



Upgrade Procedure for Cisco Unified Communications Manager Releases 6.1(2)–9.0(1) to Cisco Business Edition 6000 Release 9.1(x)

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Americas Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

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CONTENTS

CHAPTER 1

Introduction 1

- About the upgrade process 1
- Bridge mode 2

CHAPTER 2

Upgrade preparation checklist 3

- Licensing 3
- Compatibility verification 4
- Virtualization requirements 4
- Software downloads 4
- Configuration and login information 5
- Cluster registration 6
- Security tokens 6
- Test plan 6
- Create a backup 6

CHAPTER 3

Preupgrade procedures 7

- Preupgrade procedures 7

CHAPTER 4

Upgrade process 9

- Upgrade your current release to Release 6.1(4) or Release 7.1(3) 10
- Upgrade to Release 9.1(x) 11
- Restore data to Cisco Business Edition 6000 11

CHAPTER 5

Rollback procedures 13

- Rollback process 13

CHAPTER 6

Related information 15

- Links and references 15



CHAPTER

1

Introduction

This document provides procedures for upgrading from Cisco Unified Communications Manager (Unified Communications Manager) Releases 6.1(2) through 9.0(1) to Cisco Business Edition 6000 Release 9.1(x). You can upgrade to a virtualized deployment from Media Convergence Server (MCS) as well as Unified Computing System (UCS) servers as part of this process.

- [About the upgrade process, page 1](#)
- [Bridge mode, page 2](#)

About the upgrade process

This document is applicable to Unified Communications Manager clusters with the following environment:

- Any of the following Unified Communications Manager releases are installed: 6.1(2) through 9.0(1).
- Unified Communications Manager is installed on Media Convergence Server (MCS) and Unified Computing System (UCS) servers
- No changes are required to the IP addresses or hostnames for the Unified Communications Manager upgrade. If you need to change IP addresses or hostnames, you must do so in a separate maintenance window, prior to the upgrade. For more information, see [Changing the IP Address and Hostname for Cisco Unified Communications Manager, Release 9.1\(1\)](#).

It is not possible to upgrade directly to Cisco Business Edition 6000 Release 9.1(x) from the following Unified Communications Manager releases:

- 6.1(2)
- 6.1(3)
- 7.0(1)
- 7.0(2)
- 7.1(2)

For these releases, you must perform upgrade to an intermediate release before upgrading to Unified Communications Manager Release 9.1(x). Perform the upgrade in three stages:

- 1 Upgrade to Unified Communications Manager Release 6.1(x) or 7.1(x) as an intermediate release.
- 2 Upgrade to Release 9.1(x).
- 3 Restore data to the Cisco Business Edition 6000.

Bridge mode

Some legacy MCS servers support newer releases of Cisco Unified Communications Manager in bridge mode. You can perform a bridge upgrade when the server has not been certified to run the latest release but can be used to migrate from MCS hardware to a virtual environment.

A cluster cannot operate in bridge mode for an extended period of time. When you perform a bridge upgrade, the Unified Communications Manager services will not start and you cannot make configuration changes. Only DRS functionality is supported. You can use a DRS backup to restore the node on a new virtual machine installation.

To determine if your hardware supports bridge upgrades, see [Cisco Unified Communications Manager 9.1 Migration and Upgrade Guide](#).



CHAPTER 2

Upgrade preparation checklist

Review the following information and ensure that you have met all of the requirements for the upgrade to Release 9.1(x) before you begin:

- [Licensing, page 3](#)
- [Compatibility verification, page 4](#)
- [Virtualization requirements, page 4](#)
- [Software downloads, page 4](#)
- [Configuration and login information, page 5](#)
- [Cluster registration, page 6](#)
- [Security tokens, page 6](#)
- [Test plan, page 6](#)
- [Create a backup, page 6](#)

Licensing

This upgrade procedure requires licensing for Cisco Business Edition 6000 Release 9.1(x).

Before you upgrade to Cisco Business Edition 6000 from MCS-based deployments of Cisco Unified Communications Manager, install all previously purchased license files before you begin the upgrade process; otherwise, your unclaimed licenses will not be available to your upgraded Unified Communications Manager. You cannot re-install licenses after the upgrade.

Cisco Business Edition 6000 clusters operate in a full-featured demo mode for 60 days without a license. After 60 days, the clusters continue to operate and route calls, but the functionality to add or remove devices and users is disabled until valid licenses are available on the associated Enterprise License Manager (ELM).

Refer to the license documentation posted at the Upgrade Central for additional information:

<https://communities.cisco.com/community/partner/collaboration/migration/blog/2013/04/15/license-migration>

Refer to the following link for further Cisco Business Edition 6000 licensing information:

[Cisco Business Edition 6000 Version 9.0 Migration Guide](#)

Refer to the following link to obtain the proper licenses:

[Licensing User Interface](#)

Compatibility verification

To determine if the versions of the devices and applications in use in your organization—such as endpoints, gateways, voicemail, presence, or other applications—are supported by Cisco Business Edition 6000, review the following information:

[Cisco Unified Communications System Release Summary Matrix for IP Telephony](#)

[Cisco Unified Communications Manager Software Compatibility Matrix](#)

Cisco recommends that you consider the compatibility of applications such as Attendant console for upgrades.

For third-party applications, review the application catalog at the following link to verify that the application is supported by Cisco Business Edition 6000. If your application is not listed in the catalog, confirm with your vendor that the application is compatible with Cisco Business Edition 6000.

[Developer Network Marketplace Solutions Catalog](#)

Cisco highly recommends that you review the list of open caveats for your intermediate and targeted releases that may impact functionality or integration with other applications. You can find the list of open caveats in the Release Notes at the following location:

[Cisco Unified Communications Manager Release Notes](#)

Virtualization requirements

You must design your Unified Computing Servers (UCS) system for virtualization. Most deployments require high availability and therefore you need to plan for the type and number of UCS servers. In addition, you must plan for storage, server connectivity, and the ESXi version. You can find details about designing a virtualized environment at the following link:

[Before You Buy or Deploy—Considerations for Design and Procurement](#)

UCS servers do not support external music-on-hold (MOH) sources; consider the impact on similar services when using the virtualized Unified Communications Manager cluster on UCS servers.

Additionally, Cisco recommends that you review the documentation on virtualization support for Unified Communications Manager Release 8.0(2) and higher in the following locations:

[Unified Communications in a Virtualized Environment](#)

[Unified Communications VMware Requirements](#)

In addition to Cisco Unified Communications (UC) applications sold with Cisco Business Edition 6000, Cisco now supports the installation of a broader range of Cisco and third-party virtualized applications on the Cisco Business Edition 6000 server. For information about requirements and supported applications see:

[Cisco Business Edition 6000 Co-residency Policy Requirements](#)

Software downloads

To prepare for the upgrade, download all of the software listed in the following table:

Software	Download location
Cisco Unified Communications Manager Release 6.x upgrade image or Release 7.x upgrade image, depending on the version that you are using as an intermediate release during the upgrade process	http://software.cisco.com/download/navigator.html?mdfid=268439621&flowid=37562
Cisco Unified Communications Manager Release 9.1(x) upgrade image	
Phone firmware for Unified Communications Manager Release 9.1(x)	
Refresh Upgrade COP file for upgrading from your current release to Communications Manager Release 9.1(x)	
Cisco Unified Communications Manager Recovery software for your current Unified Communications Manager release	
Bootable version of Communications Manager Release 9.1(x) from which to create the virtualized Unified Communications Manager nodes	http://tools.cisco.com/gct/Upgrade/jsp/index.jsp
Cisco Business Edition 6000 components—Release 9.x installation images	http://software.cisco.com/download/navigator.html?mdfid=268439621&flowid=37562

Configuration and login information

Record the current configuration and login information for your Unified Communications Manager nodes in case any issues are encountered during the upgrade process. Before you gather the configuration information, review the Unified Communications Manager Real-Time Monitoring Tool (RTMT) and syslogs and address any errors.

You need to record the following information:

- IP addresses, hostnames, gateways, domain names, DNS servers, NTP servers, and SMTP information
- administrator, cluster security, and Certificate Trust List (CTL) security token passwords
- server versions and time zones
- all services running on each server and the associated activation status
- Call Detail Record server configuration and any additional information
- LDAP information and access details
- SNMP information

In addition, you must determine the registration counts by using the RTMT or the Unified Communications Manager device count summary. For each node, record the number of each device type that is displayed. For example, record the number of each type of registered IP phone, gateway, and each FXS, FXO, T1CAS, PRI, MOH, MTP, CFB, or XCODE device resource.

Cluster registration

This document assumes that the Unified Communications Manager cluster will have a publisher node and a TFTP node that will not have any registrations of IP phones or devices. All registrations will be to the primary Unified Communications Manager subscriber nodes in the cluster. The backup Communications Manager subscriber nodes will be used for full registration redundancy.

**Note**

In a two node cluster deployment, the publisher node can also be the TFTP server and the backup subscriber.

Security tokens

If your cluster is a mixed-mode cluster, locate your existing security certificate tokens and record the token password.

To verify if you are running a secure cluster, use the steps in the [Cisco Unified Communications Manager Security Guide](#) for your current release.

Test plan

Create a test plan that you can execute prior to the upgrade and again directly afterwards. Your plan can include a set of tests that cover different use cases. Run the same tests before and after the upgrade. This approach provides a way to verify the expected functionality of Unified Communications Manager prior to and after the upgrade.

Create a backup

Cisco strongly recommends that you perform a Disaster Recovery System (DRS) backup up of your entire cluster before each upgrade. Upgrading without a current backup can result in lost data, lost node configuration, or disruption to services if there are complications during the upgrade process. For more information, see the [Disaster Recovery System Administration Guide](#).



Preupgrade procedures

This section provides the following information:

- [Preupgrade procedures, page 7](#)

Preupgrade procedures

Cisco recommends that you perform all upgrade and migration tasks during a maintenance window.

Procedure

- Step 1** To shorten the upgrade time, delete or purge Call Detail Records (CDRs) or log files that you no longer need.
- Step 2** If you are a partner, Cisco recommends that you contact the PDI help desk during the upgrade planning phase. The PDI team can review the upgrade plan, provide necessary support, and file a proactive TAC case on your behalf. To contact the PDI team, see <http://www.cisco.com/go/pdihelpdesk>. If you choose to contact TAC directly, you must provide the following information for a proactive TAC case:
- complete output from the Unified Communications Manager upgrade readiness application (web or iPad version)
 - information about contact persons and the maintenance window
 - the upgrade plan

For more information, see <http://tools.cisco.com/ServiceRequestTool/create/launch.do>.

- Step 3** Extend the database replication timeout value so that subscriber servers have sufficient time to request replication. For more information, see the *Pre-Upgrade Tasks* section in the [Upgrade Guide for Cisco Unified Communications Manager, Release 9.1\(1\)](#).
- Step 4** Ensure that the device name for Cisco Unified Mobile Communicator devices contains a maximum of 15 characters. For more information, see the [Command Line Interface Guide for Cisco Unified Communications Solutions](#).
- Step 5** Apply phone firmware that corresponds to Unified Communications Manager Release 9.1(2). The phones download their new firmware after an upgrade. However, you can apply new firmware files to the endpoints in a controlled manner prior to the upgrade to minimize phone downtime after an upgrade.

Applying new firmware to phones in groups eliminates the load on the TFTP server after the upgrade and accelerates the upgrade of the individual devices. Afterwards, restart the TFTP service on the Unified Communications Manager servers, and restart the IP Phones in a controlled order to minimize downtime. Because the phones cannot be used for calls when their firmware is being upgraded, Cisco recommends that you use a maintenance window outside of your Unified Communications Manager upgrade window to upgrade phone firmware.

Note You may need to upgrade some phones to an interim firmware release before you upgrade to the phone firmware corresponding to Release 9.1(2). Please refer to the Release Notes for additional information.

The [Cisco Unified Communications System Release Summary Matrix for IP Telephony](#) summarizes the phone firmware version recommended with all Cisco Unified Communications Manager releases.



Upgrade process

You cannot upgrade directly to Business Edition 6000 Release 9.1(x) from the following Unified Communications Manager releases:

- 6.1(2)
- 6.1(3)
- 7.0(1)
- 7.0(2)
- 7.1(2)

For these releases, you must perform upgrade to an intermediate release of Unified Communications Manager before upgrading to Business Edition 6000 Release 9.1(x). Upgrade to the intermediate release listed in the table below:

Current release	Upgrade to . . .
6.1(2)	6.1(4)
6.1(3)	6.1(4)
7.0(1)	Upgrade to 7.0(2), then 7.1(3) (This is a multiple upgrade.)
7.0(2)	7.1(3)
7.1(2)	7.1(3)

Use the following procedures to complete the upgrade process:

- [Upgrade your current release to Release 6.1\(4\) or Release 7.1\(3\), page 10](#)
- [Upgrade to Release 9.1\(x\), page 11](#)
- [Restore data to Cisco Business Edition 6000, page 11](#)

Upgrade your current release to Release 6.1(4) or Release 7.1(3)

Use the following procedure to upgrade to Unified Communications Manager Releases 6.1(4) or 7.1(3) from any of the following releases :

- Release 6.1(2)
- Release 6.1(3)
- Release 7.0(1)
- Release 7.0(2)
- Release 7.1(2)

Before You Begin

Before you begin, ensure that you have completed the [Preupgrade procedures](#), on page 7.

Procedure

-
- Step 1** Stop all configuration tasks. Do not perform any configuration tasks during the upgrade.
 - Step 2** Disable extension mobility for the cluster.
 - Step 3** Perform a DRS backup of your current cluster.
 - Step 4** Upgrade the publisher node to Unified Communications Manager from the current release to the target release and choose **No** for automatic reboot.
 - Step 5** Upgrade the dedicated TFTP node, followed by the backup subscriber nodes and the primary subscriber nodes in the cluster. During these upgrades, choose **No** for automatic reboot.
 - Step 6** Switch the publisher node to the upgraded partition.
 - Step 7** Install the phone firmware that corresponds to the Unified Communications Manager Release 9.1(x). If your publisher node is also the TFTP server, restart the TFTP service.
 - Step 8** Switch the dedicated TFTP nodes and the backup subscribers to the upgraded partition.
 - Step 9** Install the phone firmware that corresponds to the Unified Communications Manager Release 9.1(x) and restart the TFTP service on the dedicated TFTP servers.
 - Step 10** Verify that the database replication for the cluster completed without errors. Use the Cisco Unified Reporting or Cisco Real Time Monitoring Tool (RTMT); for more information, see the [Upgrade Tasks](#) section of the [Upgrade Guide for Cisco Unified Communications Manager, Release 9.1\(1\)](#)
 - Step 11** Configure the phones and devices in the cluster to use the backup subscriber nodes for registration by changing the order in the Unified Communications Manager group.
 - Step 12** Switch all of the primary subscriber nodes to the upgraded partition.
 - Step 13** Verify that the primary subscriber nodes are upgraded and that database replication completed with no errors.
 - Step 14** Configure the phones and devices in the cluster to use the primary subscriber nodes for registration by changing the order in the Unified Communications Manager group. Reset the devices using the device pool in an ordered manner, or restart the Unified Communications Manager service on all backup subscriber nodes to allow devices to register with the primary subscriber nodes simultaneously.
 - Step 15** Perform a Disaster Recovery System (DRS) backup up of your entire cluster now that it is upgraded.
-

What to Do Next

Perform the procedure to [Upgrade to Release 9.1\(x\)](#), on page 11.

Upgrade to Release 9.1(x)

Use the following procedure to upgrade to Release 9.1(x) from Release 6.1(4) through 8.5(1).

The upgrade from Release 6.1(4) through Release 8.5(1) is a refresh upgrade. A refresh upgrade is required in situations where incompatibilities exist between the old and new software releases. Refresh upgrades require the node to reboot early in the upgrade process, and also require the node to be offline while the new software is installed. When you perform a refresh upgrade, plan your downtime accordingly. The node is offline much longer than in a standard upgrade. A typical refresh upgrade takes between 1 and 4 hours per server, depending on the size of the database.

Procedure

-
- Step 1** Stop all configuration tasks. Do not perform any configuration tasks during the upgrade.
 - Step 2** Install the refresh upgrade COP files on all nodes.
 - Step 3** Upgrade the publisher node from the current release to Release 9.1(x); choose **run new version** at the completion of the upgrade. For more information, see the *Upgrade Tasks* section in the [Upgrade Guide for Cisco Unified Communications Manager Release 9.1\(1\)](#)
 - Step 4** When the publisher node upgrade is complete, upgrade the dedicated TFTP nodes, followed by the subscriber nodes. Choose **run new version** at the completion of the upgrade. For more information, see the *Upgrade Tasks* section in the [Upgrade Guide for Cisco Unified Communications Manager Release 9.1\(1\)](#)
 - Step 5** Verify that the database replication for the cluster completed without errors. Use the Cisco Unified Reporting or Cisco Real Time Monitoring Tool (RTMT); for more information, see the *Upgrade Tasks* section of the [Upgrade Guide for Cisco Unified Communications Manager, Release 9.1\(1\)](#).
-

What to Do Next

Perform the procedure to [Restore data to Cisco Business Edition 6000](#), on page 11.

Restore data to Cisco Business Edition 6000

Use the following procedure to restore data to an installed Cisco Business Edition 6000.

Procedure

- Step 1** Stop all configuration tasks on the upgraded Cisco Unified Communications Manager 9.1(x). Do not perform any configuration tasks during the upgrade.
 - Step 2** Perform a DRS backup of your entire cluster on the MCS servers.
 - Step 3** Configure the Cisco Business Edition 6000 with the same IP address, hostname and other credentials as the Unified Communications Manager Release 9.1(x).
 - Step 4** Restore the Unified Communications Manager data on the Cisco Business Edition 6000.
 - Step 5** Verify that database replication is complete between the virtualized publisher node, the virtualized TFTP nodes, and the virtualized subscriber nodes that are running on UCS servers.
 - Step 6** If you have a secure cluster, update the CTL files. For more information, see the *Update CTL File* section in [Cisco Unified Communications Manager Security Guide, Release 9.0\(1\)](#).
 - Step 7** If you changed any database replication timeout values as recommended in the pre-upgrade procedure, restore the timeout to the default value.
 - Step 8** Enable extension mobility for the cluster.
 - Step 9** Migrate your current licenses to the Release 9.1(x) license. You have 60 days to complete this licensing step. For information about obtaining 9.1(x) licenses, see <https://tools.cisco.com/SWIFT/LicensingUI/Home>.
 - Step 10** Run your post-upgrade test plan.
Once your test plan is executed successfully, your upgrade is complete.
-

What to Do Next

Perform the procedure to migrate voicemail; see [Upgrade Guide for Unity Connection Release 9.x](#).



Rollback procedures

- [Rollback process, page 13](#)

Rollback process

If you encounter an issue during your upgrade and need to rollback to the pre-upgrade version, see [Upgrade Guide for Cisco Unified Communications Manager, Release 9.1\(1\)](#).

If you are reverting your cluster to a release prior to 8.0(x), review the following documents, which explain important security-related changes:

[Migrating IP Phones Between Clusters with CUCM 8 and ITL Files](#)

[Rolling Back the Cluster to a Pre-8.0 Release](#)

When the rollback is completed, execute your test plan again to make sure all services and features are functioning as expected.



Related information

- [Links and references, page 15](#)

Links and references

[Cisco Business Edition 6000 Overview](#)

[Cisco Business Edition 6000 Migration Guide](#)

[Cisco Midmarket Collaboration Migration Program](#)

[Cisco MCS data sheets](#)

[Cisco License Count Utility](#)

[Troubleshooting and Performance Monitoring Virtualized Environments](#)

[Unified Communications Virtualization Sizing Guidelines](#)

[Unified Communications Sizing Tool](#)

