8.0(2)
Cisco Unified Communications Manager	8.5(1)	8.0(2)
Cisco Unified SIP Proxy	8.5(1)	1.1(4)
Cisco Unified Intelligent Contact Management Enterprise and Cisco Unified Contact Center Enterprise	8.5(1)	8.0(1)
Cisco Unified Intelligent Contact Management Enterprise and Cisco Unified Contact Center Enterprise Operating System	Win2003 SP2/ Win2003 R2 SP2	Win2003 SP2/ Win2003 R2 SP2
Cisco Unified ICME Support Tools	2.4(1)	2.4(1)
Cisco Unified Expert Advisor	—	7.6(1)SR2
Cisco Unified Expert Advisor Operating System	Bundled with Software	Bundled with Software
Cisco Unified Contact Center Express	8.5(1)	8.0(2)
Cisco Unified IP IVR	8.5(1)	8.0(2)
Cisco Unified Contact Center Express/Unified IP IVR Operating System	Bundled with Software	Bundled with Software
Cisco Unified Customer Voice Portal	8.5(1)	8.0(1) ¹
Cisco Unified Customer Voice Portal Operating System	Win2003 SP2/ Win2003 R2 SP2	Win2003 SP2/ Win2003 R2 SP2
Cisco Unified Intelligence Center	8.0(3)	8.0(1)
Cisco Finesse	8.5(1) Lab use only	

Table 5-1 Contact Center Components in Cisco Unified Communications System Release 8.5(1) and Release 8.0(2) Release Sets

Component	Release 8.5(1)	Release 8.0(2)
Cisco MediaSense	8.5(1)	
Cisco SocialMiner	8.5(1)	
Cisco Unified Presence	8.5(1)	8.0(2) ²
Cisco Unified Videoconferencing 3545 MCU	—	—
Cisco Unified Conferencing for TelePresence	—	—
Cisco Unity Connection	8.5(1)	—
Cisco IP Communicator	7.0(5)	—
Cisco Unified Personal Communicator	8.0(1)	7.0(2)
Cisco Unified Video Advantage	2.2(1)	—
Cisco Unified IP Phones 7900 Series (7921G (Wireless), 7940, 7940G, 7960, 7960G, 7962, 7970, and 7970G)	Bundled with Unified Communications Manager.	Bundled with Unified Communications Manager. Firmware 9.0(2), 9.0(2)SR1
Cisco Unified IP Phones 6900 Series (6911, 6921, 6941 6961, and 6945)	Firmware 9.1.1SRI	Firmware 9.0(2)
Cisco Unified IP Phones models 9951 and 9971	Firmware 9.1.1SRI	Firmware 9.0(2)
Cisco Unified IP Phones model 8961	Firmware 9.1.1SRI	Firmware 9.0(2)
Cisco Unified IP Phones models 6945, 8941, 8945	Firmware 9.1.1SRI	
Cisco Unified Communications for RTX	8.5(1)	
Cisco Aironet Access Point 1240AG	—	12.4(21a)JA2
Cisco Catalyst 6500 Series Switch Firewall Services Module	—	—
Cisco Adaptive Security Appliance (5520, 5540, 5580) Services	8.4(1)	8.3
Cisco Adaptive Security Appliance 5500 AIP Security Services Module (IPS)	7.0(2) E3	7.0(2) E3
CiscoWorks Management Center for Cisco Security Agents	6.0(2)	—
Cisco Security Agent for Unified Communications Manager	Bundled with Unified Communications Manager	Bundled with Unified Communications Manager
Cisco Security Agent for Unified IP IVR	Bundled with Unified IP IVR	Bundled with Unified IP IVR
Cisco Security Agent for Unified Contact Center Express	Bundled with Unified Contact Center Express	Bundled with Unified Contact Center Express
Cisco Security Agent for Unified Expert Advisor	Bundled with Unified Expert Advisor	Bundled with Unified Expert Advisor

Table 5-1 Contact Center Components in Cisco Unified Communications System Release 8.5(1) and Release 8.0(2) Release Sets

Component	Release 8.5(1)	Release 8.0(2)
Cisco Security Agent for Unified Intelligent Contact Management Enterprise	6.0(1)	6.0(1)
Cisco Security Agent for Unified Customer Voice Portal	6.0(1)	6.0(1)
Cisco Unified Operations Manager	8.5.1	2.3
Cisco IOS Mainline Release		—
Cisco 3725, 3745 (Unified CVP VXML, voice/data, H.323, SIP, MGCP, IOS-based Transcoders and Conference Bridges, and Cisco Unified Border Element gateways)	—	—
Cisco 3825, 3845 (Unified CVP VXML, voice/data, H.323, SIP, MGCP, IOS-based Transcoders and Conference Bridges, and Cisco Unified Border Element gateways)	15.1(3)T ³	15.1(1)T ³
Cisco AS5400XM (Unified CVP VXML, voice, H.323, SIP and PSTN gateways)	15.1(3)T ³	15.1(1)T ³
Cisco Unified Border Element Enterprise Edition for Cisco ISR Series	15.1(3)T ³	1.3/15.1(1)T ³
Cisco Unified Border Element Enterprise Edition for Cisco ASR 1000 Series	3.2	3.1
Cisco VGD-1T3 Voice Gateway	15.1(3)T ³	15.1(1)T ³
Cisco 3825 MGCP gateway	15.1(3)T ³	15.1(1)T ³
Cisco 3745 gatekeeper	—	—
RSVP Agent (on 38xx platforms)	15.1(3)T ³	15.1(1)T ³
Cisco 7206VXR (core/WAN router)	15.1(3)T ³	15.1(1)T ³
Cisco 831 router	—	—
Cisco 871 router	—	—
Cisco 881 router	15.1(3)T ³	15.1(1)T ³
Cisco Catalyst 3750 (access switch)	12.2(53)SE2	12.2(50)SE3
Cisco Catalyst 6506, 6509 (core switch, Supervisor 2)	8.6(6a)	Cat OS 8.6.3/12.2.(18)SXF9
Cisco Catalyst 6506, 6509 (Supervisor 2)		—
Cisco Catalyst 6506, 6509 (Supervisor 720)		12.2(33)SX1
Cisco CSS 11501 Content Services Switch		WebNS 7.50.3.3
Cisco Communication Media Module		—

1. Unified CVP video feature is supported in Unified CVP Release 8.0(1), however this feature was not tested in the System Test environment. The functionality and interoperability testing of the feature was performed during product testing for this release.
2. Multi-stage upgrade testing was performed with Unified Presence Release 8.0(1) and feature and interoperability testing was performed with Unified Presence 8.0(2).

3. Cisco IOS Release 15.1(3)T and 15.1(1)T are short deployment Standard Maintenance releases ideal for the very latest new features and hardware support from Cisco. Cisco provides 18 months of support for Standard Maintenance releases. Customers requiring longer-term maintenance support should consider upgrading to the next 15 M Extended Maintenance release (when it becomes available), which will incorporate all features and hardware support of previous Standard Maintenance and Extended Maintenance releases. For more information, refer to http://www.cisco.com/en/US/prod/collateral/iosswrel/ps8802/ps10587/ps10591/ps10621/qa_c67_561940.html.