Upgrade Guide
for Cisco Unified ICM/Contact Center Enterprise & Hosted
Release 8.0(1a)

March 2012
# Table of Contents

Preface ................................................................................................................................. 1

Purpose ................................................................................................................................. 1

Audience ............................................................................................................................... 2

Organization ........................................................................................................................... 3

Related Documentation......................................................................................................... 6

Product Naming Conventions............................................................................................... 7

Conventions........................................................................................................................... 8

Obtaining Documentation and Submitting a Service Request.................................................. 9

Documentation Feedback..................................................................................................... 9

## Part 1. Pre-upgrade Preparation......................................................................................... 11

1. Unified ICM/Contact Center Upgrade Planning................................................................. 13

   Upgrade Planning............................................................................................................... 13

   Hardware Requirements.................................................................................................... 14

   Perform System Integrity Tests....................................................................................... 14

   Network Inventory.......................................................................................................... 15

   Data Backup Plan............................................................................................................ 15

   Network Configuration Backup...................................................................................... 16

   Default Routing Plan...................................................................................................... 17

   Test Plan........................................................................................................................... 17

   Schedule of Activities..................................................................................................... 17

   Definition of Upgrade Steps........................................................................................... 18

   Post-upgrade Test Definition.......................................................................................... 18

   Stakeholder Notification................................................................................................. 19

   Related Documents......................................................................................................... 19

## Part 2. Unified ICM/Contact Center Software Upgrade.................................................. 21

2. Getting to the Baseline..................................................................................................... 23

   Baseline Requirements.................................................................................................... 23

3. Common Ground Upgrades vs. Technology Refresh Upgrades.......................................... 27

   Unified ICM/Contact Center Upgrade Methods................................................................ 27

4. Introduction to Unified ICM/Contact Center Upgrade....................................................... 29

   Unified ICM/Contact Center Upgrade Overview............................................................... 29

   High Level Upgrade Overview......................................................................................... 30

5. Unified ICM/Contact Center 8.0(1) Upgrade Time and Space Requirements....................... 33

   Introduction....................................................................................................................... 33

   Database Migration Performance..................................................................................... 34

   Prerequisites...................................................................................................................... 34

   Calculate Necessary File Size......................................................................................... 34

   How to calculate the required disk space for the migration.............................................. 34

   Tempdb Size..................................................................................................................... 34

   Upgrade Paths.................................................................................................................... 35

   Time Guidelines and Migration Performance Values.......................................................... 35

   Typical Database Migration Performance Values............................................................. 35

   Backup, Network Copy, and Restore – Technology Refresh Only......................................... 36

   Run Timings, Technology Refresh and Common Ground.................................................... 36

   Performance Considerations............................................................................................. 36
Migration Type Panel Properties.................................................................67
Database Connection Dialog ........................................................................68
Source Database Connection Panel Properties ..............................................68
Destination Database Connection Panel Properties .....................................68
Backup/Restore Dialog ..................................................................................69
Backup Connection Panel Properties ..........................................................69
Destination Restore Location Panel Properties ..........................................70
Migration Control Dialog ............................................................................70
Migration Control Dialog Properties ..........................................................70
How to start the data migration process .......................................................72
How to terminate the in-progress data migration .......................................73

8. Upgrade Procedures..................................................................................75
Technology Refresh Upgrade Examples .......................................................75
Exporting the Registry in a Technology Refresh Upgrade............................79
Technology Refresh Example 1: Production HDS/Administration & Data Server Upgraded in Parallel with the Central Controller.................................80
Technology Refresh Example 2: Production HDS/Administration & Data Server Upgraded Before the Central Controller Upgrade Maintenance Window.................................................................83
Common Ground Upgrade Examples ..........................................................86
Common Ground Upgrade Example 1: Production HDS/Administration & Data Server Upgraded in Parallel with Central Controller.................................86
Common Ground Upgrade Example 2: Production HDS/Administration & Data Server Upgraded Before the Central Controller Upgrade Maintenance Window.................................................................90
Unified ICM/Contact Center Component Upgrade Process.......................93
Silent Installation/Upgrade............................................................................93

9. Administration & Data Server (Formerly AW) Upgrade Procedures..........95
Introduction ..................................................................................................95
Partitioning .................................................................................................96
Administration & Data Server-HDS/WebView Server Pre-upgrade Preparation .................................................................97
How to reduce the number of HDSs............................................................98
Administration & Data Server-HDS Technology Refresh Upgrade .............100
How to Change the Domain ........................................................................103
Administration & Data Server-HDS Common Ground Upgrade................103
Setting Up a Temporary Unified ICM/Contact Center Administration & Data Server-HDS.................................................................104
Setting Up a Temporary Administration & Data Server-HDS for a Unified ICM/Contact Center 7.1(x), 7.2(x), or 7.5(x) System.................................................................104
Setting Up a Temporary Administration & Data Server-HDS for a Unified ICM/Contact Center 8.0(1) System.................................................................105
Non-HDS Administration & Data Server Technology Refresh Upgrades........105
Non-HDS Administration & Data Server Common Ground Upgrades..........106
Administration Client systems Common Ground Upgrade........................107

10. Logger Upgrade Procedures.................................................................109
Logger Pre-upgrade Preparation ................................................................109
Preparing the Logger for recovery in the event of a catastrophic upgrade failure.................................................................109
Logger Technology Refresh Upgrade: Side A/B...........................................109
Logger Common Ground Upgrade: Side A/B..............................................111

11. CallRouter Upgrade Procedures..........................................................113
CallRouter Pre-upgrade Preparation ...........................................................113
CallRouter Technology Refresh Upgrade: Side A/B....................................113
CallRouter Common Ground Upgrade: Side A..................................................................................114
How to Bring Side A into Service..........................................................................................115
CallRouter Common Ground Upgrade: Side B........................................................................117
Verify the basic operation of the Side B CallRouter and Side B Logger.................................117

12. Peripheral Gateway (PG) Upgrade Procedures.....................................................................121
   PG Pre-upgrade Preparation...............................................................................................121
   Upgrading PGs..................................................................................................................121
   PG Technology Refresh Upgrade......................................................................................122
   How to Install the Cisco JTAPI Client on the Generic IPCC PG........................................123
   PG Common Ground Upgrade.........................................................................................124
   Upgrading Outbound Option Dialers................................................................................125
   Outbound Option Dialer Technology Refresh Upgrade....................................................125
   Outbound Option Dialer Common Ground Upgrade.........................................................126

13. Network Gateway Upgrade Procedures..............................................................................127
   Gateway Technology Refresh Upgrade...............................................................................127
   Gateway Common Ground Upgrade..................................................................................128

14. Upgrading a Localized Unified ICM/Contact Center System................................................129
   Upgrading from Unified ICM/Contact Center 7.1(x), 7.2(x), or 7.5(x)...............................129

15. CTI OS Agent and Supervisor Desktop Upgrade Procedures...............................................131
   CTI OS Agent and Supervisor Desktop Technology Refresh Upgrade............................131
   CTI OS Agent and Supervisor Desktop Common Ground Upgrade....................................131

16. Cisco Agent Desktop (CAD) Upgrade Procedures.................................................................133

17. Migrating from Unified SCCE 7.x to Unified CCE Release 8.0(1).........................................135
   Notes on Migration............................................................................................................135
   Migration Procedure..........................................................................................................135

18. Database Tasks......................................................................................................................137
   How to set the Logger or HDS database data file size for maximum growth using SQL Server Management Studio..................................................................................137
   How to backup the Logger or the HDS database using SQL Server Management Studio.....138
   How to restore the Logger or the HDS database using SQL Server Management Studio.....138
   How to Determine the Size of an ICM Database...............................................................139
      Using ICMDBA..............................................................................................................139
      Using SQL Server Management Studio........................................................................139
   How to Set the tempdb Database Size.............................................................................140
      For Data Migration.......................................................................................................140
      For Production Systems...............................................................................................140

19. Upgrade Checklists...............................................................................................................143
   Technology Refresh Upgrade Checklists............................................................................143
   Common Ground Upgrade Checklists...............................................................................149

Part 3. Post-upgrade Testing......................................................................................................155

20. Post-Upgrade Testing............................................................................................................157
   Develop a Test Plan.............................................................................................................157
      Application test..............................................................................................................157
      System Integrity Tests..................................................................................................157
      Process Testing............................................................................................................157
      Redundancy Testing......................................................................................................158
Historical Reporting Testing.................................................................158
WebView Reporting Testing (Optional).............................................158
Internet Script Editor Testing (Optional)...........................................158
Set All ICM Services to Automatic Start.........................................158
Notify Stakeholders.........................................................................159
Run Post-upgrade Tests...................................................................159
Validate Scripts..............................................................................159

Index ..................................................................................................161
## List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Upgrading a Complex, Multi-media, ICM/IPCC System</td>
<td>30</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Instance Name</td>
<td>49</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Existing Components Dialog</td>
<td>50</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Technology Refresh 8.0(x), 8.5(1) to 8.5(2)</td>
<td>77</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Technology Refresh 7.5(x) to 8.5(2) on Same Hardware</td>
<td>78</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Technology Refresh 7.5(x) to 8.5(2) on New Hardware</td>
<td>79</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Original Configuration</td>
<td>98</td>
</tr>
<tr>
<td>Figure 8</td>
<td>Select HDSs to Keep</td>
<td>99</td>
</tr>
<tr>
<td>Figure 9</td>
<td>Detach Remaining HDSs</td>
<td>99</td>
</tr>
<tr>
<td>Figure 10</td>
<td>Remove WebView Servers</td>
<td>99</td>
</tr>
<tr>
<td>Figure 11</td>
<td>Install and Point WebView Servers</td>
<td>100</td>
</tr>
</tbody>
</table>
Preface

Purpose

This document describes the procedure for upgrading a Cisco Unified Intelligent Contact Management Enterprise (Unified ICME), Cisco Unified Intelligent Contact Management Hosted (Unified ICMH), Cisco Unified Contact Center Enterprise (Unified CCE), or Cisco Unified Contact Center Hosted (Unified CCH) Release 7.1(x), 7.2(x), or 7.5(x) system to a Unified CCE, Release 8.0(1) system.

Release 8.0(1a) is an update of Release 8.0(1) that includes installation support for Windows Server 2008 R2 (which is an optional implementation with release 8.5(2) or later Maintenance Releases). Release 8.0(1a) supersedes and replaces the previous Release 8.0(1) install media. There are no additional capability or feature changes in Release 8.0(1a) for systems running Windows Server 2003.

Documentation for Release 8.0(1a) has been updated to include Windows Server 2008 R2 installation and configuration support. However, the documentation and application screens refer to the release as “Release 8.0(1)”. The remainder of this document also refers to release 8.0(1a) as Release 8.0(1).

Note: Upgrading a 7.0(x) release to a 8.0(1) release is supported for systems hosting Peripheral Gateway(s) only.

This document further addresses the acceptable component release compatibilities as well as their operating system and database server releases. A baseline for start of upgrade to Cisco Unified CCE 8.0(1) is defined in this document and further addresses the acceptable component version compatibilities that are allowed during and after the upgrade process is complete.

Note: The term Unified ICM/Contact Center is used in this guide to encompass the names of the four products--Unified ICME, Unified ICMH, Unified CCE, and Unified CCH.
Audience

This document is intended for both Customer and Cisco representatives (trained in Cisco Unified ICM/Contact Center system administration and troubleshooting) performing a system upgrade.

This document assumes that as a member of the Upgrade Team you meet the following skill set requirements:

• Familiar with:
  – Windows Operating System
  – Active Directory
  – Security concepts
  – Network configuration and operation

• Familiar with SQL Server:
  – SQL Server Configuration Manager
  – SQL Server Management Studio
  – SQL scripting

• Unified ICM/Contact Center:
  – Unified ICM/Contact Center Nodes (CallRouter, Logger, Administration & Data Server, PGs)
  – HDS Schema knowledge
  – Deployment models (including WebView)

  **Note:** WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2. [Cisco Unified Intelligence Center](http://www.cisco.com/en/US/products/sw/custcosw/ps9755/index.html) is supported for reporting if you are not using WebView.

# Organization

<table>
<thead>
<tr>
<th>Part</th>
<th>Chapter</th>
<th>Description</th>
</tr>
</thead>
</table>
| Part 1: Pre-upgrade Preparation | Chapter 1: Unified ICM/Contact Center Upgrade Planning (page 13) | Provides planning information to upgrade your Unified ICM/Contact Center system. This includes the following topics:  
  - the hardware requirements  
  - pre-upgrade testing  
  - the data backup plan  
  - pre-upgrade Unified ICME server preparation  
  - network configuration backup  
  - the default routing plan  
  - the test plan  
  - a definition of upgrade steps  
  - post-upgrade test definition  
  - stakeholder notification  
  - related documents |
| Part 2: Unified ICM/Contact Center Software Upgrade | Chapter 2: Getting to the Baseline (page 23) | Discusses the baseline prerequisites to upgrade your Unified ICM/Contact Center system.  
  - Chapter 3: Common Ground Upgrades vs. Technology Refresh Upgrades (page 27) | Describes the two upgrade methods and the options available for each.  
  - Chapter 4: Introduction to Unified ICM/Contact Center Upgrade (page 29) | Provides a high-level overview of the Unified ICM/Contact Center upgrade process.  
  - Chapter 5: Unified ICM/Contact Center 8.0(1) Upgrade Time and Space Requirements (page 33) | Discusses the time and space requirements necessary to upgrade the various Unified ICM/Contact Center components. This includes a discussion of database migration performance; and provides time guidelines and migration performance values. |
<table>
<thead>
<tr>
<th>Part</th>
<th>Chapter</th>
<th>Description</th>
</tr>
</thead>
</table>
|      | Chapter 6: Setting Up the Hardware (page 39) | Provides the information necessary to set up your hardware before an upgrade. The topics include:  
  • the hardware prerequisites for both a technology refresh and a Common Ground upgrade  
  • how to set up the hardware  
  • installing Microsoft Windows 2003  
  • upgrading from Windows 2000 to Windows Server 2003  
  • Windows 2003 hardware compatibility  
  • Active Directory considerations for Common Ground upgrades  
  • Internet Information Services (IIS) 6.0 considerations for Common Ground upgrades  
  • Operating system upgrade considerations for WebView  
  Note: WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.  
  • Support Tools considerations for upgrades  
  • Active Directory and DNS considerations for upgrades  
  • Verifying system conditions using EDMT |
<p>|      | Chapter 7: Enhanced Database Migration Tool (EDMT) for Unified ICM/Contact Center 8.0(1) (page 61) | Describes the Enhanced Database Migration Tool (EDMT) and how to use the tool to migrate the Logger and HDS database schemas to the Unified ICM/Contact Center 8.0(1) database schema. |</p>
<table>
<thead>
<tr>
<th>Part</th>
<th>Chapter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chapter 8: Upgrade Procedures (page 75)</td>
<td>Provides multiple upgrade examples and the procedures for each. It also provides high-level information concerning the Unified ICM/Contact Center component upgrade process.</td>
</tr>
</tbody>
</table>
|      | Chapter 9: Administration & Data Server Upgrade Procedures (page 95) | Provides the specific steps necessary to upgrade an Administration & Data Server for the following deployment types:  
- Administration & Data Server with HDS and WebView Server (primary and secondary)  
  **Note:** WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.  
- Administration & Data Server with HDS without WebView Server (WebView Servers on dedicated hardware)  
- Administration & Data Server without HDS  
- Administration Client systems |
<p>|      | Chapter 10: Logger Upgrade Procedures (page 109) | Provides the specific steps necessary to upgrade the logger. |
|      | Chapter 11: CallRouter Upgrade Procedures (page 113) | Provides the specific steps necessary to upgrade the CallRouter |
|      | Chapter 12: Peripheral Gateway (PG) Upgrade Procedures (page 121) | Provides the specific steps necessary to upgrade a PG. |
|      | Chapter 13: Network Gateway Upgrade Procedures (page 127) | Provides the specific steps necessary to upgrade the network gateway. |
|      | Chapter 14: Upgrading a Localized Unified ICM/Contact Center System (page 129) | Provides localization considerations when upgrading your Unified ICM/Contact Center system. |
|      | Chapter 15: CTI OS Agent and Supervisor Desktop Upgrade Procedures (page 131) | Provides the specific steps necessary to upgrade the CTI OS Agent and Supervisor Desktops. |
|      | Chapter 16: Cisco Agent Desktop (CAD) Upgrade Procedures (page 133) | Provides the specific steps necessary to upgrade Cisco Agent Desktop (CAD). |</p>
<table>
<thead>
<tr>
<th>Part</th>
<th>Chapter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chapter 17: Migrating from Unified SCCE 7.x to Unified CCE Release 8.0(1) (page 135)</td>
<td>Provides directions for migrating from Unified SCCE 7.x to Unified CCE Release 8.0(1)</td>
</tr>
<tr>
<td></td>
<td>Chapter 18: Database Tasks (page 137)</td>
<td>Provides the specific steps necessary to perform the following database tasks:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How to create a Unified ICM database for the Technology Refresh Restore Process</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How to set the Logger or HDS database data file size for maximum growth using SQL Server Management Studio</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How to determine the size of a Unified ICM Database</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How to set the tempdb database size</td>
</tr>
<tr>
<td>Part 3: Post-upgrade Testing</td>
<td>Chapter 19: Upgrade Checklists (page 143)</td>
<td>Provides upgrade checklists for Technology Refresh (TR) and Common Ground (CG) upgrades.</td>
</tr>
<tr>
<td></td>
<td>Chapter 20: Post-Upgrade Testing (page 157)</td>
<td>Discusses post-upgrade test plan development. This includes application, system integrity, process, redundancy, alarm, historical reporting, WebView reporting, and Internet Script Editor testing. Additionally, this chapter discusses how to set the Unified ICM services to automatically start, how to run post-upgrade tests, and how to validate scripts.</td>
</tr>
</tbody>
</table>

**Related Documentation**

Documentation for Cisco Unified ICM/Contact Center Enterprise & Hosted, as well as related documentation, is accessible from Cisco.com at: [http://www.cisco.com/cisco/web/psa/default.html](http://www.cisco.com/cisco/web/psa/default.html).

Related documentation includes the documentation sets for Cisco CTI Object Server (CTI OS), Cisco Agent Desktop (CAD), Cisco Agent Desktop Browser Edition (CAD-BE), Cisco Unified Contact Center Management Portal, Cisco Unified Customer Voice Portal (CVP), Cisco Unified IP IVR, Cisco Unified Intelligence Center. The following list provides more information.
Product Naming Conventions

In this release, the product names listed in the table below have changed. The New Name (long version) is reserved for the first instance of that product name and in all headings. The New Name (short version) is used for subsequent instances of the product name.

**Note:** This document uses the naming conventions provided in each GUI, which means that in some cases the old product name is in use.

<table>
<thead>
<tr>
<th>Old Product Name</th>
<th>New Name (long version)</th>
<th>New Name (short version)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco IPCC Enterprise Edition</td>
<td>Cisco Unified Contact Center Enterprise</td>
<td>Unified CCE</td>
</tr>
<tr>
<td>Cisco System IPCC Enterprise Edition</td>
<td>Cisco Unified System Contact Center Enterprise</td>
<td>Unified SCCE</td>
</tr>
<tr>
<td>Cisco IPCC Hosted Edition</td>
<td>Cisco Unified Contact Center Hosted</td>
<td>Unified CCH</td>
</tr>
<tr>
<td>Cisco Intelligent Contact Management (ICM) Enterprise Edition</td>
<td>Cisco Unified Intelligent Contact Management Enterprise</td>
<td>Unified ICME</td>
</tr>
<tr>
<td>Cisco Intelligent Contact Management (ICM) Hosted Edition</td>
<td>Cisco Unified Intelligent Contact Management Hosted</td>
<td>Unified ICMH</td>
</tr>
</tbody>
</table>
### Conventions

This manual uses the following conventions:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Description</th>
</tr>
</thead>
</table>
| **boldface** font | Boldface font is used to indicate commands, such as user entries, keys, buttons, and folder and submenu names. For example:  
  - Choose **Edit > Find**.  
  - Click **Finish**. |
| **italic** font | Italic font is used to indicate the following:  
  - To introduce a new term; for example: A *skill group* is a collection of agents who share similar skills  
  - For emphasis; for example: *Do not* use the numerical naming convention  
  - A syntax value that the user must replace; for example: IF *(condition, true-value, false-value)*  
  - A book title; for example: Refer to the *Cisco CRS Installation Guide* |
| **window font** | Window font, such as Courier, is used for the following:  
  - Text as it appears in code or that the window displays; for example: `<html><title>Cisco Systems, Inc. </title></html>`  
  - Navigational text when selecting menu options; for example: *ICM Configuration Manager > Tools> Explorer Tools > Agent Explorer* |
| `< >`          | Angle brackets are used to indicate the following:  
  - For arguments where the context does not allow italic, such as ASCII output  
  - A character string that the user enters but that does not appear on the window such as a password |
Obtaining Documentation and Submitting a Service Request

For information about obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:


Subscribe to *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

Documentation Feedback

You can provide comments about this document by sending an email message to the following address:

ccbu_docfeedback@cisco.com (mailto:ccbu_docfeedback@cisco.com)

We appreciate your comments.
Part 1: Pre-upgrade Preparation
Unified ICM/Contact Center Upgrade Planning

This chapter provides helpful planning information before you begin a Unified ICM/Contact Center upgrade.

Note: You cannot run the ICM/CCE/CCH Installer remotely. You must either install the installer from a local DVD drive, or copy the installer to the local machine.

Upgrade Planning

When planning to upgrade your Unified ICM/Contact Center system, you must prepare for the following:

• Pre-upgrade testing
• Network inventory
• Data backup plan
• Network configuration backup
• Default routing plan
• Test plan
• Detailed schedule of upgrade activities
• Definition of upgrade steps
• Post-upgrade test definition
• Stakeholder notification
It is necessary to consider the additional software that interfaces with Unified ICM when planning your Unified ICM/Contact Center upgrade.

Examples of the additional software include:

- Unified CCE including Unified CM and Unified IP IVR or Unified CVP
- CTI desktop/client
- Unity
- Personal Assistant
- Auto Attendant
- Recording solutions

Hardware Requirements

The Unified ICM/Contact Center system hardware, such as hard drive(s) and memory, must meet certain requirements to run a Unified ICM/Contact Center software release.

Hardware specifications play a critical part in the successful operation of a Unified ICM/Contact Center system. Audit all servers before the upgrade to determine if a hardware upgrade is required.

Review the Unified ICM 8.0(1) hardware and software specifications. The minimum hardware requirements to upgrade to Unified ICM software Release 8.0(1) are found in the Cisco ICM/Contact Center Enterprise and Hosted Hardware and System Software Specification (Bill of Materials) (http://www.cisco.com/en/US/products/sw/custcosw/ps1844/products_implementation_design_guides_list.html).

Perform System Integrity Tests

The purpose of testing is to validate basic Unified ICM/Contact Center functionality and fault tolerance before, during, and after each step of the migration and upgrade process.

Perform test cases when side A is upgraded and running in non-fault tolerant mode, before the upgrade of side B. Test cases should be executed before the upgrade to identify a baseline. Perform the test cases again when the system is fully upgraded and running in duplex mode.

Perform system integrity tests to verify that:

- there are no unexpected errors reported in the Unified ICM process windows
- calls are flowing through the system using Internet Script Editor or Script Editor
- you can run Real-time and Historical reports
- you can make configuration changes
Network Inventory

Technology Refresh upgrade migration planning and execution demands a comprehensive and accurate system diagram detailing the Cisco Unified ICM/Contact Center production system’s private and visible networks.

The private network is dedicated for Central Controller node communication and used to establish, maintain, and restore synchronization between Central Controller nodes.

The private network must have sufficient bandwidth to simultaneously handle traffic associated with the following:

- Synchronization of sides: Side A and side B are synchronized in the event of the failure of one side within a reasonable time
- State transfer: Data transfer from active side CallRouter to the recovering side CallRouter

The visible network is a Cisco shared network for local node communication and remote node communication with the Central Controller. The visible network must have sufficient bandwidth to support traffic associated with the following:

- Active Directory synchronization
- Logger database recovery
- Heartbeats: Messages sent every 100 milliseconds to the CallRouter and the PG to determine if they are “alive” or functioning.
- Report inquiries
- Alternate path by fault tolerant software to distinguish between node failures and network failures.

The Unified ICM/Contact Center system may also have a dedicated signaling access network. The signaling access network is dedicated to the network interface controller (NIC) and to the Unified ICM/Contact Center CallRouters.

Data Backup Plan

While you may perform normally scheduled backups of your data, you must define a backup and recovery plan for critical data before commencing an upgrade migration. See the following table to determine the system critical data you must backup and restore, copy and paste, or export and import (based upon the upgrade migration method selected).
### Technology Refresh Upgrade

<table>
<thead>
<tr>
<th>System Critical Data</th>
<th>Common Ground Upgrade</th>
<th>Technology Refresh Upgrade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backup the Logger SQL database(s).</td>
<td>Yes</td>
<td>Technology Refresh with EDMT performs a backup of the original database and restores it on the new system. If anything happens during EDMT, the original database is untouched.</td>
</tr>
<tr>
<td>Backup the Historical Data Server (HDS) SQL database(s).</td>
<td>Yes</td>
<td>Technology Refresh with EDMT performs a backup of the original database and restores it on the new system. If anything happens during EDMT, the original database is untouched.</td>
</tr>
<tr>
<td>Backup any custom databases.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Backup WVDB database on the Administration &amp; Data Server.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Export the Cisco Systems, Inc. registry key on all production system nodes.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Copy the icm directory on all production system nodes.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>WebView users must backup custom templates and the WVDB on the Administration &amp; Data Server. The custom templates are in the \ICM&lt;instance&gt;\AW\custom directory.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Note:** WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.

### Pre-upgrade Preparation for All Unified ICM Servers

Pre-upgrade preparation is an integral part of the upgrade process. Perform the following on all Unified ICM servers to assist in recovery in the event of a catastrophic upgrade failure:

Run the following commands and record output in the indicated files:

- Run: `ipconfig -all` Save results in `ipconfig.txt`.
- Command: `route print -p` Save results in `route.txt`.
- Command: `netstat -a -n` Save results in `netstat.txt`.

### Network Configuration Backup

You must create a bootable image of the systems that include the operating system and the network configuration. This backup is a good business practice to assure system recovery in case of catastrophic conditions during the upgrade process.
Default Routing Plan

Document and validate your default network routing plan before the upgrade. When you cross over from your old Unified ICM/Contact Center production system to your new Unified ICM/Contact Center system, the production system will be down for a short period of time until the cross over is complete.

Test Plan

Execute test cases at various stages of the upgrade based on your expectations. You must, at a minimum, test the following areas:

- Pre-upgrade Application test
- Pre-upgrade System Integrity tests
- CTI functionality (as applicable)
- Configuration tools
- Reporting functionality
- Post-upgrade Application test
- Post-upgrade System Integrity tests

Perform test cases when side A is upgraded and running in non-fault tolerant mode, before upgrading side B. Perform the test cases again when Unified ICM system is fully upgraded and running in duplex mode.

Additionally, schedule appropriate resources to ensure custom CTI functionality after an upgrade.

See Also

Upgrade Planning on page 13

Schedule of Activities

Due to the complexity of a Unified ICM/Contact Center production system, you must create a detailed schedule of upgrade activities. This allows your Project Manager to maintain the status of each machine upgrade. It also helps to use a chart indicating all of the Unified ICM/Contact Center nodes to be upgraded and their upgrade status.

Upgrades are usually performed during off-peak hours. Keep in mind that you may need more than one upgrade window. Normally, an initial maintenance window is established to get the Unified ICM/Contact Center Central Controller and critical (key) Administration & Data Servers upgraded. The remaining Administration & Data Servers and PGs are then scheduled as early as maintenance windows allow.
Note: Ensure that your Administration & Data Servers are upgraded to Unified ICM/Contact Center Release 8.0(1) before bringing them online.

Definition of Upgrade Steps

The upgrade migration of a Unified ICM/Contact Center system involves numerous steps. From your initial software load, you must install/upgrade the operating system, the Unified ICM software (and options), the database software, and any required third party software.

Be aware that, for a period of time during the upgrade migration, the Unified ICM/Contact Center system runs in a non-fault tolerant mode. Additionally, network default routing takes place when both sides of the Central Controller are “stopped” during the cross over (see the Test Plan section).

Testing must take place when the side A Central Controller is upgraded and running. The upgrade team must come to consensus on the success of the testing and make a “go” or “no go” decision to proceed with upgrading the side B Central Controller.

If critical problems are encountered after upgrading side A, the upgrade team could decide to restore the side A Central Controller to the old/previous release.

Post-upgrade Test Definition

You must create a test plan for the various stages of the upgrade process to test your Unified ICM system. The following are examples of typical Unified ICM system post-upgrade tests:

- Application test
- System Integrity tests:
  - Process testing
  - Redundancy testing
  - Alarm testing
  - Historical reporting testing
  - WebView reporting testing (optional)

  **Note:** WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.

  - Internet Script Editor testing (optional)

See the Run Post-Upgrade tests section for additional details.
Stakeholder Notification

The following Unified ICM/Contact Center associated personnel from the following organizations must be notified of all upgrade activities and schedules:

- Cisco Technical Assistance Center (TAC)
- Local Cisco representative:
  - Account Manager
  - Partner
  - Support Engineer
- ACD and VRU Vendors
- Customer Operations and Emergency Management Center

Related Documents

When planning Unified ICM/Contact Center system upgrades, familiarize yourself with Cisco Unified Intelligent Contact Management (Unified ICM) documentation.

Review and have the following documents available when performing an Unified ICM/ContactCenter system upgrade to 8.0(1):


  **Note:** Carefully scrutinize the documentation set to ensure you understand the impact of the upgrade process on essential functionality.

- [Release Notes for Cisco Unified ICM/Contact Center Enterprise & Hosted Release 8.0(1)]
Chapter 1: Unified ICM/Contact Center Upgrade Planning

Upgrade Planning
Part 2: Unified ICM/Contact Center Software Upgrade
Getting to the Baseline

Before commencing an upgrade to Uniﬁed ICM/Contact Center 8.0(1), ensure your system meets all the applicable baseline requirements.

Baseline Requirements

The baseline requirements are as follows:

• All ICM nodes (CallRouter, Logger, NICs, Administration & Data Servers, Network Gateways, Outbound Option Dialer, PGs, CTI Server, WebView) are at Uniﬁed ICM/Contact Center 7.1(x), 7.2(x), or 7.5(x), or 7.0(x) for systems hosting PG(s) only.

  Note:

  • The Uniﬁed ICM/Contact Center 7.1(x), 7.2(x), or 7.5(x) systems must be functioning before upgrade. Minimal functional requirements are: version and most recent Maintenance Releases are installed on all components, the Logger data has completed the entire migration process (which includes completion of data migration), Historical Data Server has completed replication (post upgrade), all components and features are functioning.

  • If you are transitioning to a Windows Server 2008 R2 server, then you must perform a Technology Refresh and you must apply the release 8.5(2) (or later) Maintenance Release before the system is functional.

  • WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.

  • All Uniﬁed ICM/Contact Center nodes running Cisco OEM version or Retail version of Microsoft Windows Server 2003 or the Retail version of Microsoft Windows Server 2008 R2. The version of Windows Server must include the latest supported service pack. The exception is for Administration Client. See the Cisco Uniﬁed ICM/Contact Center Enterprise and Hosted Hardware and System Software Speciﬁcation (Bill of Materials).
Baseline Requirements


**Note:**

- Before executing a Common Ground upgrade, the Active Directory Domain Controller and DNS functionality must be moved off of any Unified ICM components. See the "Migrating Active Directory and DNS to a Non-ICM Server" for additional information.


- CAD at Release 6.0, 7.0, 7.1, or 7.2. See the Cisco CAD Installation Guide for specific operating system requirements.

- CTI OS desktops at Version 7.1(x), or 7.2(x).

- Dynamic Content Adaptor (DCA) at Version 2.1.

- A newer standalone version of Cisco Security Agent (CSA), based on CSA engine version 6.0, is available for Unified ICM/CCE/CCH Release 8.0(1). Earlier versions of CSA, which were supported on prior releases, are not supported in Release 8.0(1). You must uninstall any earlier version of CSA before upgrading to Release 8.0(1).

**Note:** CSA is not supported on Windows Server 2008 R2.

- Unified CM version 7.1 or higher with the compatible Unified IP IVR or Unified CVP version according to the Cisco Unified Contact Center Enterprise Software Compatibility Guide.

**Note:** See the Cisco IP Contact Center Enterprise Edition Software Compatibility Guide for compatibility between Unified CM version and Unified IP IVR or Unified CVP version.

- ACDs at a version compatible with Unified ICM/Contact Center 8.0(1).

**Note:** See the Cisco ICM Software Supported Switches (ACDs) document for ACD compatibility information.

- The Hardware meets the specifications available in the Cisco Unified ICM/Contact Center Enterprise and Hosted Hardware and System Software Specification (Bill of Materials) (www.cisco.com/en/US/products/sw/custcosw/ps1001/products_user_guide_list.html). The hardware required for both Technology Refresh and Common Ground upgrades is specified.

**Note:** If existing hardware is to be reused, verify that CPU and memory usage is below 50% utilization before the upgrade. If CPU or memory usage is above 50%, or if new feature usage
or capacity increases (higher agent count, increased call rate, ECC increases) are planned, then new hardware should be deployed.

- Active Directory Environment must be created and configured for Unified ICM/Contact Center.

  **Note:** See *Active Directory Considerations for Upgrades (page 53)* for detailed upgrade information.

- Windows firewall configuration scripts must be run to enable network connectivity.

- Unified ICM/Contact Center Support Tools Server upgraded to Release 2.4(1).

  **Note:** See *Support Tools Considerations for Upgrades (page 53)* for detailed upgrade information.

- Perform backup of existing servers and verify backups.
Chapter 2: Getting to the Baseline

Baseline Requirements
Common Ground Upgrades vs. Technology Refresh Upgrades

Unified ICM/Contact Center Upgrade Methods

Two upgrade methods are supported for Unified ICM/Contact Center:

- **Common Ground (CG)**
  
The Common Ground upgrade method is performed on the existing hardware if the hardware has been evaluated and determined to meet the minimum requirements for Cisco Unified ICM/Contact Center, Release 8.0(1).

  **Note:** Common Ground upgrade is not supported for Windows Server 2008 R2.

- **Technology Refresh (TR)**
  
The technology Refresh upgrade method is performed when you decide to (or it is required that) upgrade your hardware as well as your Cisco Unified ICM/Contact Center software and supporting third party software. The upgrade method consists of transporting all data, customized files/information, and related registry keys to the new hardware previously configured with a compatible operating system and database server (where required); then upgrading the transported data to a new release of Cisco software.

  **Note:**
  
  - Upgrades involving Common Ground Upgrades on some Unified ICM/Contact Center nodes and Technology Refresh on others are supported, however, the A and B side of any given component must be running on identical hardware.
  
  - Technology Refresh from Windows Server 2003 to Windows Server 2008 R2 is supported for a target machine with Release 8.0(1a) plus Maintenance Release 8.5(2) or higher.
• You can use your existing Windows Server 2003 Hardware when performing a Technology Refresh to Windows Server 2008 R2 if the hardware meets the requirements in the Cisco Unified ICM/Contact Center Enterprise and Hosted Hardware and System Software Specification (Bill of Materials) (http://www.cisco.com/en/US/products/sw/custcosw/ps1001/products_user_guide_list.html).
Chapter 4

Introduction to Unified ICM/Contact Center Upgrade

Upgrading a Cisco Unified ICM/Contact Center system involves numerous steps and the upgrade order of operation is distinct. From your initial software load, you may need to upgrade the operating system, the Unified ICM/Contact Center software (and options), the database software, and any required third-party software.

Warning: In order to complete an upgrade successfully, you MUST follow the order of upgrade as defined in this guide.

Unified ICM/Contact Center Upgrade Overview

A full Unified ICM/Contact Center system is made up of several individual components or nodes which can be geographically dispersed. In moderate to large systems, it is not possible to upgrade all Unified ICM/Contact Center components in the same maintenance window. The Unified ICM/Contact Center upgrade process allows the full system to be upgraded over multiple maintenance windows.

This upgrade process applies to both Cisco Unified ICM/Contact Center Enterprise and Hosted.

Note: Before upgrading a production system, you are encouraged to perform the upgrade on a lab system which mirrors your production system.

Unified ICM/Contact Center now has a new uninstall option from the Add/Remove Programs. It removes the patches, 8.0(1) files and related registry. It also removes software installed by the ICM-CCE-CCHInstaller (such as Support Tools Node Agent). However, it does not remove other Cisco software, such as the CTI OS Server. The "uninstall" option does not remove the databases. There is no roll back to a previous version. Only patches support roll back.

The Re-install option is supported in Release 8.0(1). You must re-run the ICM-CCE-CCHInstaller.
Note: Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special, making it easier to be running the most up to date software.

See the Upgrade Procedures (page 75). Select the example that is most applicable to your Unified ICM/Contact Center system. See the Upgrade Checklists (page 143) section for the checklist associated with the previously chosen example procedure. Modify the checklist to suit your specific situation, then use the modified checklist as a guide and record of progress throughout the upgrade process.

High Level Upgrade Overview

Before you upgrade to Unified ICM/Contact Center 8.0(1), make sure your systems are compliant with the upgrade baseline requirements (page 23). If not, use the upgrade process as documented for previous releases to get the system to the required baseline.

The following upgrade process overview outlines the high level steps to upgrade a complex, multi-media, Unified ICM/Contact Center system.

Figure 1: Upgrading a Complex, Multi-media, ICM/IPCC System

High Level Upgrade Overview (See Chapter 8 (page 75) for details):

1. Bring the system to the pre-upgrade baseline (page 23).
2. Perform a system backup.
3. Setup the new hardware and the Active Directory environment.
4. Upgrade the Side A: Central Controller (CallRouter (page 113) which also contains NICs, and Logger), (page 109)Administration & Data Server and HDS, (page 95) and WebView Server. (page 46)

Warning: In order to complete an upgrade successfully, you MUST follow the order of upgrade as defined in this guide.

5. Verify Side A operation, then bring Side A into service.
6. Upgrade the Side B: Central Controller (CallRouter (page 113), which also contains NICs, Logger) (page 109), Administration & Data Server and HDS (page 95), and WebView Server (page 46).

The following steps can be performed in any order:

7. Upgrade the Administration Client system.

8. Upgrade the Peripheral Gateways and associated Outbound Option dialers (must be upgraded at the same time as the Campaign Manager), and the CTI OS Servers.

9. Upgrade the CTI OS desktops.

10. Upgrade the CAD Server and Desktops (must be done together).

11. Install Infomaker (for custom reports) on a dedicated server.

**Note:** In Hosted Unified ICM/Contact Center environments, the NAMs and CICMs can be upgraded separately and in any order, provided that NAM/CICM compatibility is adhered to. NAM and CICM systems must either be at the same version, or only one version apart. For example NAM could be at 8.0(x) and the CICM at 7.5(x) (or vice versa).

**Note:** The ICM-CCE-CCHInstaller checks if the following End of Life (EOL) components are installed in the machine, before upgrading it.

These EOL components are removed from the machine by the Installer, after confirmation from the user (excluding the Application Bridge Server which must be removed manually by running Peripheral Gateway Setup after the upgrade and removing the Application Bridge Server component). The components that are EOL in Release 8.0(1) are:

- PG type Alcatel, NEC, Md110, Siemens, Rolm9005, Galaxy, G2, ACP1000, Symposium/Avaya Acc 4.2 and 5.0, and Meridian
- MEI Server
- Application Bridge Server
- AIN Network Gateway
- CAIN Network Gateway
- G3 Dialer

**Unified CCE Installer DVD Directory Structure**

This section describes the DVD directory structure:

The DVD directory structure is as follows:
• **bidxxxxx.ver** - (File) Version text file for easy detection of the product version. xxxxx is replaced with the actual build number.

• **dotnetfx35.exe** - (File) Microsoft.NET Framework 3.5 SP1 installer.

• **ICM-CCE-CCHInstaller** - (Directory) For fresh install or upgrade of all components except standalone Administration Clients, run setup.exe.

• **AdminClientInstaller** - (Directory) For fresh install or upgrade of the Administration Client on a system not running other CCE components, run setup.exe.

• **DomainManager** - (Directory) To set up the Cisco Organizational Units along with security groups and permissions in the Active Directory domain, run DomainManager.exe.

• **LanguagePackInstaller** - (Directory) For install of non-English localized files, run LanguagePack_8_0_1.exe.

• **WebViewThirdPartyInstaller** - (Directory) For fresh install or upgrade of WebView Third Party Tools, run setup.exe.

**Note:** WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.
Chapter 5

Unified ICM/Contact Center 8.0(1) Upgrade Time and Space Requirements

Introduction

Successful upgrade planning requires an understanding of the time and space requirements necessary to upgrade the various Unified ICM/Contact Center components. The Logger and HDS upgrades take longer to upgrade than other Unified ICM Contact Center nodes due to the time it takes to upgrade the HDS and Logger databases.

For technology refresh upgrades, the network configuration between the source and target hardware also affects the overall upgrade times.

A number of factors affect the database migration time:

The most critical parameters are:

• the overall database size

• the database profile

• the type of upgrade (Common Ground vs. Technology Refresh)

• Unified ICM/Contact Center 7.1(x), 7.2(x), or 7.5(x) to Unified ICM/Contact Center 8.0(1) upgrade. If PGs are on their own machine without other components, upgrade is allowed from 7.0 to 8.0(1).

• the hardware involved, especially the efficiency of the disk subsystem
Database Migration Performance

Prerequisites

EDMT needs additional disk space to copy and modify data and data structures during the migration process. This requires that additional disk space is available to the database to allow the database, database log file, tempdb, and tempdb log file to be able to grow.

Calculate Necessary File Size

The following sections provide instructions on determining the requirements for your migration.

How to calculate the required disk space for the migration

**Step 1** Use the ICMDBA Tool to gather database information.

**Step 2** Right-click on the database and select Properties.

**Note:** The Database Used Size = Percent Used of the Data Size Value.

**Step 3** Determine and document the amount of rows and the size of the copy/drop tables.

To accomplish this:

- Select the database.
- Select Data > Space Used Summary.

**Note:** The default setting lists the largest tables.

**Step 4** Calculate the required disk space for the migration.

Steps:

- Determine the DUS (Database Used Size).
- Determine the required disk space for the database migration where:

  \[ \text{Required Disk Space} = 2 \times \text{DUS} \]

Tempdb Size

**Step 1** Ensure the Tempdb log is expandable to 3 GB.

**Step 2** Ensure the Tempdb data is expandable to 50% of the DUS.
Upgrade Paths

There are two Logger and HDS migration paths:

- Technology Refresh

  The Technology Refresh path is followed by customers replacing their existing Logger and/or HDS servers with new hardware.

- Common Ground

  The Common Ground path supports customers using the same Logger and/or HDS hardware to run Unified ICM/Contact Center 8.0(1).

The data migration set is identical regardless of the migration path one chooses to follow.

Technology Refresh involves:

- Backup/Copy/Restore
- Data Migration

Common Ground only involves:

- Data Migration

Time Guidelines and Migration Performance Values

Your best estimate of time and space requirements are generated by running EDMT against a copy of your production database, on hardware (see Appendix D) similar to your production environment, in a lab environment. For customers who do not have the facility, the following subsections provide information gathered while performance testing in the labs (see Appendix E) at Cisco Systems, Inc.

Typical Database Migration Performance Values

The following table provides high level guidelines for the upgrade times for Loggers and HDSs based on the hardware (as defined in the Cisco Unified ICM/Contact Center Enterprise and Hosted Hardware and System Software Specification (Bill of Materials) (http://www.cisco.com/en/US/products/sw/custsw/pr1844/products_implementaion_design_guides_list.html) and the results observed during internal upgrade testing. Actual times vary based on the parameters previously discussed.
Backup, Network Copy, and Restore – Technology Refresh Only

Network Copy speed is dependent upon the speed of the network and the speed of the disk sub-system. The faster the network the faster the network copy.

<table>
<thead>
<tr>
<th>Database Used Size (GB)</th>
<th>Backup/Copy/Restore Time (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>.5 – 1</td>
</tr>
<tr>
<td>20</td>
<td>1.5 – 2.5</td>
</tr>
<tr>
<td>40</td>
<td>2 - 4</td>
</tr>
<tr>
<td>70</td>
<td>3.5 – 5</td>
</tr>
</tbody>
</table>

**Note:**

- The values in the **Database Used Size** in the table above are based on the amount of disk space used by the Source database, not the size of the disk it resides on.

- The **Backup/Copy/Restore Times** in the table above assumes the network meets the minimum requirements of the Cisco Unified ICM/Contact Center Enterprise and Hosted Hardware and System Software Specification (Bill of Materials) (http://www.cisco.com/en/US/products/sw/custcosw/ps1844/products_implementation_design_guides_list.html).

- For Technology Refresh upgrades, have the fastest network possible (gigabit through one network switch) between the source and the destination machines. Use of a crossover cable is not recommended because it lacks buffer memory and can cause data loss.

Run Timings, Technology Refresh and Common Ground

The conversion should take place in less than a half hour—in most cases, much less. The actual time can vary based on the parameters discussed in the Introduction to Unified ICM/Contact Center Upgrade (page 29).

Performance Considerations

During internal testing, hyper-threading has consistently doubled the time it took the database migration to complete; therefore, to minimize migration time you should disable hyper-threading.

Ways to Reduce Data Migration Time

How to reduce data migration time:

- Reduce database size.
  - Purge the Logger DB of all data already replicated to the HDS (25 GB or less)
  - Remove redundant records, especially RCD, RCV, TCD, and TCV tables via ICM Purge Utility and/or SQL Query Analyzer.
**Note:** Removing records impacts the availability of historical reports. Knowledge of the HDS schema is required.

- Use better hardware, especially on I/O subsystems.
  - RAID 1 + 0
  - I/O Cache – more is better
Setting Up the Hardware

Technology Refresh Hardware Upgrade Prerequisites

Before undertaking a Technology Refresh upgrade, it's important that the newly deployed servers be installed.

The Administration Client does not support Technology Refresh. You must install it afresh when moving to new hardware.

The Active Directory environment (whether corporate or dedicated to the Unified ICM/Contact Center applications) must be configured/staged. The Windows Firewall configuration scripts must be deployed before the Unified ICM/Contact Center servers can accept network connections.


Before performing a Technology Refresh upgrade on a Unified ICM/Contact Center node, see the *Cisco Unified ICM/Contact Center 8.0(1) Enterprise and Hosted Hardware and System Software Specification (Bill of Materials)* for compliant hardware and software. You must have the following software installed:

- Cisco OEM version or Retail version of Microsoft Windows Server 2003 including latest supported service pack, or

- Retail version of Microsoft Windows Server 2008 R2 including the latest supported service pack.

- **For Windows Server 2003 systems:** SQL Server 2005 Service Pack 3 including latest supported Maintenance Release and required patches for the Unified ICM/Contact Center nodes which require SQL (Logger, HDS, Administration & Data Server)
Common Ground Hardware Upgrade Prerequisites

For Windows Server 2008 R2 systems: SQL Server 2005 Service Pack 4 including latest supported Maintenance Release and required patches for the Unified ICM/Contact Center nodes which require SQL (Logger, HDS, Administration & Data Server)

- VNC, PC Anywhere, Virus scanning, and any other required/desired supported third party software

Note:

- If you are transitioning to a Windows Server 2008 R2 server, then you must perform a Technology Refresh and you must apply the release 8.5(2) (or later) Maintenance Release before the system is functional.

- For additional information about the hardware and software requirements, see the Cisco Unified ICM/Contact Center Enterprise and Hosted Hardware and System Software Specification (Bill of Materials) (http://www.cisco.com/en/US/products/sw/custcosw/ps1001/products_user_guide_list.html)

- The ICM-CCE-CCHInstaller checks for older versions of Cisco Security Agent (CSA) and provides warnings or prevents continuation if an older version of CSA is installed or running. If the existing version of CSA is not supported, uninstall and re-install a compatible version.

- CSA is not supported on Windows Server 2008 R2.

- The 7.5(1) supported CSA is not compatible with the 8.0(1) Unified CCE product. Similarly, the 8.0(1) supported CSA is not compatible with the 7.x(y) Unified CCE product.

- Unified ICM/CCE/CCH Release 8.0(1) does not support SQL Server 2005 64 bit version.

Common Ground Hardware Upgrade Prerequisites

Before beginning a Common Ground upgrade, be sure that the existing hardware meets the requirements for Unified ICM/Contact Center 7.5(1) as specified in the Cisco Unified ICM/Contact Center Enterprise and Hosted Hardware and System Software Specification (Bill of Materials) (http://www.cisco.com/en/US/products/sw/custcosw/ps1001/products_user_guide_list.html).

Monitor CPU and memory usage to verify that there is sufficient “head room” to support the new release. If CPU or memory usage on the existing system is greater than 50%, it is necessary to upgrade the hardware.

How to set up the hardware

To accomplish this upgrade you must:

- Stage all Unified ICM/Contact Center 8.0(1) machines in racks, or on a work surface, with the following:
– RAM installed
– Hard Drives installed
– RAID arrays configured
– Video and Ethernet Cards installed
– All multiple rack mount systems occupying the same rack are attached to keyboard, mouse and monitor sharing unit
– All machines are labeled with a hostname as per Network Design diagram.
– All Ethernet connections are labeled “visible” or “private”.
– There are sufficient power outlets for all machines to be simultaneously connected and turned on.

• Ensure all CDs (software), driver software on diskette or CD and Vendor documentation for all platforms are in the work area
• Ensure all Software License Numbers are available
• Ensure the simulated Unified ICM network is in place and successfully tested:
  – All LAN Switches are configured for required subnets according to the Unified ICM System Diagram.
  – All IP CallRouters are configured as required
  – IP connectivity between all subnets is successfully tested
  – Required Ethernet connections are in place between Unified ICM platforms and LAN switches.
  – Required Packet prioritization is configured on IP CallRouters


Cisco OEM Versions of Windows 2003

The Cisco OEM versions of Windows 2003 operating system are also available. See the Cisco Unified ICM/Contact Center Enterprise and Hosted Hardware and System Software Specification (Bill of Materials) (http://www.cisco.com/en/US/products/sw/custcosw/ps1001/products_user_guide_list.html) for details.

Note: Since the OEM Operating System is recovery media, you can only fresh install this Operating System (you cannot upgrade to it).

Installing Microsoft Windows Server 2003

Note:

• For additional information on installing Microsoft Windows Server 2003, see the Windows Server 2003 homepage (http://www.microsoft.com/windowsserver2003/default.mspx)

• For additional information on the applicable Microsoft Windows Service Pack, see the Cisco Unified ICM/Contact Center Enterprise and Hosted Hardware and System Software Specification (Bill of Materials) (http://www.cisco.com/en/US/products/sw/custcosw/ps1001/products_user_guide_list.html)

Installing Microsoft Windows Server 2008 R2

Note:

• If you are transitioning to a Windows Server 2008 R2 server, then you must perform a Technology Refresh and you must apply the release 8.5(2) (or later) Maintenance Release before the system is functional.


• For additional information on the applicable Microsoft Windows Service Pack, see the Cisco Unified ICM/Contact Center Enterprise and Hosted Hardware and System Software Specification (Bill of Materials) (http://www.cisco.com/en/US/products/sw/custcosw/ps1001/products_user_guide_list.html)

Upgrading from Windows 2000 to Windows Server 2003 - Common Ground Upgrades Only

Upgrading from Windows 2000 to Windows Server 2003 requires a considerable amount of planning and preparation. One of the first areas to consider is the source operating system revision and most importantly edition. It is important to determine the nearest equivalent target edition before engaging in the upgrade.

Note: It is only possible to upgrade to an equivalent or higher operating system. It is not possible to “downgrade” to a less powerful operating system, as some functionality might be lost in the process.

For example, it is not possible to upgrade a Server OS from Windows 2000 Enterprise Server (or other server products in the Windows 2000 family) to the Windows Server 2003, Standard Edition without removing the earlier operating system and performing a new installation.
The following table outlines the relationships between the Windows Server 2000 and Windows Server 2003 editions.

**Table 1: Windows 2000 and Windows 2003 Relationships**

<table>
<thead>
<tr>
<th>Windows 2000 Server Family</th>
<th>Windows 2003 Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 2000 Server</td>
<td>Standard Edition</td>
</tr>
<tr>
<td>Windows 2000 Advanced Server</td>
<td>Enterprise Edition</td>
</tr>
</tbody>
</table>

Before upgrading to Windows Server 2003, the computer being upgraded must meet the system requirements, and all hardware components and Third Party Software are compatible with the operating system. The hardware requirements for the Windows 2003 operating system are exceeded by the Unified ICM hardware requirements specified in the [Cisco Unified ICM/Contact Center Enterprise and Hosted Hardware and System Software Specification (Bill of Materials)](http://www.cisco.com/en/US/products/sw/custcosw/ps1001/products_user_guide_list.html).

### Windows 2003 and Windows 2008 R2 Hardware Compatibility (for non-Cisco MCS Servers)

One of the most important steps to take before running Setup on a server is to confirm that the hardware is compatible with products in the Windows Server 2003 and Windows 2008 R2 family. This is accomplished by running a pre-installation compatibility check from the OS Setup CD or by checking the hardware compatibility information available on the Microsoft Windows Server 2003 or Windows Server 2008 R2 Web site. Also, as part of confirming hardware compatibility, check to see that you have obtained updated hardware device drivers and an updated system BIOS.

If a mass storage controller (such as a SCSI, RAID, or Fibre Channel adapter) is used for the server hard disk(s), confirm that it is compatible with products in the Windows Server 2003 or Windows Server 2008 family. If the controller is compatible with products in the Windows Server 2003/2008 family, but the manufacturer has supplied a separate driver file for use with your operating system, obtain the file (on a floppy disk) before running the Windows 2003/2008 setup. During the early part of Setup, a line at the bottom of the screen prompts you to press **F6**. Further prompts guide you to supply the driver file to Setup so that it can gain access to the mass storage controller.

If you are not sure whether you must obtain a separate driver file from the manufacturer of your mass storage controller, you can try running Setup. If the controller is not supported by the driver files on the Setup CD, and therefore requires a driver file supplied by the hardware manufacturer, Setup stops and displays a message saying that no disk devices can be found, or displays an incomplete list of controllers. After you obtain the necessary driver file, restart Setup, and press **F6** when prompted.

Regardless of whether you run a pre-installation compatibility check, Setup checks hardware and software compatibility at the beginning of an upgrade or new installation and displays a report if there are incompatibilities.
Active Directory Considerations for Common Ground Upgrades


In Windows Server 2003, Active Directory domains can operate at three functional levels:

- Windows 2000 mixed (includes domain controllers running Windows 2000, Windows NT 4.0, and Windows Server 2003). This is the default setting.
- Windows Server 2003 (only includes domain controllers running Windows Server 2003)

Once all domain controllers are running on Windows Server 2003, you can raise the Domain and Forest Functionality to Windows Server 2003 as follows:

- Open the Active Directory Domains and Trusts
- right-click the domain for which you want to raise functionality
- click Raise Domain Functional Level

**Note:** Once you raise the domain functional level, domain controllers running earlier operating systems cannot be introduced into the domain. For example, if you raise the domain functional level to Windows Server 2003, domain controllers running Windows 2000 Server cannot be added to that domain.

It’s important to ensure that prior to the upgrade of Unified ICM to Release 8.0(1), the Active Directory mode in Windows 2000 be set to native mode. This is required by the Unified ICM application, which fails to create the necessary user accounts and groups in the domain if it is not at least in this mode. The Domain Manager, has the ability to detect the domain mode and prevents users from installing the application if it finds that the Active Directory functional level (Windows Server 2003) or mode (Windows 2000) is mixed.

References: [How to upgrade Windows 2000 domain controllers to Windows Server 2003](http://support.microsoft.com/default.aspx?scid=kb;en-us;325379)

Internet Information Services (IIS) 6.0 Considerations for Common Ground Upgrades

When upgrading from Windows 2000 Server with IIS 6.0 to Cisco OEM version or Retail version of Microsoft Windows Server 2003 including latest supported service pack, the World Wide Web Publishing Service (WWW service) is not enabled by default due to increased security measures. If you have already upgraded, you can start the WWW service by using the Services snap-in.

If you have not yet upgraded and you want the WWW service to be enabled by default after you upgrade, you must perform one of the following steps before you start the upgrade:

- If you have not already done so, run the IIS Lockdown Tool on the computer that you want to upgrade. The IIS Lockdown Tool reduces the web server's exposure to attack by disabling unnecessary features and giving you the choice to enable and customize features for your site. This Tool is available from the Microsoft Web site. A description of how to run this Tool is detailed in the Security Best Practices Guide for Cisco Unified ICM 8.0(1).

- Using regedit, create the registry key RetainW3SVCStatus under: KEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC, and then add a DWORD value of any name equal to 1.

Operating System Upgrade Considerations for WebView

When upgrading the Operating System on a server with WebView Server installed, perform the following:

**Note:** WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.

**Step 1**
Upgrade the operating system to Windows 2003 with the latest supported service pack.

**Note:** For additional information on the applicable Microsoft Windows Service Pack, see the Cisco Unified ICM/Contact Center Enterprise and Hosted Hardware and System Software Specification (Bill of Materials) (http://www.cisco.com/en/US/products/sw/custosw/ps1001/products_user_guide_list.html).

**Step 2**
Run the WebViewThirdPartyInstaller to upgrade New Atlanta Servlet Exec ISAPI to New Atlanta Servlet Exec AS and JDK version.

When you upgrade the WebViewThirdPartyInstaller, it:

- Upgrades JDK
- Uninstalls the ServletExec ISAPI
- Installs the ServletExec AS
- Uninstalls the existing EA Server
- Re installs the EA Server
- The Jaguar service Account is reset to NetworkService

**Note:** Run the Service Account Manager to recreate the Jaguar Service Account (see Step 4).

**Note:** If the WebViewThirdPartyInstaller detects the ServletExec AS with a service name other than WEBVIEW, it uninstalls the ServletExec AS and reinstalls it with a service name "WEBVIEW."

**Step 3** Run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD on the WebView Server to upgrade files and registries.

**Step 4** Run the Service Account Manager to recreate the Jaguar Service Account.

---

**Installing WebView Server(s) Not Collocated on the Administration & Data Server-HDS**


**Note:**

- **Important:** The Windows Firewall configuration scripts must be deployed before this server can accept network connections. This is done as part of the staging tasks.
- WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.

**Cisco OEM Versions of Microsoft SQL Server 2005**

You can fresh install or upgrade to the Cisco OEM version of SQL Server. All instructions for installing or upgrading SQL Server also apply to the Cisco OEM version.

Upgrading from SQL Server 2000 to SQL Server 2005 - Common Ground Upgrades Only

Upgrading from SQL Server 2000 to SQL Server 2005 is only done during an in-place Common Ground upgrade.

Note: MDAC 2.8 must be installed prior to upgrading from SQL Server 2000 to SQL Server 2005 or the component installation and microsoft.sqlserver.notificationservices.dll in the COM+catalog fail to install.

You must run Setup as an administrator. If you install SQL Server from a remote share, you must use a domain account that has read and execute permissions on the remote share.

Note: Ensure the MS Distributed Transaction Coordinator service is not disabled (set to Automatic or Manual) prior to upgrading SQL Server 2000 to SQL Server 2005. Failure to do so results in a COM Plus Catalog warning message in the System Configuration Check dialog and the upgrade fails.

How to Upgrade SQL Server 2000 to SQL Server 2005

To upgrade SQL Server 2000 to SQL Server 2005, complete the following steps:

**Step 1**
Insert the SQL Server 2005 product CD or DVD into your computer CD or DVD drive. The SQL Server Installation Wizard starts automatically.

Note: If the SQL Server Installation Wizard does not start automatically, double-click Splash.hta in the root folder of the CD or DVD. To run Setup from a network drive, navigate to the installation location on the shared drive, and then double-click Splash.hta.

**Step 2**
To begin the installation process, click **Install SQL Server**

The End User License Agreement dialog appears.

**Step 3**
Read the license agreement on the End User License Agreement dialog, click the checkbox to accept the licensing terms and conditions, then click **Next**.


**Step 4**
To begin the component update process, click **Install**. To continue after the update completes, click **Finish**.

**Step 5**
On the Welcome dialog of the SQL Server Installation Wizard, click **Next**.

The System Configuration Check (SCC) dialog appears and the installation computer is scanned for conditions that may block Setup.
Step 6  Perform the system configuration checks.

The Setup program runs the system configuration checks before the actual setup begins to verify that the system meets the minimum criteria for installation and detects any pending reboot requirements.

To display a list of check items grouped by result, click Filter and then select a category from the drop-down list.

To view a report of SCC results, click Report and then select an option from the drop-down list. Options include viewing the report, saving the report to a file, copying the report to the Clipboard, and sending the report as e-mail.

If your system fails the configuration tests, click the failed link for more information, then take the corrective action required.

Step 7  To proceed with Setup after the SCC scan completes, click Continue.

The Registration Information dialog appears.

Step 8  Provide Registration Information (Name and Company, for this release the product key is entered automatically) as necessary, then click Next.

The Components to Install dialog appears.

Step 9  Select the components for your installation. Click Next to continue.

Note: By default, several features are turned off so you must explicitly choose the components you want to install. Be sure to select the SQL Server Database Services component as well as the client tools, Workstation Components, Books Online, and development tools. A description for each component group appears in the Components to be Installed pane when you select it. You can select any combination of check boxes.

Step 10  Click OK.

The Instance Name dialog appears.

Step 11  On the Instance Name dialog, select the Default Instance or a Named instance to upgrade.

The Setup program detects all installed instances using the MSI installation method and, by default, selects the default instance.

If a default or named instance is already installed, and you select an existing instance for your installation, Setup upgrades it and provides the option to install additional components.
To upgrade a SQL Server named instance already installed on your computer, click **Named Instance**, then type the instance name in the space provided; or click **Installed Instances**, select an instance from the Installed Instances list.

**Note:** To upgrade a default instance, there must be a default instance already on the computer. To upgrade a named instance, there must be a named instance already on the computer.

b. Click **OK** to populate the instance name field.

c. After you have selected the instance to upgrade, click **Next** to continue.

The Existing Components dialog appears.
Setup lists the SQL Server components installed on your computer. Components that can be upgraded to SQL Server 2005 have their check boxes enabled. If a component has a check box that is unavailable, the component does not qualify for upgrade to SQL Server 2005.

To view a report of available options and alternatives, click **Details**.

To upgrade a component listed on the Existing Components page, select its check box.

**Step 12** Check **SQL Server Database Services 8.00.761**, then click **Next**

The Service Account dialog appears.

**Step 13** If necessary, add any required new components.

If you are adding new components, specify the user name, password, and domain name for the non-SQL Server accounts. For this release, SQL Server 2005 Setup uses the service account information of the existing SQL Server service being upgraded. You can use the same account for all of the services.

To optionally specify an individual account for each service, select **Customize for each service account**, select a service name from the list box, and then provide login credentials for each of the services in the list.
Note:

- The domain name cannot be a full Domain Name Service (DNS) name. For example, if your DNS name is my-domain-name.com, enter "my-domain-name" in the Domain text box. SQL Server Setup does not accept "my-domain-name.com" in the Domain text box.

- The Upgrade Logon Information page is displayed if the SQL Server instance to be upgraded is configured to use Mixed Mode (Windows Authentication or SQL Server Authentication). Credentials supplied on this page are used to connect to the existing SQL Server instance so that upgrade scripts can be run. If the existing SQL Server instance is configured to use Windows Authentication, this page is not displayed.

**Step 14** Specify the logon information for the Setup program to use to connect to the instance being upgraded. Select the default option of **Windows Authentication**.

Click **Next**.

**Note:** For this release, SQL Server Setup may not enforce the strong password requirement on some default configurations of Microsoft Windows Server 2003 where the computer is not a member of a domain. Setting strong passwords is essential to the security of your system. Always use strong passwords.

**Step 15** Specify the remaining configuration options (generally accept all defaults), and then click **Next**.

The Ready to Install dialog appears.

**Step 16** Review the summary of features and components for your SQL Server upgrade scenario. All components and features of the existing instance are selected for the upgrade. To proceed, click **Install**.

**Step 17** Monitor the upgrade progress as Setup proceeds.

**Note:**

- To view the log file for a component during the upgrade, click the product or status name on the Installation Progress dialog.

- On the Completing the Microsoft SQL Server Installation Wizard dialog, you can view the Setup summary log by clicking the link provided.

**Step 18** Click **Finish** to exit the SQL Server Installation Wizard.

**Step 19** If you are instructed to restart the computer, do so now.

**Note:** Failure to restart the computer may cause failures when you run the Setup program in the future.

**Step 20** After restarting the computer, select **Start > All Programs > Microsoft SQL Server 2005 > Configuration Tools > SQL Server Configuration Manager**.

The SQL Server Configuration Manager appears.
Step 21  Expand **SQL Native Client Configuration** and select **Client Protocols**.

A list of the client protocols appears to the right.

The correct order and states are:

1. **Shared Memory** - Enabled
2. **Named Pipes** - Enabled
3. **TCP/IP** - Enabled
4. **VIA** - Disabled

Step 22  If the order and states are not as indicated in the previous step, right-click **Client Protocols** and select **Properties**.

Step 23  Click **OK**.

The Client Protocol Properties dialog closes.

Step 24  Expand the SQL Server Network Configuration and select **Protocols for MS SQL Server**.

Step 25  Ensure that **Named Pipes** and **TCP/IP** are in the Enabled Protocols section. If either is not, right-click the disabled protocol name and select **Enable**. Ensure **VIA** is in the Disabled Protocols section.

Step 26  On the Menu bar select **File > Exit**.

The SQL Server Configuration Manager closes.

Step 27  Install the appropriate SQL Server Service Pack.

**Note:**

- In "Services", the Distributed Transaction Coordinator must be set to Automatic and running prior to applying the service Pack.


a. Download the appropriate SQL Server service pack from the Microsoft web site.

b. Following the instructions provided with the service pack, install it.
Support Tools Considerations for Upgrades

Before upgrading any of the Unified ICM Core components (using either the Technology Refresh or the Common Ground method), upgrade the existing Unified ICM Support Tools server to Release 2.4(1). This is required for compatibility with the Release 2.4(1) Support Tools agents which is installed on the Unified ICM nodes during the upgrade process. The Release 2.4(1) Support Tools server is compatible with older Support Tools agents.

Active Directory and DNS Considerations for Upgrades

Active Directory Considerations for Technology Refresh Upgrades

The new servers must be in the Active Directory domain in the appropriate Unified ICM organization unit. IP connectivity and remote access must be validated.


The ICM-CCE-CCHInstaller does not allow any Unified ICM components to be installed on a domain controller. On a domain controller system, if you run the ICM-CCE-CCHInstaller (fresh install or upgrade), the Installer will exit with an error message. The software can be installed on a non-domain controller system only.

When setting up the Active Directory environment, if the existing Loggers are also domain controllers, it may be necessary to migrate the domain controller roles to new non-Unified ICM servers before the upgrade. Using the Active Directory tools provided with the Windows Operating System, bring the new domain controllers on the domain in which Unified ICM operates, transfer any applicable flexible single master operations (FSMO) roles. For additional information see sections Migrating Active Directory and DNS to a Non-Unified ICM Server (page 54) and How to demote current Domain Controllers to member servers and uninstall DNS. (page 57)

Active Directory Considerations for Common Ground Upgrades

Before undertaking a Common Ground upgrade, the Active Directory environment (whether corporate or dedicated to the Unified ICM/Contact Center applications) must be configured or staged. The Windows Firewall configuration scripts must be deployed before Unified ICM/Contact Center servers can accept network connections.

There are three methods by which you can ensure your systems are hardened:


2. Run the ICM-CCE-CCHInstaller and choose to apply the hardening when prompted.

3. Run the Security Wizard Tool, located in the Cisco Unified CCE tools folder.

Migrating Active Directory and DNS to Non-Unified ICM Servers

Perform the AD and DNS migration well in advance of the actual upgrade to allow time for implementation and stabilization. Repeat this for all Domain Controllers currently on Unified ICM servers.


Overview:

- Using the Active Directory tools provided with the Windows operating system, bring the new domain controllers on the domain in which the Unified ICM operates.

  For additional information, see:

  - *How to install Active Directory on the new Domain Controller*,

  - *How to install DNS*

  - *How to configure Active Directory sites on the new Domain Controller*.

- Transfer any applicable flexible single master operations (FSMO) roles and redefine the time source.

  For additional information, see:

  - your *ICM System Diagram* and the *ICM/IPCC System Design Specification* for your implementation.

  - *How to redefine the time source*.

- Set the new Domain Controller as the Global Catalog (if required).

  For additional information, see:

  - your *ICM System Diagram* and the *ICM/IPCC System Design Specification* for your implementation.
• Point all member servers to the new DNS servers.
  
  For additional information, see:
  
  – How to configure member servers to point to the new DNS servers.

• Demote the domain controller on the production Loggers to member servers.
  
  For additional information, see:
  
  – How to demote current Domain Controllers to member servers.

• Uninstall DNS from the 7.1(x), 7.2(x), and 7.5(x) Unified ICM servers.

How to install Active Directory on the new Domain Controller


  Step 1  Select Start > Run enter dcpromo and click OK.
  Step 2  When the Active Directory Wizard opens, click Next.
  Step 3  Under Domain Controller Type select Additional Domain Controller for an Existing Domain.
  Step 4  On the Network Credentials screen, enter the domain admin username and password.
  Step 5  The Additional Domain Controller screen should already be filled in with the FQDN (Fully Qualified Domain Name).
  Step 6  Accept the database and log location defaults.
  Step 7  Accept the shared System Volume defaults.
  Step 8  Enter the same Restore Mode Admin password that was utilized on the Root Domain Controller.
  Step 9  Check Summary Settings. Active Directory is not configured via NETLOGON.
  Step 10 Reboot after the Active Directory installation is complete.
  Step 11 Repeat these steps for a new alternate Domain Controller if necessary.

How to install DNS

  Step 1  Select Settings > Control Panel > Add/Remove Programs.
Active Directory and DNS Considerations for Upgrades

Step 2 Select Add/Remove Windows Components then check Networking Services > Details.

Step 3 Check DNS.

Step 4 Select OK then click Next.

Step 5 Browse to the Windows 2003 CD – DNS installs.

Step 6 Validate that all DNS Zones were replicated from the 1st DNS Server in the Active Directory Domain, to this DNS Server.

Step 7 Repeat this installation for the new Secondary DNS server (if required).

How to configure Active Directory sites on the new Domain Controller


Step 1 Move the new Domain Controller to the correct site(s).

How to move FSMO roles as indicated in the ICM System Diagram and per settings in your Unified ICM/Contact Center System Design Specification


Step 1 On the Active Directory Domain Controller hosting the role to be moved, open AD Users and Computers, connect to the Domain Controller to which the role needs to be moved.

Step 2 Right-click under the domain name and select Operations Masters.

Step 3 Under the required FSMO role tab, change the Operations Master to this designated DC.

How to redefine the time source

Since the PDC Emulator is moving to another Domain Controller, the time source must be redefined as either that server or an external time source.

Step 1 On the server currently running the Primary Domain Controller Emulator, run the following command: Net time /setnstp: <DNS name of time source>
Step 2 To synchronize a member server to the time source, see the procedure available on the Microsoft Website (http://support.microsoft.com/kb/816042).

How to assign Global Catalogs per the GC and FSMO plan in the Unified CCE System Diagram and per settings in your Unified CCE System Design Specification

Step 1 Open AD Sites and Services.
Step 2 Connect to the Domain Controller designated as the Global Catalog.
Step 3 Right-click NTDS Settings, click Properties, check Global Catalog, and click OK.
Step 4 Repeat this procedure on all ICM servers.

How to configure member servers to point to the new DNS servers

Step 1 In the Network Settings, open the Visible network connection
Step 2 Open TCP/IP properties.
Step 3 Enter the new primary and alternate DNS servers.
Step 4 Run ipconfig /flushdns from a command prompt.
Step 5 Verify name resolution by pinging the ICM servers by name.
Step 6 Ping the ICM domain by name.

How to demote current Domain Controllers to member servers and uninstall DNS

Note:

- Important: Before demoting domain controllers make sure that the replication process from the old domain controllers to the new domain controllers is complete. Check the directory service with the event viewer to monitor the status. In a large domain it could be 30 minutes or more for this process to complete.


Step 1 Select Start > Run, enter dcpromo. When the Active Directory Wizard opens, click Next.
Step 2 A dialog box indicating that this server is already a Domain Controller appears. Click Next to demote it to a member server.
Step 3  You are warned and prompted as to whether or not this is the last server in the domain. Leave the box unchecked and click **Next**.

The subsequent screens show the progress of the Domain Controller removal.

Step 4  Click **Next** to finish.

Step 5  Repeat this procedure for the alternate Domain Controller.

Step 6  Select **Start > Settings > Control Panel > Add/Remove Programs**.

Step 7  Select **Add/Remove Windows Components > Networking Services**.

Step 8  Click **Details**.

Step 9  Uncheck **DNS**, then click **OK**.

Step 10  Click **Next**. Chapter 20

Perform System Integrity Tests

The purpose of the sample test cases in this section is to validate basic Unified CCE functionality and fault tolerance before, during and after each step of the Migration Project. See the section titled, **System Integrity Tests (page 157)** for additional System Integrity test information.

Perform the following System Integrity Tests in the order listed:

- System Integrity Test: Process Testing
- System Integrity Test: Redundancy Testing
- System Integrity Test: Alarm Testing
- System Integrity Test: Historical Reporting Testing
- System Integrity Test: WebView Reporting Testing
- System Integrity Test: Internet Script Editor

Verifying System Conditions Using EDMT

Verifying System Conditions for a CG Upgrade

Run EDMT on the system before the actual upgrade, to verify the following conditions:

- Connections to the source and destination databases are available.
The collation value for the source and destination databases is one of:

- Latin1_General_BIN (for western/European languages - English, French, Spanish, German, etc.)
- Japanese_BIN (for Japanese)
- Chinese_PRC_BIN (for Chinese)
- Korean_Wansung_BIN (for Korean)

- The source and destination databases use the same collation value.
- The operating system is a supported system
- SQL 2005 Service Pack 3 is installed

The schema for the source is correct:

- 96 for Unified ICM/CCE Release 7.1(1)
- 97 for Unified ICM/CCE Release 7.2(1)
- 111 for Unified ICM/CCE Release 7.5(1)

Once these checks are made, an **Are You Sure** dialog box is presented. If you are running EDMT only to perform these checks, cancel at this point.

Once these checks are made, an **Are You Sure** dialog box is presented. If you are running EDMT only to perform these checks, cancel at this point.

**Verifying System Conditions for a TR Upgrade**

Run EDMT on the new hardware before the actual upgrade, to verify the following conditions:

- Connections to the source and destination databases are available
- The collation value for the source and destination databases is one of:
  - Latin1_General_BIN (for western/European languages - English, French, Spanish, German, etc.)
  - Japanese_BIN (for Japanese)
  - Chinese_PRC_BIN (for Chinese)
  - Korean_Wansung_BIN (for Korean)
- The source and destination databases use the same collation value.
- The operating system is Windows 2003
• SQL Server 2005 with Service Pack 3 is installed

• The schema for the source is correct:
  – 96 for Unified ICM/CCE Release 7.1(1)
  – 97 for Unified ICM/CCE Release 7.2(1)
  – 111 for Unified ICM/CCE Release 7.5(1)

Once these checks are made, an Are You Sure dialog box is presented. When these checks are complete, select Cancel.

**Note:** If adequate disk space is not available, a temporary server must be configured to store the data moved from the non-upgraded system. The temporary server need not have SQL Server installed. Using a temporary database server results in increased data migration times because the data is moved across the network twice instead of once. The temporary database server location is entered in the Backup Connection panel of the wizard. The upgrade procedures and times indicated in the following sections assume that a temporary server is not required.

When EDMT backs up the database from the production Logger or HDS, it stores the data in one backup file, even if the data section of the database is broken up into separate data files (data0, data1, data2, etc.), and/or the log section is broken up into separate files (log0, log1, log2, etc.).

Each of the files could potentially be on separate logical or physical disk drives. EDMT only allows one restore location. This is the desired Unified ICM configuration since the disk configuration of the new hardware must exactly match the configuration of the original system, and that may not make sense with newer hardware.
Introduction

The Unified ICM/Contact Center 7.1(x), 7.2(x), and 7.5(x) Logger and HDS database schemas are migrated to the Unified CCE 8.0(1) database schema using the Enhanced Database Migration Tool (EDMT) during the upgrade process.

The Cisco CCE Enhanced Database Migration Tool (EDMT) is a wizard application used to migrate the Unified CCE database during the upgrade process. It can be installed on the destination server (see Installing EDMT for additional information). The time required to complete a data migration varies in a direct relationship to the database size (the larger the database size, the longer it takes to migrate) and the server hardware performance level.

The EDMT requires prerequisites be completed (see EDMT Installation Prerequisites (page 62) for additional information) prior to running the application (see Running the EDMT (page 62) for additional information).

This product includes software developed by:

• CDS Networks, Inc.

• the JDOM Project (http://www.jdom.org/)

Note: EDMT cannot be used if the source and target servers are the same server. For same server Tech Refresh, the SQL Server Management Studio must to be used instead. Details on how to backup and restore databases using SQL Server Management Studio can be found on Chapter 18.
EDMT Installation Prerequisites

Prior to installing the Enhanced Database Migration Tool (EDMT), prerequisite tasks must be performed.

**Step 1**

Using the Microsoft SQL Backup and Restore utility, create a backup copy of the source Unified ICM/Contact Center 7.1(x), 7.2(x), or 7.5(x) MS SQL Server database, as applicable.

EDMT Installation

**Step 1** Follow these instructions to download EDMT.


b. Login using your cisco.com credentials.

c. From the Product & Services tab\Collaboration Voice and Video ->select Voice and Unified Communications.

d. From the All Products tab, select Customer Contact\Cisco Unified Contact Center Products\Cisco Unified Contact Center Enterprise\Versions and Options.

e. From the Support menu, select Download Software.

f. On the Download Software page Select Product option, choose Cisco Enhanced Data Migration Tool Software Releases,

g. On this page, select the 8.0(1) release and click Download Now.

**Step 2**

Select where you want to run the EDMT wizard from (it can be installed on the destination server for Technology Refresh upgrades, on the source server for Common Ground upgrades, or from the download).

**Step 3**

Navigate to the download and run edmt.exe to start the wizard (see Running the EDMT (page 62)).

**Note:** You may also run edmt.bat. The only difference between the two is that when running edmt.bat, the console window remains open.

Running EDMT

Once you have installed the Enhanced Database Migration Tool (EDMT), run the wizard to migrate the database. The following provides an overview of the steps to run the EDMT.
Note: Before running EDMT set the Maximum file size for the data files on the database to Unrestricted growth. See How to set the tempdb database size (page 140) for additional information.

### Step 1
Run `edmt.exe`, from the chosen location (see EDMT Installation (page 62)).

Regardless of the upgrade type, when you run edmt.exe, the first screen to appear is the splash screen.

### Step 2
Click Next.

The Migration Version/Migration Type dialog appears.

The Migration Version/Migration Type dialog of the EDMT Wizard is common to both the Common Ground and the Technology Refresh upgrades. It contains two panels, the Migration Version panel and the Migration Type panel.

### Step 3
Select the appropriate migration type by clicking the appropriate radio button in the Migration Type panel.

A Common Ground migration means the Logger or HDS database is being migrated in place and the existing database schema modified from either Unified ICM/Contact Center 7.1(x), 7.2(x), or 7.5(x) to the level of Unified ICM/Contact Center 8.0(1). For this to occur, EDMT must be installed and run on the source database server being migrated. This migration is complete upon successful execution of the EDMT.

In the case of a Technology Refresh upgrade, EDMT must be installed and run on the new Cisco Unified ICM/Contact Center Enterprise and Hosted Edition Hardware and System Software Specification (Bill of Materials) (http://www.cisco.com/en/US/products/sw/custcosw/ps1001/products_user_guide_list.html) compliant destination database server machine. Once installed, running EDMT automatically performs a backup of the Unified ICM/Contact Center source database onto the new destination server. Next, EDMT restores the backup to the destination database and performs what amounts to a Common Ground migration on the newly restored Unified ICM/Contact Center 7.1(x), 7.2(x), or 7.5(x) database. The backup file created is automatically deleted. This migration is complete upon successful execution of the EDMT.

### Step 4
Click Next to proceed with the selected migration type.

Note:

- The Migration Type selected here affects the sequence of the EDMT wizard panels displayed as you progress through the rest of the migration process. See EDMT Wizard Screen Sequences (page 64) for additional information.

- The EDMT shrinks the temp database back to the original size upon completion of the data migration.
EDMT Wizard Screen Sequences

See the following migration type sequences for additional information:

- **Common Ground EDMT Wizard Sequence** (page 64)
- **Technology Refresh EDMT Wizard Sequence** (page 65)

Common Ground EDMT Wizard Sequence

For a Common Ground upgrade, EDMT must be installed and configured on the source database server machine.

After you select the **Common Ground** migration type and click **Next**, the following sequence of dialogs appears, starting with the Database Connection dialog.

**Note:** Once you click **Next** on the Migration Version/Type dialog, the title of the application changes to add the type of migration. Thus, the title becomes "Cisco Unified ICM/Contact Center Enhanced Database Migration Tool: Common Ground".

**Step 1**

On this panel, enter the information necessary to enable the EDMT to connect to the source database server during a Common Ground migration, then click **Next**.

**Note:** While you enter the required data on this panel, clicking **Next** does not make the actual connection. At this point the data entered is only checked for completeness before allowing you to continue. The connection does not take place until after you start the data migration by clicking **Start Migration** on the Migration Control dialog.

The Migration Control dialog appears.

This dialog allows you to start or terminate the data migration. It also displays the status of the data migration process.

**Step 2**

Click **Start Migration** to begin the Common Ground database migration process.

The status of the migration process indicates that the database connection has been verified. A warning appears, advising you not to interrupt data migration once it starts.

**Step 3**

Click **Yes** and the Common Ground data migration begins.

The Migration Progress bar displays the progress of the migration while the Description field displays migration status messages.

Errors are displayed in bold, red, italic text.

Warnings are displayed in bold, magenta, italic text; and are repeated at the end of the migration.
Note: Warnings do not stop the migration process and the upgraded database is still usable. On the other hand, errors stop the migration process and leaves the database in a corrupt state. You must restore the database from the backup you made before running EDMT if an error is encountered and you must run EDMT again after fixing whatever error is detected.

Step 4 Click **Exit** to close the EDMT.

---

**Technology Refresh EDMT Wizard Sequence**


Note:
- Before running EDMT set the Maximum file size for the data files on the source database to Unrestricted growth. See How to set the Logger or HDS database data file size for maximum growth (page 137) for additional information.
- If the reporting capabilities on a system with a single HDS must be maintained throughout the upgrade, it is necessary to create a temporary HDS database.

After you select the **Technology Refresh** migration type and click **Next**, the following sequence of dialogs appears, starting with the Database Connection dialog.

Note: Once you click **Next** on the Migration Version/Type dialog, the title of the application changes to add the type of migration. Thus, the title becomes "Cisco Unified ICM/Contact Center Enhanced Database Migration Tool: Technology Refresh".

This dialog requires you to enter the information necessary for the EDMT to connect to the migration source and migration destination database servers during a Technology Refresh migration.

**Steps to be done on the target machine.**

**Step 1** Download EDMT.

**Step 2** Create a folder, and share it to be accessed by "Everyone". For example: c:\backup. (The reason to create this, is to give the EDMT a temporary location during database migration.)

**Step 3** Create the folder <drive>:\MSSQL\Data, if the folder does not already exist.

**Step 4** Run EDMT.exe for each database that needs to be migrated.

**Step 5** Click **Next** on the Splash screen dialog.

**Step 6** Select **Technology Refresh** as the Migration type and click **Next**.
Step 7 On the **Source database Connection group**, enter the Host Name/IP Address of the Source Machine (from where the database is going to be restored) and click the **Refresh Database List** button.

The databases available on the source machine will be displayed.

Step 8 Select the databases that need to be restored on the target machine.

Step 9 On the **Destination Database Connection**, select **SQL Server Authentication**, and enter the Domain Name, Username, and Password and click **Next**.

Step 10 On the **Back Connection**, enter the Windows Share Name that was created for everyone to access.

Step 11 On the **Destination Restore Location**, enter the path `<drive>:\MSSQL\Data` for both Data Files and Log Files Location and click **Next**.

Step 12 Click the **Start Migration** button.

Step 13 Click **Yes** on the Warning dialog.

Step 14 Click **Exit** after the database migration completes.

EDMT Wizard Menus and Common Field(s)/Button(s)

**File Menu**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| Exit   | Selecting this menu option exits the EDMT application. It provides the same functionality as clicking the Windows **Close** button (X) or selecting **Alt-F4**. If the database migration is running, a warning appears informing you that you are interrupting the migration.  
  • Click **Yes** to terminate the data migration and exit.  
  • Click **No** (the default) to allow the migration to continue. |

**Help Menu**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| Help   | Selecting this menu option activates the EDMT Help file in a new window.  
  Keyboard shortcut: F1 |
### Migration Version/Type Dialog

#### Migration Version Panel Properties

The Migration Version panel displays the Unified ICM/CCE release you are migrating from/to upgrading an Unified ICM/CCE 8.5(2) and above database to Unified ICM/CCE 9.0(x).

After all wizard panels are completed, EDMT retrieves the database version from the source database, and compares it to the schema versions for the Unified ICM releases supported for conversion. If the version detected is supported, the upgrade process continues.

If the schema version detected is not supported, an error message is displayed and the upgrade process does not continue. You must navigate back and select a database with the appropriate schema, or exit the program to terminate.

#### Migration Type Panel Properties

The Migration Type selected here affects the sequence of the EDMT wizard panels displayed as you progress through the rest of the migration process.

<table>
<thead>
<tr>
<th>Radio Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Ground</td>
<td>Select to perform a Common Ground database migration.</td>
</tr>
<tr>
<td>Technology Refresh</td>
<td>Select to perform a Technology Refresh database migration.</td>
</tr>
</tbody>
</table>
Database Connection Dialog

Source Database Connection Panel Properties

<table>
<thead>
<tr>
<th>Field/Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host Name/IP Address</td>
<td>Enter the host name, or IP address, of the source server hosting the database (Logger or HDS).</td>
</tr>
<tr>
<td>Unified ICM/CCE Database Name (drop-down menu)</td>
<td>Enter the name of the Unified ICM/CCE source database from the drop-down menu.</td>
</tr>
<tr>
<td>SQL Server Port Number</td>
<td>Enter the TCP/IP port in which the source SQL Server is running. This field defaults to 1433, the standard SQL Server port, if you do not designate another port.</td>
</tr>
<tr>
<td>Authentication</td>
<td>Select SQL Server Authentication or Windows Authentication (the default) from the drop-down menu.</td>
</tr>
<tr>
<td>Note:</td>
<td>• When SQL Server Authentication is selected, enter a SQL Server username and password that is valid for the selected database.</td>
</tr>
<tr>
<td></td>
<td>• When Windows Authentication is selected, the Domain Name, Username, and Password are disabled, and Windows Single Sign-On (SSO) uses your Windows authentication cached credentials to connect to the selected database.</td>
</tr>
<tr>
<td>Domain Name</td>
<td>Enter the domain name of the Windows account specified in the Windows Username field.</td>
</tr>
<tr>
<td>Username</td>
<td>Enter your Windows account user name to access the source database server.</td>
</tr>
<tr>
<td>Note:</td>
<td>Permissions to the master database, as well as to the Unified ICM database, are required. You must also have the permissions necessary to perform a database backup/restore. An account with SQL Server sysadmin privileges is sufficient.</td>
</tr>
<tr>
<td>Password</td>
<td>Enter the password for the user name entered in the Username field.</td>
</tr>
</tbody>
</table>

Destination Database Connection Panel Properties

Note: This panel only applies to Technology Refresh migrations.

<table>
<thead>
<tr>
<th>Field/Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host Name/IP Address</td>
<td>Disabled (read-only). The destination must be the current system. For SQL Server Authentication, enter the host name, or IP address, of the destination server hosting the database (Logger or HDS).</td>
</tr>
</tbody>
</table>
### Backup/Restore Dialog

#### Description

<table>
<thead>
<tr>
<th>Field/Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unified ICM/CCE Database Name (drop-down menu)</td>
<td>Disabled (read-only). The destination database will have the same name as the source database from the Source Database Connection Panel. When SQL Server Authentication is selected, enter the database name of the Unified ICM/CCE 8.5(2) or above source server entered on the previous screen, from the drop-down menu. Unified ICM requires the database names to be the same.</td>
</tr>
<tr>
<td>SQL Server Port Number</td>
<td>Enter the TCP/IP port in which the destination SQL Server is running. This field defaults to 1433, the standard SQL Server port, if you do not designate another port.</td>
</tr>
<tr>
<td>Authentication</td>
<td>Select SQL Server Authentication or Windows Authentication (the default) from the drop-down menu. <strong>Note:</strong> • When SQL Server Authentication is selected, enter a SQL Server username and password that is valid for the selected database. • When Windows Authentication is selected, the Domain Name, Username, and Password are disabled, and Windows Single Sign-On (SSO) uses your Windows authentication cached credentials to connect to the selected database.</td>
</tr>
<tr>
<td>Domain Name</td>
<td>Disabled when Windows Authentication is selected. When SQL Server Authentication is selected, enter the domain name of the Windows account specified in the Username field.</td>
</tr>
<tr>
<td>Username</td>
<td>Disabled when Windows Authentication is selected. When SQL Server Authentication is selected, enter your Windows account user name to access the destination database server. <strong>Note:</strong> Permissions to the master database, as well as to the Unified ICM database are required. You must also have the permissions necessary to perform a database backup/restore. An account with SQL Server sysadmin privileges is sufficient.</td>
</tr>
<tr>
<td>Password</td>
<td>Enter the password for the user name entered in the Windows Username field.</td>
</tr>
</tbody>
</table>

#### Backup/Restore Dialog

#### Backup Connection Panel Properties

<table>
<thead>
<tr>
<th>Field/Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host Name/IP Address</td>
<td>Enter the host name, or IP address, of the server hosting the Windows share. In most cases, this is the host name or IP address of the destination database server. This defaults to the destination database server, but it may be changed to point to another system.</td>
</tr>
</tbody>
</table>
Migration Control Dialog

### Destination Restore Location Panel Properties

<table>
<thead>
<tr>
<th>Field/Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Files Location</td>
<td>Enter the name of the directory where the database data file (.mdf) is to be created. The destination is prepopulated with the default location for database file storage for the version of SQL Server that you are running.</td>
</tr>
<tr>
<td>Log Files Location</td>
<td>Enter the name of the directory where the transaction log file (.ldf) is to be created. The destination is prepopulated with the default location for database file storage for the version of SQL Server that you are running.</td>
</tr>
<tr>
<td>Browse</td>
<td>Alternate method to set the Data and/or Log Files locations.</td>
</tr>
</tbody>
</table>

**Migration Control Dialog**

**Migration Control Dialog Properties**

<table>
<thead>
<tr>
<th>Field/Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migration Progress</td>
<td>Indicates the completion status of the migration progress after <strong>Start Migration</strong> is selected. As each task of the database migration completes, the Migration Progress moves one bar. Some tasks take longer than others and this is reflected in the movement of the progress bar.</td>
</tr>
<tr>
<td>Status</td>
<td>When <strong>Start Migration</strong> is selected, the following warning message is displayed:</td>
</tr>
<tr>
<td></td>
<td><strong>Warning:</strong> Data and schema corruption may result if this process is interrupted. The system database that was restored from the source would then be in an inconsistent state. The backup/restore process would then need to be performed again. Are you sure you want to start the data migration?</td>
</tr>
<tr>
<td></td>
<td>Click <strong>No</strong> to abort the migration.</td>
</tr>
</tbody>
</table>
### Field/Button | Description
--- | ---
Click **Yes** to start the data migration. This field then displays each task of the migration process as it starts and finishes. It also indicates when the migration process started, ended, and how long it took.
Each message in the Status field is logged.
Errors are displayed in bold, italic, red text.
Warnings are displayed in bold, italic, magenta text; and are repeated at the end of the migration.
**Note:** Warnings do not stop the migration process. Errors stop the migration process and may leave the database in a corrupt state.
The EDMT logs directory is located in the TEMP directory on the Windows system drive (typically C:\TEMP). The active log file is called c:\temp\edmt9.log.

This button tests the entered database connection values by attempting to access the database(s). All of the connection information was checked for validity when entered on its respective panels.
The connections check reports whether the database connections were made or not in the migration Status field.
A successful source database connection result is indicated by the following Status messages:
**Status:**
**Checking the connection to the database dd1_sideA on <source hostname>:<source port> ...** Displays miscellaneous messages .....  
**Database connection to the source verified OK**
A successful destination database connection result is indicated by the following Status messages:
**Status:**
**Checking the connection to the database dd1_sideA on the destination <destination server> ...** Displays miscellaneous messages .....  
**Database connection to the destination verified OK**
**Verifying the source SQL Server and destination SQL Server using the same collation ...**
**Both source and destination SQL Servers using the same collation (Latin1_General_BIN)**
If a problem occurs, go back to the appropriate panel and change the incorrect information. If the connections check passes, the database migration process starts.
### Migration Control Dialog

<table>
<thead>
<tr>
<th>Field/Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminate Migration and Exit</td>
<td>Disabled until the migration process starts. When selected, the following warning is displayed:</td>
</tr>
<tr>
<td></td>
<td><strong>Warning:</strong> <em>Data and schema corruption may result if this process is interrupted. The system database would then be in an inconsistent state. The backup/restore process would then need to be performed again. Are you sure you want to terminate the data migration?</em></td>
</tr>
<tr>
<td></td>
<td>Click <strong>No</strong> to continue migration. Click <strong>Yes</strong> to terminate migration and exit the tool.</td>
</tr>
<tr>
<td></td>
<td>Once the database conversion process starts, you may interrupt the process by selecting <strong>Cancel</strong>. Cancelling the database conversion process causes the database to be in an inconsistent state. If this happens, you must perform the following:</td>
</tr>
<tr>
<td></td>
<td>1. Restore the database that you backed up prior to running EDMT, to put the database back into a consistent state.</td>
</tr>
<tr>
<td></td>
<td>2. Rerun EDMT.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> If you terminate the data migration, you must restore the database from the backup using the overwrite option.</td>
</tr>
</tbody>
</table>

### How to start the data migration process

**Step 1**  
Click **Start Migration**.

The following warning appears:

**Warning:** *Data and schema corruption may result if this process is interrupted. The Unified ICM/CCE database that was restored from the source would then be in an inconsistent state. The backup/restore process would then need to be performed again. Are you sure you want to start the data migration? Click No to abort the data migration. Click Yes to start the data migration.*

This field then displays each task of the migration process as it starts and finishes. It also indicates when the migration process started, ended, and how long it took.

Each message in the Status field is logged. Errors shown in this field are presented in bold italic red text. The EDMT logs directory is located in the TEMP directory on the Windows system drive (typically C:\TEMP).

**Step 2**  
Select the appropriate option.
How to terminate the in-progress data migration

If it becomes necessary to terminate an in-progress data migration, perform the following.

**Step 1**  
Click **Terminate Migration and Exit**.

The following warning appears:

*Warning: Data and schema corruption may result if this process is interrupted. The Unified ICM/CCE database would then be in an inconsistent state and need to be restored from backup. Are you sure you want to terminate the data migration? Click Yes to terminate the migration process and exit the application. Click No to continue the migration process.*

**Step 2**  
Select the appropriate option.

If you terminate the migration, you must then perform the following:

- Drop the database restored on the destination server.
- Rerun EDMT.
Chapter 7: Enhanced Database Migration Tool (EDMT) for Unified CCE 8.0(1)

Migration Control Dialog
Upgrade Procedures

Determine which of the following upgrade examples is similar to your system. Follow the procedures for each step indicated in the Reference column.

Warning: In order to complete an upgrade successfully, you MUST follow the order of upgrade as defined in this guide.

Warning: When upgrading an Unified ICM/Contact Center parent/child system, upgrade the child first, then the parent. This prevents issues in case of a protocol change.

Note: When you upgrade the Unified ICM server with the ICM-CCE-CCHInstaller, if you choose to apply a MR patch, you must specify the MR patch location in the text box of the Installer. After the upgrade is complete, a copy of the patch is available in the C:Temp folder. This copy occupies little disk space and is not removed from the server.

For Unified SCCE 7.x migration to Unified CCE Release 8.0(1) see Chapter 17. (page 135)

This chapter contains the following topics:

- Technology Refresh Upgrade Examples, page 75
- Common Ground Upgrade Examples, page 86
- Unified ICM/Contact Center Component Upgrade Process, page 93
- Silent Installation/Upgrade, page 93

Technology Refresh Upgrade Examples

Before undertaking a Technology Refresh upgrade, it's important that the newly deployed servers be installed. The Active Directory environment (whether corporate or dedicated to the Unified ICM/Contact Center applications) must be configured/staged. The Windows Firewall configuration scripts must be deployed before Unified ICM/Contact Center servers can accept network connections.
Note: For additional Windows and SQL Server staging information, see the Staging Guide, Unified ICM/Contact Center Enterprise/Hosted, Unified ICM/Contact Center Software (http://www.cisco.com/en/US/products/sw/custcosw/ps1001/prod_installation_guides_list.html)

Two technology refresh examples are provided below. Both examples assume redundant configurations with Side A and Side B Routers and Loggers, and the HDS/Administration & Data Server are part of the system being upgraded and are required to support the number of reporting users. The examples therefore include the deployment of a temporary HDS/Administration & Data Server to maintain maximum system functionality and reporting capacity during the upgrade process.

The deployment of a temporary HDS/Administration & Data Server may not be necessary depending on the contact center hours of operation, the estimated upgrade time for each Unified ICM/Contact Center node (for additional information see Chapter 5: Unified ICM/Contact Center 8.0(1) Upgrade Time and Space Requirements (page 33)), whether one or two HDS/Administration & Data Servers are deployed, the reporting user capacity required during upgrade, and other operational factors. The temporary HDS/Administration & Data Server does not provide historical reporting, only real-time reporting is provided.

The following figures provide a visual overview of the upgrade process.
Figure 4: Technology Refresh 8.0(1), 8.0(2), 8.0(3), or 8.5(1) to 8.5(2) to 8.5(2) (same process applies to CME/OS Server)

Note: EDMT is never used for minor upgrades.

Technology Refresh on Same Hardware or to new hardware for Unified CME 8.0(1), 8.0(2), 8.0(3), or 8.5(1) to 8.5(2) (same process applies to CME/OS Server)

Note: The common ground (“In place”) upgrade is not supported from a 32-bit (x86) Operating System (OS) (regardless of whether or not it is on 64-bit hardware) to Windows Server 2008 R2 (a 64-bit x64) Operating System (OS). Instead, use the technology refresh upgrade for this migration (technology refresh includes hardware (optional) and operating system).

Logger:
<Instance>_sideA
<Instance>_sideB
<Instance>_baA
<Instance>_baB

AW-HDS-DDS:
<Instance>_hds

Backup Database(s)
using SQL Server
Management Studio
(old system)

Export Registry using
regutil.exe*
(old system)

Install Windows Server
2008 R2 SP1 or higher
(new system)

Restore Database(s) to
New System

Install Unified CME
8.0(1a), when
prompted provide the path to the exported
registry file, location and location of the
8.5(2) patch, then
reboot

8.0(1a) Installer disregards schema version and allows “upgrade” from 8.0(2), 8.0(3), or 8.5(1) to 8.0(1)

8.5(2) Patch includes everything from 8.0(2), 8.0(3), and 8.5(1)

8.0(1a) Installer automatically downloads and applies
8.5(2) Patch, then
reboot

Perform Regression
Test (test call)

Note: 8.5(2) patch resolves issues with our applications when running on Windows Server 2008 R2
Figure 5: Technology Refresh 7.5(x) to 8.5(2) on Same Hardware

Technology Refresh on Same Hardware for Unified CCE 7.5(x) to 8.5(2)
(Similar process applies to CTI OS Server)

Notes: The common ground ("in place") upgrade is not supported from a 32 bit (98) Operating System (OS) (regardless of whether or not it is on 64 bit hardware) to Windows Server 2008 R2 (64 bit) Operating System (OS). Instead, use the technology refresh upgrade for this migration (technology refresh includes hardware [optional] and operating system).

Backup Database(s)

Export Registry using regutil.exe*

Install Windows Server 2008 R2 (SP1 or higher)

Install SQL 2005 w/SP for Logger and AW

Restore Database(s)

Run EDMT 8.0(1a) to upgrade the Database Schema

Install Unified CCE 8.0(1a), when prompted provide the path to the exported registry file location and location of the 8.5(2) patch, then reboot

8.0(1a) installer automatically copies to C:\temp and applies 8.5(2) Patch, then reboot

Perform Regression Test [test call]

*regutil.exe is available on the 8.0(1a) installer media

Logger:
<instance>_sideA
<instance>_sideB
<instance>_baA
<instance>_baB
AW-HDS-DDS;
<instance>_hds
Exporting the Registry in a Technology Refresh Upgrade

**Note:** When performing a Tech Refresh migration from UCCE 7.x/8.0(x) with WebView to UCCE 8.5(x) on Windows 2008 R2, you must first **manually delete the WebView key from the registry** prior to running regutil.exe to export.

WebView is no longer supported in 8.5(x), nor are the pre-requisite tools necessary for it to install and operate available for Windows 2008 R2. If the WebView key is present in the registry when the 8.0(1a) installer is run, setup will error and exit.

**Key:** HKLM\SOFTWARE\Cisco Systems, Inc.\ICM\WebView
Step 1  How to export a registry file from the source machine

a.  Open a command prompt and change directory to the location where the RegUtil.exe resides. This location can be the UCCE 8.0(1) install media.

b.  Run the RegUtil tool to export the Cisco Systems, Inc. registry using the RegUtil -export [target directory] command.

The target-dir is optional. If not specified, the tool will output the result of the Registry export to the current directory.

The output filename will be of the format RegUtil_<hostname>.dat, where hostname is the name of the source machine.

Examples:

•  Example 1: Run "RegUtil -export c:\temp" on machine setcon.

   In the above example, a file called RegUtil_setcon.dat will be created in C:\temp.

•  Example 2: Run "RegUtil -export" on machine setcon from directory c:\test.

   In the above example, a file called RegUtil_setcon.dat will be created in C:\test.

Note: Important:  The target folder must have write access. Therefore, the install media on a DVD cannot be selected.

Also, each time RegUtil is run with the export option, if there is already an existing RegUtil_<hostname>.dat file, it will rename that file to RegUtil_<hostname>.dat.bak<number>. So, in the above examples, it will create RegUtil_setcon.dat.bak1 if run a second time and RegUtil_setcon.dat.bak2 if run a third time, and so on.

Technology Refresh Example 1: Production HDS/Administration & Data Server Upgraded in Parallel with the Central Controller

In the first example, the production HDS/Administration & Data Server is upgraded in parallel with the central controller. If necessary, an Unified ICM/Contact Center 8.0(1) temporary HDS/Administration & Data Server is configured before the central controller upgrade maintenance window to enable real-time reporting and configuration during the time that the production HDS/Administration & Data Server is off-line.

Table 2: How to perform a Technology Refresh upgrade where the production HDS/Administration & Data Server is upgraded in parallel with the Central Controller Upgrade Maintenance Window

<table>
<thead>
<tr>
<th>Step</th>
<th>Time Estimate</th>
<th>Action</th>
<th>Reference</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>None.</td>
<td>Upgrade the production system to the required baseline.</td>
<td>Baseline Requirements (page 23)</td>
<td>None.</td>
</tr>
<tr>
<td>Step</td>
<td>Time Estimate</td>
<td>Action</td>
<td>Reference</td>
<td>Comments</td>
</tr>
<tr>
<td>------</td>
<td>---------------</td>
<td>--------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>2</td>
<td>None.</td>
<td>Create the Active Directory environment.</td>
<td>Active Directory and DNS Considerations for Upgrades (page 53)</td>
<td>No impact on the production system.</td>
</tr>
<tr>
<td>3</td>
<td>None.</td>
<td>Set up the new hardware.</td>
<td>Setting Up the Hardware (page 39)</td>
<td>No impact on the production system.</td>
</tr>
<tr>
<td>4</td>
<td>1 hour</td>
<td>Set up a temporary 8.0(1) Administration &amp; Data Server.</td>
<td>Setting Up a Temporary Unified ICM/Contact Center 8.0(1) Administration &amp; Data Server (page 104)</td>
<td>Required to enable configuration and real-time reporting while the Administration &amp; Data Server is being upgraded.</td>
</tr>
<tr>
<td></td>
<td>Start of Central Controller Upgrade Maintenance Window</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1 hour + data migration time</td>
<td>Upgrade the Administration &amp; Data Server.</td>
<td>Administration &amp; Data Server Technology Refresh Upgrade (page 100)</td>
<td>Reporting capacity is diminished until the completion of the Side B Logger, CallRouter and Administration &amp; Data Server upgrade is brought back into service.</td>
</tr>
<tr>
<td>6</td>
<td>1 hour + data migration time</td>
<td>Upgrade the Side A Logger.</td>
<td>Logger Technology Refresh Upgrade: Side A/B (page 109)</td>
<td>Routing is done by the non-upgraded system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Both existing CallRouters are duplexed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The Logger is simplex.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Configuration changes are disabled.</td>
</tr>
<tr>
<td>7</td>
<td>1 hour</td>
<td>Upgrade the Side A CallRouter.</td>
<td>CallRouter Technology Refresh Upgrade: Side A/B (page 113)</td>
<td>The production system is running simplex on Side B.</td>
</tr>
<tr>
<td>8</td>
<td>1 hour per server</td>
<td>Install the WebView server(s) if not collocated on the Administration &amp; Data Server.</td>
<td>WebView Installation Guide (^1)</td>
<td>Note: WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.</td>
</tr>
<tr>
<td>9</td>
<td>1+ hours depending on number of PGs</td>
<td>Invoke the Upgraded Administration &amp; Data Server, when available, at any point after Step 8.</td>
<td>None.</td>
<td>Default routing occurs from the shutdown of the existing system until the new Side A CallRouter</td>
</tr>
</tbody>
</table>

---


---

Start of Central Controller Upgrade Maintenance Window
# Technology Refresh Upgrade Examples

<table>
<thead>
<tr>
<th>Step</th>
<th>Time Estimate</th>
<th>Action</th>
<th>Reference</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Bring down the production system (CallRouters, Loggers, and Administration &amp; Data Servers).</td>
<td></td>
<td>and Logger are brought into service.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Invoke the new Side A CallRouter and Logger.</td>
<td></td>
<td>Real-time reporting is provided via the temporary Administration &amp; Data Server set up in step 4.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Point the temporary Administration &amp; Data Server, PGs, to the new CallRouter &amp; Logger in the new domain.</td>
<td></td>
<td>Historical reporting is not available until the Administration &amp; Data Server upgrade is complete and brought back on line.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Reporting capacity remains reduced until the completion of the Side B Logger, CallRouter and Administration &amp; Data Server upgrade is brought back into service.</td>
</tr>
<tr>
<td>10</td>
<td>1 hour</td>
<td>Upgrade the Side B CallRouter.</td>
<td>CallRouter Technology Refresh Upgrade: Side A/B (page 113)</td>
<td>Routing is simplex until the Side B CallRouter is upgraded and brought into service.</td>
</tr>
<tr>
<td>11</td>
<td>1 hour + data migration time</td>
<td>Upgrade the Side B Logger.</td>
<td>Logger Technology Refresh Upgrade: Side A/B (page 109)</td>
<td>Configuration is enabled once the Side B Logger is upgraded and brought into service.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>End of Central Controller Upgrade Maintenance Window</td>
<td>******************</td>
<td>******************</td>
<td>******************</td>
<td>******************</td>
</tr>
<tr>
<td>12</td>
<td>1 hour + data migration time2-5 hours (1-80 GB)</td>
<td>Upgrade the Administration &amp; Data Server.</td>
<td>Administration &amp; Data Server Technology Refresh Upgrade (page 100)</td>
<td>This can begin at any point after Step 9.</td>
</tr>
<tr>
<td>13</td>
<td>Included in time estimate for Step 5.</td>
<td>As soon as the upgraded Administration &amp; Data Server is brought on line bring down the temporary Administration &amp; Data Server currently pointing to the</td>
<td>None.</td>
<td>Historical reporting is available once the HDS is brought into service.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If reporting capacity dictates, the temporary Administration &amp; Data Server could be pointed to the B side until the</td>
<td></td>
<td>Real-time reporting is available via the temporary Administration &amp; Data Server</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Overall reporting capacity is restored via the combination of the Side A and temporary Administration &amp; Data Server.</td>
</tr>
</tbody>
</table>
Administration & Data Server upgrade is complete.

14 Included in time estimate for Step 12. Invoke the Upgraded Administration & Data Server. None. The temporary Administration & Data Server can be decommissioned once the Administration & Data Server is brought into service. Full reporting functionality and capacity is available at this point.

15 1 hour per node Upgrade the Administration & Data Servers and PGs. Administration & Data Server Upgrade Procedures (page 95) PG Technology Refresh Upgrade (page 122) None.

Technology Refresh Example 2: Production HDS/Administration & Data Server Upgraded Before the Central Controller Upgrade Maintenance Window

In the second example, the production HDS/Administration & Data Server is upgraded before the central controller upgrade maintenance window. If a secondary HDS/Administration & Data Server is not available, a Release 7.1(x), 7.2(x), or 7.5(x) temporary HDS/Administration & Data Server is set up to enable real-time reporting and configuration between the time that the HDS/Administration & Data Server is upgraded and the time that the CallRouter, Logger, and Administration & Data Server are brought into service.

For a technology refresh upgrade of an HDS/Administration & Data Server, it is only necessary to bring the source (existing) HDS off-line during the backup/restore and registry export process.

**Note:** Instead of configuring and deploying a temporary Release 7.1(x), 7.2(x), or 7.5(x) HDS/Administration & Data Server, you also have the option of bringing the source (existing) HDS back on line. This option is not recommended if maximum reporting capacity and functionality is required during upgrade, since the intent is to upgrade the HDS/Administration & Data Server well in advance of the Central Controller upgrade maintenance window. If you do choose this option, ensure the Logger purge setting is long enough to prevent data loss.

Table 3: How to perform a Technology Refresh upgrade on a system where the production HDS/Administration & Data Server is upgraded before the Central Controller upgrade maintenance window:

<table>
<thead>
<tr>
<th>Step</th>
<th>Time Estimate</th>
<th>Action</th>
<th>Reference</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>None.</td>
<td>Upgrade the production system to the required baseline.</td>
<td>Baseline Requirements (page 23)</td>
<td>None.</td>
</tr>
<tr>
<td>2</td>
<td>None.</td>
<td>Create the Active Directory environment.</td>
<td>Active Directory and DNS Considerations for Upgrades (page 53)</td>
<td>No impact on the production system.</td>
</tr>
<tr>
<td>Step</td>
<td>Time Estimate</td>
<td>Action</td>
<td>Reference</td>
<td>Comments</td>
</tr>
<tr>
<td>------</td>
<td>---------------</td>
<td>--------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>3</td>
<td>None.</td>
<td>Set up the new hardware.</td>
<td>Setting Up the Hardware (page 39)</td>
<td>No impact on the production system.</td>
</tr>
<tr>
<td>4</td>
<td>1 hour</td>
<td>Set up a temporary Release 7.1(x), 7.2(x), or 7.5(x) HDS/Administration &amp; Data Server.</td>
<td>Setting Up a Temporary Unified ICM/Contact Center Administration &amp; Data Server-HDS (page 104)</td>
<td>Required to enable configuration and real-time reporting until the upgraded CallRouter, Logger, and HDS/Administration &amp; Data Server are brought into service. If the HDS/Administration &amp; Data Server is available and the reporting capacity of two HDSs is not required, it is not necessary to set up the temporary HDS/Administration &amp; Data Server.</td>
</tr>
<tr>
<td>5</td>
<td>1 hour + data migration time</td>
<td>Upgrade the HDS/Administration &amp; Data Server.</td>
<td>Administration &amp; Data Server-HDS Technology Refresh Upgrade (page 100)</td>
<td>Complete this step before the start of the Central Controller upgrade maintenance window. Reporting is provided by the HDS/Administration &amp; Data Server and/or the temporary HDS/Administration &amp; Data Server. In place of the temporary HDS/Administration &amp; Data Server, it is also possible to invoke the un-upgraded HDS/Administration &amp; Data Server back into service after the backup/restore, user domain conversion, and registry export is complete.</td>
</tr>
<tr>
<td>6</td>
<td>1 hour per server</td>
<td>Install the WebView server(s) if not co-located on the Administration &amp; Data Server-HDS.</td>
<td><strong>WebView Installation Guide</strong>&lt;sup&gt;2&lt;/sup&gt;</td>
<td><strong>Note:</strong> WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.</td>
</tr>
<tr>
<td>7</td>
<td>1 hour + data migration time</td>
<td>Upgrade the Side A Logger.</td>
<td>Logger Technology Refresh Upgrade: Side A/B (page 109)</td>
<td>Routing is done by the non-upgraded system. Both existing CallRouters are duplexed.</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Step</th>
<th>Time Estimate</th>
<th>Action</th>
<th>Reference</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>1 hour</td>
<td>Upgrade the Side A CallRouter.</td>
<td>CallRouter Technology Refresh Upgrade: Side A/B (page 113)</td>
<td>The Logger is simplex. Configuration changes are disabled. The production system is running simplex on Side B CallRouter.</td>
</tr>
<tr>
<td>9</td>
<td>1+ hours depending on number of PGs</td>
<td>Bring down the production system (CallRouters, Loggers, and Administration &amp; Data Servers), invoke the new Side A CallRouter Logger, and HDS/Administration &amp; Data Server. Point the PGs to the new CallRouter and Logger in the new domain.</td>
<td>None.</td>
<td>Default routing occurs from the shutdown of the existing system until the new Side A CallRouter and Logger are brought into service. Historical and Real-time reporting is provided by the previously upgraded HDS/Administration &amp; Data Server (step 5). If a temporary Release 7.1(x), 7.2(x), or 7.5(x) HDS/Administration &amp; Data Server was in use, it can be decommissioned at this point.</td>
</tr>
<tr>
<td>10</td>
<td>1 hour + data migration time</td>
<td>Upgrade the HDS/Administration &amp; Data Server and bring into service once the upgrade is completed.</td>
<td>Administration &amp; Data Server-HDS Technology Refresh Upgrade (page 100)</td>
<td>This can begin at any point after step 9.</td>
</tr>
<tr>
<td>11</td>
<td>1 hour + data migration time</td>
<td>Upgrade the Side B Logger.</td>
<td>Logger Technology Refresh Upgrade: Side A/B (page 109)</td>
<td>Configuration is enabled once the Side B Logger is upgraded and brought into service.</td>
</tr>
<tr>
<td></td>
<td>***********************</td>
<td>***********************</td>
<td>***********************</td>
<td>***********************</td>
</tr>
<tr>
<td><strong>End of Central Controller Upgrade Maintenance Window</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>1 hour per node</td>
<td>Upgrade the Administration &amp; Data Servers and PGs.</td>
<td>Administration &amp; Data Server Upgrade Procedures (page 95) PG Technology Refresh Upgrade (page 122)</td>
<td>None.</td>
</tr>
</tbody>
</table>
Common Ground Upgrade Examples

Common Ground Upgrade Example 1: Production HDS/Administration & Data Server Upgraded in Parallel with Central Controller

Two Common Ground upgrade examples are provided below. Both examples assume redundant configurations with Side A and Side B CallRouters and Loggers, and the HDS/Administration & Data Servers are part of the system being upgraded and are required to support the number of reporting users. The examples therefore include the deployment of a temporary HDS/Administration & Data Server to maintain maximum system functionality and reporting capacity during the upgrade process.

The deployment of a temporary HDS/Administration & Data Server may not be necessary depending on:

- the contact center hours of operation
- the estimated upgrade time for each Unified ICM/Contact Center node
- whether one or two HDS/Administration & Data Servers are deployed
- the reporting user capacity required during upgrade
- other operational factors

The temporary HDS/Administration & Data Server does not provide historical reporting, only real-time reporting is provided.

In the first example, the production HDS/Administration & Data Server is upgraded in parallel with the Central Controller. If necessary, a Release 8.0(1) temporary HDS/Administration & Data Server is configured prior to the Central Controller upgrade maintenance window to enable real-time reporting and configuration during the time that the production HDS/Administration & Data Server is off-line being upgraded.

Table 4: How to perform a Common Ground upgrade where the production HDS/Administration & Data Server is upgraded in parallel with the Central Controller Upgrade Maintenance Window:

<table>
<thead>
<tr>
<th>Step</th>
<th>Time Estimate</th>
<th>Action</th>
<th>Reference</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>None.</td>
<td>Upgrade the production system to the required baseline.</td>
<td>Baseline Requirements (page 23)</td>
<td>None.</td>
</tr>
<tr>
<td>2</td>
<td>None.</td>
<td>Create the Active Directory environment.</td>
<td>Active Directory and DNS Considerations for Upgrades (page 53)</td>
<td>No impact on the production system.</td>
</tr>
<tr>
<td>Step</td>
<td>Time Estimate</td>
<td>Action</td>
<td>Reference</td>
<td>Comments</td>
</tr>
<tr>
<td>------</td>
<td>---------------</td>
<td>--------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>3</td>
<td>1 hour</td>
<td>Set up a temporary HDS/Administration &amp; Data Server.</td>
<td>Setting Up a Temporary Unified ICM/Contact Center Administration &amp; Data Server-HDS (page 104)</td>
<td>Required to enable configuration and real-time reporting while the HDS/Administration &amp; Data Server is being upgraded.</td>
</tr>
<tr>
<td></td>
<td>Start of Central Controller Upgrade Maintenance Window</td>
<td>********************************</td>
<td>************</td>
<td>************</td>
</tr>
<tr>
<td>4</td>
<td>1 hour + data migration time</td>
<td>Upgrade the HDS/Administration &amp; Data Server.</td>
<td>Administration &amp; Data Server-HDS Common Ground Upgrade (page 103)</td>
<td>Step 5 can begin as soon as the EDMT is configured and running. Reporting is provided by the HDS/Administration &amp; Data Server, although reporting capacity is diminished until the completion of both sides of the Central Controller have been upgraded and brought back on-line.</td>
</tr>
<tr>
<td>5</td>
<td>1 hour + data migration time</td>
<td>Upgrade the Side A Logger.</td>
<td>Logger Common Ground Upgrade: Side A/B (page 111)</td>
<td>Routing done by non-upgraded system. Both existing CallRouters are duplexed. The Logger is simplex. Configuration changes are disabled.</td>
</tr>
</tbody>
</table>
## Step 6

**Time Estimate:** 1 hour  
**Action:** Upgrade the Side A CallRouter.  
**Reference:** CallRouter Common Ground Upgrade: Side A (page 114)  
**Comments:** The production system is running simplex on Side B.

## Step 7

**Time Estimate:** 1 hour per server  
**Action:** Install the WebView server(s) if not co-located on the Administration & Data Server-HDS.  
**Reference:** WebView Installation Guide  
**Comments:** Note: WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.

## Step 8

**Time Estimate:** 1+ hours  
**Action:** Bring down the side B CallRouter, Logger, and all Administration & Data Server and Administration Client systems.  
Invoke the upgraded Side A CallRouter and Logger.  
Point the temporary HDS/Administration & Data Server to the upgraded Side A CallRouter and Logger.  
None.  
**Reference:** How to Bring Side A into Service (page 115)  
**Comments:** Default routing occurs from the shutdown of the Side B CallRouter until the upgraded Side A CallRouter and Logger are brought into service.  
Real-time reporting is provided via the temporary HDS/Administration & Data Server set up in step 3.  
Reporting capacity is diminished until the HDS/Administration & Data Server is brought into service.

## Step 9

**Time Estimate:** 1 hour  
**Action:** Upgrade the Side B CallRouter.  
**Reference:** CallRouter Common Ground Upgrade: Side B (page 117)  
**Comments:** Routing is simplex until the Side B CallRouter is upgraded and brought into service.

---

<table>
<thead>
<tr>
<th>Step</th>
<th>Time Estimate</th>
<th>Action</th>
<th>Reference</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>1 hour + data migration time</td>
<td>Upgrade the Side B Logger.</td>
<td>Logger Common Ground Upgrade: Side A/B (page 111)</td>
<td>Configuration is enabled once the Side B Logger is upgraded and brought into service.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>End of Central Controller Upgrade Maintenance Window</strong></td>
<td>******************</td>
<td>******************</td>
<td>******************</td>
<td>******************</td>
</tr>
<tr>
<td>11</td>
<td>1 hour + data migration time</td>
<td>Upgrade the Side B HDS/Administration &amp; Data Server.</td>
<td>Administration &amp; Data Server-HDS Common Ground Upgrade (page 103)</td>
<td>This can begin at any point after step 8.</td>
</tr>
<tr>
<td>12</td>
<td>Included in time estimate for Step 4.</td>
<td>Bring down the temporary Administration &amp; Data Server-HDS and then bring up the upgraded Administration &amp; Data Server-HDS (or vice versa) when available, at any point after Step 8.</td>
<td>None.</td>
<td>Historical and Realtime reporting is available via the upgraded Administration &amp; Data Server-HDS once the upgraded Administration &amp; Data Server-HDS is brought on line. Reporting capacity is still diminished until the completion of the upgrade of the B side Administration &amp; Data Server-HDS and it is brought back on-line.</td>
</tr>
<tr>
<td>13</td>
<td>Included in time estimate for Step 12.</td>
<td>Invoke the Upgraded HDS/Administration &amp; Data Server.</td>
<td>None.</td>
<td>The temporary HDS/Administration &amp; Data Server can be decommissioned once the HDS/Administration &amp; Data Server is brought into service. Full reporting functionality and</td>
</tr>
</tbody>
</table>
Common Ground Upgrade Example 2: Production HDS/Administration & Data Server Upgraded Before the Central Controller Upgrade Maintenance Window

In the second example, the production HDS/Administration & Data Server is upgraded before the Central Controller upgrade maintenance window. If a secondary HDS/Administration & Data Server is not available, a Release 7.1(x), 7.2(x), or 7.5(x) temporary HDS/Administration & Data Server is set up to enable real-time reporting and configuration between the time that the HDS/Administration & Data Server is upgraded and the upgraded CallRouter, Logger, and Administration & Data Server are brought into service. Do not use this option if maximum reporting capacity and functionality is required during upgrade, since the intent is to upgrade the HDS/Administration & Data Server well in advance of the Central Controller upgrade maintenance window.

Table 5: How to perform a Common Ground upgrade on a system where the production HDS/Administration & Data Server is upgraded before the Central Controller upgrade maintenance window:

<table>
<thead>
<tr>
<th>Step</th>
<th>Time Estimate</th>
<th>Action</th>
<th>Reference</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>None.</td>
<td>Upgrade the production system to the required baseline.</td>
<td>Baseline Requirements (page 23)</td>
<td>None.</td>
</tr>
<tr>
<td>2</td>
<td>None.</td>
<td>Create the Active Directory environment.</td>
<td>Active Directory and DNS Considerations for Upgrades (page 53)</td>
<td>No impact on the production system.</td>
</tr>
</tbody>
</table>
| 3    | 1 hour        | Set up temporary Release 7.1(x), 7.2(x), or 7.5(x) HDS/Administration & Data Server. | Setting Up a Temporary Unified ICM/Contact Center Administration & Data Server-HDS (page 104) | Required to enable configuration and real-time reporting until the upgraded CallRouter, Logger, and HDS/Administration & Data Server are brought into service. If the HDS/Administration & Data Server is
<table>
<thead>
<tr>
<th>Step</th>
<th>Time Estimate</th>
<th>Action</th>
<th>Reference</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1 hour + data migration time</td>
<td>Upgrade the HDS/Administration &amp; Data Server.</td>
<td>Administration &amp; Data Server-HDS Common Ground Upgrade (page 103)</td>
<td>Complete this step before the start of the Central Controller upgrade maintenance window. Reporting is provided by the HDS/Administration &amp; Data Server and/or the temporary HDS/Administration &amp; Data Server. If only a temporary Administration &amp; Data Server-HDS is available, historical reporting is not available until the upgrade completes.</td>
</tr>
<tr>
<td>5</td>
<td>1 hour per server</td>
<td>Install the WebView server(s) if not co-located on the Administration &amp; Data Server-HDS.</td>
<td>WebView Installation Guide$^4$</td>
<td>Note: WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start of Central Controller Upgrade Maintenance Window</td>
<td>********************</td>
<td>********************</td>
<td>********************</td>
<td>********************</td>
</tr>
<tr>
<td>6</td>
<td>1 hour + data migration time</td>
<td>Upgrade the Side A Logger.</td>
<td>Logger Common Ground Upgrade: Side A/B (page 111)</td>
<td>Routing is done by the non-upgraded duplexed CallRouters. The Logger is simplex.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step</th>
<th>Time Estimate</th>
<th>Action</th>
<th>Reference</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>1 hour</td>
<td>Upgrade the Side A CallRouter.</td>
<td>CallRouter Common Ground Upgrade: Side A (page 114)</td>
<td>The production system is running simplex on Side B.</td>
</tr>
<tr>
<td>8</td>
<td>1+ hours depending on number of PGs</td>
<td>Bring down the side B CallRouter, Logger, and all Administration &amp; Data Server and Administration Client systems. Invoke the upgraded Side A CallRouter, Logger, and HDS/Administration &amp; Data Server.</td>
<td>None. How to Bring Side A into Service (page 115)</td>
<td>Default routing occurs from the shutdown of the Side B CallRouter until the upgraded Side A CallRouter and Logger are brought into service. Reporting is provided by the previously upgraded HDS/Administration &amp; Data Server. If a temporary Release 7.1(x), 7.2(x), or 7.5(x) HDS/Administration &amp; Data Server was in use, it can be decommissioned at this point.</td>
</tr>
<tr>
<td>9</td>
<td>1 hour</td>
<td>Upgrade the Side B Logger.</td>
<td>Logger Common Ground Upgrade: Side A/B (page 111)</td>
<td>Routing is done by the upgraded CallRouter and Logger - simplex.</td>
</tr>
<tr>
<td>10</td>
<td>1 hour + data migration time</td>
<td>Upgrade Side B CallRouter.</td>
<td>CallRouter Common Ground Upgrade: Side B (page 117)</td>
<td>Configuration is enabled once the Side B Logger is upgraded and brought into service.</td>
</tr>
<tr>
<td>End of Central Controller Upgrade Maintenance Window</td>
<td>***************</td>
<td>**************</td>
<td>***************</td>
<td>***************</td>
</tr>
<tr>
<td>11</td>
<td>1 hour + data migration time</td>
<td>Upgrade the Side B CallRouter, HDS/Administration &amp; Data Server and bring it into service once the upgrade is completed.</td>
<td>Administration &amp; Data Server-HDS Common Ground Upgrade (page 103)</td>
<td>This can begin at any point after step 8.</td>
</tr>
</tbody>
</table>
Unified ICM/Contact Center Component Upgrade Process

Following chapters provide information on the upgrade process for each major Unified ICM/Contact Center component. The process assumes that most components are configured redundantly, typically Side A and Side B. For Unified ICM/Contact Center 8.0(1), the database migration uses a process and tool called the Enhanced Database Migration Tool (EDMT) (see Enhanced Database Migration Tool for Unified ICM/Contact Center 8.0(1) (page 61)). This tool is referenced in the step-by-step procedures in this document.

**Note:**

- EDMT is not used to migrate data for a technology refresh from UCCE 8.x(y) to 8.5(2) or higher on Windows Server 2008 R2.

- The phrase “Unified ICM/Contact Center core components” or “core components” refers to the following Unified ICM components: CallRouter, Logger, Admin Workstations (Administration & Data Servers), Peripheral Gateways (PGs), CTI Servers, CTI OS Servers, Historical Data Server (HDS), WebView Server.

- The phrase “ICM Central Controller” or “ICM Central Controller components” refers to the following Unified ICM components: CallRouter, Logger, Administration & Data Server (with or without HDS, HDS with or without WebView Server).

- WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.

**Silent Installation/Upgrade**

There are situations, such as when a system administrator wants to install or upgrade software automatically on multiple systems simultaneously, where it is preferable to perform a silent installation of Unified ICM instead of running an installation wizard. To accommodate such situations, you can perform a silent installation of the Release 8.0(1) software. You can run a silent installation when performing a fresh install, an upgrade, or when reinstalling Release 8.0(1).

Before running a silent installation, you must stop all applications running on the system and stop Cisco Security Agent manually.

If the existing version of CSA is not supported, uninstall and re-install a compatible version.
**Note:** CSA is not supported on Windows Server 2008 R2.

**Chapter 9**

Administration & Data Server (Formerly AW)

Upgrade Procedures

Introduction

*Note:* WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.

The component known as the AW in previous ICM releases is now called the Administration & Data Server in Release 8.0(1).

An Administration & Data Server can have one of the following roles in Release 8.0(1):

- **Administration Server and Real-time Data Server (Administration & Data Server)** -- This role is similar to the "AW" role in previous ICM releases. This role provides the ability for configuration changes as well as for real time reporting. The real time reporting is supported using either WebView server or Cisco Unified Intelligence Center (Reporting client). This role does not support historical reporting.

- **Configuration-Only Administration Server** -- In this role, the Historical Data Server (HDS) is not enabled and real time reporting is turned off. This Administration & Data Server deployment provides ability for configuration changes only. Real time and historical reporting are not supported.

- **Administration Server, Real-time and Historical Data Server, and Detail Data Server (Administration & Data Server-HDS-DDS)** -- This role is similar to the "AW" role in previous ICM releases. It provides ability for configuration changes as well as both real time and historical reporting. The real time and historical reporting is supported using one of two reporting clients: WebView server or Cisco Unified Intelligence Center (CUIC). The call detail and call variable data are supported for custom reporting data extraction to meet the requirements for System Call Trace Tool and feed historical data to the Cisco Unified Intelligence Suite (CUIS) (Archiver).
• **Administration Server and Real-time and Historical Data Server (Administration & Data Server-HDS)** -- This role provides ability for configuration changes as well as for both real time and historical reporting. The real time and historical reporting is supported using either WebView server or Cisco Unified Intelligence Center (Reporting client).

In addition, the following are disabled and not supported:

- The Call Detail, Call Variable, and Agent State Trace data.
- Custom reporting data extraction procedure.
- Data extraction for System Call Trace Tool.
- Feed to CUIS (Archiver).

• **Historical Data Server and Detail Data Server (HDS-DDS)** -- This role provides support mainly for historical reporting, Call Detail data extraction for System Call Trace Tool and feed to CUIS Archiver. This deployment also includes configuration data available for historical reporting. Real time data reporting and the ability to make configuration changes are not supported.

In previous releases, WebView Servers were sometimes deployed on non-HDS Administration & Data Servers. If this is the case, the WebView Servers must be moved either onto Administration & Data Server-HDS, or on separate servers.

The procedures for upgrading to a Release 8.0(1) Administration & Data Server are presented in the following sections.

**Note:**

- It is only necessary to run the Domain Manager (**Unified CCE Tools>Domain Manager**) on the first component to be upgraded (Administration & Data Server-HDS or Logger) to Release 8.0(1) when adding that instance to the appropriate Active Directory Instance organizational unit.

- Creating a temporary Administration & Data Server-HDS is required when real time reporting must remain available during the upgrade of a system having a single HDS/WebView Server.

Collocation of the WebView server should be on a Primary Administration & Data Server (or a stand-alone machine pointing to the Primary Administration & Data Server) for Release 8.0(1). Before you upgrade WebView, upgrade the WebViewThirdPartyInstaller (ServletExec, EA Server, Java) on the WebView server.

**Partitioning**

Partitioning is not supported for Administration & Data Servers during Web Setup (The Web Setup Tool lets you remotely set up and administer key aspects of your Unified ICM/Contact Center Enterprise or Hosted system including: Instances, Administration & Data Servers, Routers, Network Interface Controllers (NIC), Loggers, WebView servers and Network Gateways Services). It is only supported for upgrades in 8.0(1).
Note: Partitioning is not supported for new installations.

When you upgrade a partitioned system, one of the partitioned machines may cease to exist and this will require re-installation.

Follow these steps to re-build a partitioned Logger or ADS:

1. Install the Unified ICM 8.0(1) software using the ICM-CCE-CCHInstaller
2. Run the ICMDBA to create the database (Logger, ADS and HDS with partitioning enabled)
3. Run Web Setup to add the Logger or ADS components. Web Setup does not create the ADS database if it exists.

Administration & Data Server-HDS/WebView Server Pre-upgrade Preparation

Pre-upgrade preparation is an integral part of the upgrade process. Perform the following on all Administration & Data Server, HDS, and/or WebView Servers to assist in recovery in the event of a catastrophic upgrade failure:

Step 1 Perform a full SQL backup of the ICM HDS DB using the Microsoft SQL Backup and Restore utility.

Note:

• There is a restriction on the number of HDSs that can be configured on each Logger side, as well as the number of WebView Servers that can be configured for each HDS. Ensure there are no more than two (2) HDSs per Logger side, with no more than four (4) WebView Servers configured for each HDS. See How to reduce the number of HDSs (page 98) for additional information.

• WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.

Step 2 Perform a full SQL backup of the WebView DB using the Microsoft SQL Backup and Restore utility.

Step 3 Record the current size of the log files.

Step 4 Export the Cisco Systems, Inc. registry key. See Exporting the Registry in a Technology Refresh Upgrade (page 79) for additional information.

Step 5 Copy the ICM/bin directory.

Step 6 Copy the c:\winnt\awref.ini file.
How to reduce the number of HDSs

The following is for use on Unified ICM/Contact Center Release 7.1(0), and later, systems to reduce the number of HDSs per Logger side to two (2), with up to four (4) WebView Servers configured for each HDS.

The example following the steps illustrates this procedure.

**Step 1** Select two (2) HDSs to keep per Logger side.

**Step 2** Detach/remove all other HDSs from each Logger side.

**Step 3** Remove the WebView Server(s) from the remaining HDS(s).

**Step 4** Install the equivalent number of WebView servers as those removed.

**Step 5** Configure the WebView Servers to point to the appropriate HDS on each Logger side (with a limit of four servers maximum configured to a single HDS).

**Example:**

*Figure 7: Original Configuration*

![Original Configuration Diagram]
Figure 8: Select HDSs to Keep

1. Select two HDSs to keep.

- HDS1 / WV1 Keep
- HDS2 / WV2 Keep
- HDS3 / WV3 Detach/Remove
- HDS4 / WV4 Detach/Remove
- HDS5 / WV5 Detach/Remove
- HDS6 / WV6 Detach/Remove
- HDS7 / WV7 Detach/Remove

Figure 9: Detach Remaining HDSs

2. Detach/remove all other HDSs.

- HDS1 / WV1
- HDS2 / WV2

Figure 10: Remove WebView Servers

3. Remove WebView servers from remaining HDSs.

- HDS1
- HDS2
Upgrade Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted Release 8.0(1a)

Chapter 9: Administration & Data Server (Formerly AW) Upgrade Procedures

Figure 11: Install and Point WebView Servers

Administration & Data Server-HDS Technology Refresh Upgrade

Upgrading the Primary/Secondary Administration & Data Servers-HDS

Note:

- If WebView Server is to be collocated on the same server as the Administration & Data Server-HDS start at Step 1.

- If WebView Server is not to be collocated on the same server as the Administration & Data Server-HDS, start at Step 8.

- WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.

Install IIS on the new Administration & Data Server-HDS. You can install IIS after installing Cisco OEM version or Retail version of Microsoft Windows Server 2003, or Microsoft Windows Server 2008, including latest supported service pack. IIS must be installed to support WebView Browser functionality. You need to consider which server needs this component. If you are going to install WebView on the Administration & Data Server-HDS then you must install IIS on the Administration & Data Server-HDS. If you are going to install WebView on a separate server then you must install IIS on that server instead.

Note:

- Important: The Windows Firewall configuration scripts must be deployed before this server can accept network connections. This must been done as part of the staging tasks.

- When installing IIS you need files from the Windows 2003 or Windows 2008 CD.

Step 1

Install IIS after installing Cisco OEM version or Retail version of Microsoft Windows Server 2003, or Microsoft Windows Server 2008, including latest supported service pack.
a. Click Start > Settings > Control Panel > Add/Remove Programs.

b. Select Configure Windows, click Components, and then follow the on-screen instructions to install, remove, or add components to IIS.

**Step 2**
Install the WebView Third Party software using the WebViewThirdPartyInstaller (It upgrades JDK, New Atlanta Servlet Exec ISAPI to New AtlantaServlet Exec AS, uninstalls and reinstalls the EA Server). Print and read the Read Me file available in the WebViewThirdPartyInstaller directory. This file describes the software and provides installation instructions. Various settings described in the Read Me file appear on certain setup screens.

**Note:** After you complete the ICM-CCE-CCHInstaller upgrade, create the Jaguar account using the Service Account Manager (SAM) from the Unified CCE Tools. For additional SAM information, see the Staging Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted, Release 8.x(y) (http://www.cisco.com/en/US/products/sw/custcosw/ps1001/prod_installation_guides_list.html)

**Step 3**
Create a backup of the WebView database (wvdb) on the production Administration & Data Server-HDS using the Microsoft SQL Backup and Restore utility.

**Step 4**
Save any WebView public and/or private reports or favorites that exist on the production Administration & Data Server-HDS, then copy them to the new Administration & Data Server-HDS. Move custom templates and saved reports during a Technology Refresh upgrade.

a. For custom templates icm\<instance Name>\aw\custom directory from the old machine to the new machine.

**Step 5**
Restore the backup version of wvdb on the new Administration & Data Server-HDS using the Microsoft SQL Backup and Restore utility.

**Step 6**
Prepare to move scheduled report jobs to the new WebView Server:

a. Ensure the existing WebView Server machine is on.

b. Ensure the new WebView Server machine is on.

c. Create a Windows account that has “Administrator” privileges on both the existing and the new WebView Server machines.

d. Confirm that “Task Scheduler” service is running on both machines by selecting Control Panel > Administrative Tools > Services.

**Step 7**
Use the EDMT or the SQL Server Management Studio in Microsoft SQL Server 2005 to migrate the HDS database from the production Administration & Data Server-HDS to the new Administration & Data Server-HDS. For more information, see Chapter 7 on EDMT or see Chapter 18 on how to backup and restore the database using SQL Server Management Studio.

**Note:** Before installing the EDMT, you must complete the prerequisites.

In the case of a Technology Refresh upgrade, if you are upgrading from a version prior to 8.0(1), EDMT must be installed and configured, based on the new BOM compliant destination database server machine. Otherwise, EDMT should not be used and the SQL Server Management Studio
in Microsoft SQL Server 2005 should be used instead. (See the Cisco Unified ICM/Contact Center Enterprise and Hosted Edition Hardware and System Software Specification (Bill of Materials) (http://www.cisco.com/en/US/products/sw/custcosw/ps1001/products_user_guide_list.html))

Step 8
Export the Cisco Systems, Inc. registry key from the production Administration & Data Server-HDS and copy the resulting RegUtil file to the new Administration & Data Server-HDS. See Exporting the Registry in a Technology Refresh Upgrade (page 79) for additional information.

Step 9
Run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD on the Administration & Data Server system. Apply the automated hardening when prompted. Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special. You are prompted by the installer to select the type of installation (Technology Refresh Upgrade or Fresh Install).

Step 10
If you are installing on a Windows Server 2008 R2 system, specify if you want to perform a Technology Refresh or Fresh Install.

Note: If the Technology Refresh Upgrade is selected, you must specify the full path for the RegUtil file that needs to be imported. This must be performed to continue the installation process; otherwise, the Next button remains disabled.

Step 11
Reboot the system.

Note: If you need to migrate to a new Domain, use the Web Setup tool to change the Domain (page 103). If you do not wish to change the Domain, proceed to the next step.

Step 12
Use the Web Setup Tool to edit the instance and make the necessary changes.

Note: Domain name is selected by default. You cannot change the domain of that instance. When editing an instance you can change the facility and instance number. If the instance does not exist in that domain, then use the Domain Manager to create that instance.

Step 13
Using the Web Setup Tool, edit the Administration & Data Server component and make the necessary changes based on the environment in which the new Administration & Data Server is to run.

Step 14
Using Unified CCE Service Control, set all ICM processes on the new Administration & Data Server-HDS to Manual Start.

Step 15
Run \wvusersync.bat /update (located in the \ICM\web\webview\wvdb directory) on the WebView Server.

Step 16
Install Cisco Security Agent with the latest compatible CSA Agent Policy on the new Administration & Data Server-HDS.

Note: CSA is not supported on Windows Server 2008 R2.

Step 17
Start the upgraded Primary Administration & Data Server anytime after the previous step is completed and the Side A Central Controller has been upgraded to and is running.
How to Change the Domain

You must have the necessary permissions before you can change the domain (page 103). To change the domain for all instances on the machine, complete the following steps:

**Step 1** Ensure that the instances on your local machine that you intend to migrate appear on the Instance List page. (The Change Domain button does not appear on this page if no instances are configured.) If those instances are not listed, create those instances in the Active Directory Domain.

**Step 2** Delete any instances and facilities that you do not want to use in the new domain.

**Step 3** Change the domain of the machine.

**Step 4** Ensure that the instances on your local machine that you intend to migrate are present in the new domain using Domain Manager. Failure to do this will cause the Web Setup Change Domain operation to fail.

**Step 5** From the Instance List page in Web Setup, click Change Domain.

**Note:** You can use PG Setup also to change the Domain.

**Step 6** The Change Domain page opens displaying the currently configured Domain and the new Domain the machine is in.

**Step 7** Click Save.

**Step 8** A query is sent to confirm that you want to change the domain. Click Yes.

If you encounter a problem, Web Setup or Peripheral Gateway Setup may direct you to use the Domain Manager to resolve the problem.

Administration & Data Server-HDS Common Ground Upgrade

**Step 1** If not already done, using Unified CCE Service Control, stop all ICM services on the Administration & Data Server-HDS, and change all ICM services to Manual Start.

**Step 2** Using third party imaging or “ghost” software, perform a full system backup of the Administration & Data Server-HDS so that it can be restored if a critical failure occurs during the Common Ground upgrade process.

**Step 3** Upgrade Third Party software such as virus protection software, VNC, and PC Anywhere.

**Step 4** Reboot the Administration & Data Server-HDS.

**Step 5** If the WebView Server is collocated on the same server as the Administration & Data Server-HDS, then run the WebViewThirdPartyInstaller to upgrade the software.
Note: WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.

a. Remove Infomaker if it was previously installed.

Note: In 8.0(1), Infomaker must be installed on a separate, non-ICM machine.

Step 6 Use the EDMT to update the HDS database to Release 8.0(1) (see Common Ground EDMT Wizard Sequence (page 64)).

Step 7 Run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD on the Administration & Data Server system.

Step 8 Reboot the system, after upgrade is complete.

Step 9 Install Cisco Security Agent with the latest compatible CSA Agent Policy on the new Administration & Data Server-HDS.

Note: CSA is not supported on Windows Server 2008 R2.

Setting Up a Temporary Unified ICM/Contact Center Administration & Data Server-HDS

Based on the upgrade you are performing, you can create a temporary Unified ICM/Contact Center Administration & Data Server-HDS to provide reporting during the upgrade process. You may need to create a temporary Administration & Data Server-HDS for either the existing Unified ICM/Contact Center 7.1(x), 7.2(x), or 7.5(x) system or for the new Unified ICM/Contact Center 8.0(1) system. The maintenance windows discussed below correspond to those in the Figure 1: Upgrading a Complex, Multi-media, Unified ICM/Contact Center System (page 30).

Setting Up a Temporary Administration & Data Server-HDS for a Unified ICM/Contact Center 7.1(x), 7.2(x), or 7.5(x) System

Create a temporary Unified ICM/Contact Center 7.1(x), 7.2(x), or 7.5(x) Administration & Data Server-HDS if you are starting with only a Primary Administration & Data Server-HDS to provide reporting. During the first maintenance window, while you upgrade the Primary Administration & Data Server-HDS, the temporary Administration & Data Server-HDS provides real time and historical reporting.

In the second maintenance window, side A is now upgraded and coming up, side B is being upgraded, and no Unified ICM/Contact Center 8.0(1) Administration & Data Server is available. This results in no reporting capabilities in the second maintenance window until the Primary Administration & Data Server/HD is upgraded and backed up.

Upgrade the existing system using the appropriate procedure from the Upgrade Procedures section of this guide.
Setting Up a Temporary Administration & Data Server-HDS for a Unified ICM/Contact Center 8.0(1) System

Create a temporary Unified ICM/Contact Center 8.0(1) Administration & Data Server-HDS if you are starting with both a Primary and a Secondary Administration & Data Server-HDS to provide reporting. During the first maintenance window, while you upgrade side A and the Primary Administration & Data Server-HDS, the Secondary Administration & Data Server-HDS provides real time and historical reporting, getting data from side B.

In the second maintenance window, the upgraded side A is coming up, side B is down being upgraded. The temporary Unified ICM/Contact Center 8.0(1) Administration & Data Server-HDS provides real time reporting only, getting data from the upgraded side A. Normal reporting (real time and historical) is restored when the Primary Administration & Data Server-HDS is upgraded to Unified ICM/Contact Center 8.0(1) and is up and running.

**Step 1** Run ICM-CCE-CCHInstaller on supported hardware.

**Step 2** Use the Web Setup Tool to install an Unified ICM/Contact Center 8.0(1) Administration & Data Server-HDS.

**Step 3** Point the new Unified ICM/Contact Center 8.0(1) Administration & Data Server-HDS to the Unified ICM/Contact Center 8.0(1) Logger and CallRouter.

**Step 4** Run the ICM-CCE-CCHInstaller to bring the Logger and CallRouter components up to Release 8.0(1).

**Step 5**Invoke the Unified ICM/Contact Center 8.0(1) Logger and CallRouter.

**Step 6** Bring down all the other Unified ICM/Contact Center 8.0(1) components.

**Step 7**Invoke the new Unified ICM/Contact Center 8.0(1) Administration & Data Server-HDS.

**Step 8** Upgrade the rest of the existing system using the appropriate procedure from the Upgrade Procedures section of this guide.

Non-HDS Administration & Data Server Technology Refresh Upgrades

**Step 1** If not already done, stop the ICM services on the production Administration & Data Server using the Unified CCE Service Control.

**Step 2** Export the Cisco Systems, Inc. registry key from the production Administration & Data Server-HDS and copy the resulting RegUtil file to the new Administration & Data Server-HDS. See Exporting the Registry in a Technology Refresh Upgrade (page 79) for additional information.

**Step 3** Run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD on the Administration & Data Server system. Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special; also apply the automated hardening when prompted.
Step 4  If you are installing on a Windows Server 2008 R2 system, specify if you want to perform a Technology Refresh or Fresh Install.

**Note:** If the Technology Refresh Upgrade is selected, you must specify the full path for the RegUtil file that needs to be imported. This must be performed to continue the installation process; otherwise, the Next button remains disabled.

Step 5  Reboot the system.

Step 6  Using Unified CCE Service Control, set all ICM processes on the new Administration & Data Server to Manual Start.

Step 7  Using the Web Setup Tool, edit the Administration & Data Server component and make the necessary changes based on the environment in which the new Logger is to be run. For Unified ICM/Contact Center 8.0(1), make sure WebView is not checked since WebView Server is not supported on a non-HDS Administration & Data Server.

**Note:** WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.

Step 8  Install Cisco Security Agent with the latest compatible CSA Agent Policy on the new Administration & Data Server.

**Note:** CSA is not supported on Windows Server 2008 R2.

---

**Non-HDS Administration & Data Server Common Ground Upgrades**

Step 1  If not already done, using Unified CCE Service Control, stop all ICM services on the Administration & Data Server, and change all ICM services to Manual Start.

Step 2  Using third party imaging or “ghost” software, perform a full system backup of the Administration & Data Server so that it can be restored if a critical failure occurs during the Common Ground upgrade process.

Step 3  If the existing version of CSA is not supported, uninstall and re-install a compatible version.

**Note:** CSA is not supported on Windows Server 2008 R2.

Step 4  If you plan to change domains, do so at this point.

Step 5  Upgrade Third Party software such as virus protection software, VNC, or PCAnywhere.

Step 6  Reboot the Administration & Data Server.

Step 7  Run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD on the Administration & Data Server system. Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special.

Step 8  Reboot the system.
Step 9  Install Cisco Security Agent with the latest compatible CSA Agent Policy on the new Administration & Data Server.

Note: CSA is not supported on Windows Server 2008 R2.

Administration Client systems Common Ground Upgrade

Note: The component known as the Client AW in Releases 7.5(1) and earlier is now called the Administration Client.

Step 1  Using third party imaging or “ghost” software, perform a full system backup of the Administration Client system so that it can be restored if a critical failure occurs during the Common Ground upgrade process.

Step 2  If the existing version of CSA is not supported, uninstall and re-install a compatible version.

Note: CSA is not supported on Windows Server 2008 R2.

Step 3  Upgrade Third Party software such as virus protection software, VNC, or PCAnywhere.

Step 4  Run the AdminClientInstaller. Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special.

Step 5  Reboot the system.

Step 6  Install Cisco Security Agent with the latest compatible CSA Agent Policy on the Administration Client system.

Note: CSA is not supported on Windows Server 2008 R2.
Setting Up a Temporary Unified ICM/Contact Center Administration & Data Server-HDS
Logger Pre-upgrade Preparation

Pre-upgrade preparation is an integral part of the upgrade process.

Preparing the Logger for recovery in the event of a catastrophic upgrade failure

Perform the following on the Logger:

- **Step 1**: Perform a full SQL backup of the Logger DB using the Microsoft SQL Backup and Restore utility.
- **Step 2**: Perform a full SQL backup of the Outbound DB using the Microsoft SQL Backup and Restore utility, if applicable.
- **Step 3**: Record the current size of the log files.
- **Step 4**: Backup the Cisco Systems, Inc. registry key. See Exporting the Registry in a Technology Refresh Upgrade (page 79) for additional information
- **Step 5**: Backup the ICM/bin directory (for Common Ground upgrade only).

Logger Technology Refresh Upgrade: Side A/B

The following procedure is used to perform a Technology Refresh upgrade on both sides of the Logger. When upgrading Side A use the procedure as is. When upgrading Side B, simply replace “Side A” with “Side B” in the procedure.
Note: Important: The Windows Firewall configuration scripts must be deployed before this server can accept network connections. This is done as part of the staging tasks.

How to perform a Technology Refresh upgrade on the Logger

1. Disable configuration changes.
   
   – Set the `HKEY_LOCAL_MACHINE\Software\Cisco Systems, Inc\ICM<instancename>\RouterA\Router\CurrentVersion\Configuration\Global\DBMaintenance` key to 1 on both sides of the CallRouter in the system being upgraded.
   
   Note: RouterA in the registry key above is RouterB on the Side B CallRouter.
   
   – Verify that configuration changes are prevented. The following message is displayed when attempting to save a configuration change:
   
   Failed to update the database. Exclusive access to the CallRouter denied because configuration changes are currently disabled in the router registry.

2. Using Unified CCE Service Control, stop the ICM services on the Side A production Logger, Administration & Data Server, and HDS.

3. If the Outbound Option is in use, backup the Outbound Option private database using the SQL Server Management Studio.

   Note:
   
   • Dialers and their associated PG must be upgraded to a compatible version. See the [Cisco Unified Contact Center Enterprise (Unified CCE) Software Compatibility Guide](http://www.cisco.com/en/US/products/sw/custcosw/ps1844/products_device_support_tables_list.html) for compatibility information.
   
   • In order to support sequential dialing, and 10 telephone numbers per contact, the outbound option database has changed significantly, and requires you to re-import the campaign lists.

4. Restore the Outbound Option database (if required) on the Side A Logger using SQL Server Management Studio.

5. Use the EDMT or the SQL Server Management Studio in Microsoft SQL Server 2005 to migrate the Logger database from the production Logger to the new Logger.

6. Export the Cisco Systems, Inc. registry key from the production Logger and copy the resulting RegUtil file to the new Logger. See [Exporting the Registry in a Technology Refresh Upgrade](page 79) for additional information.

7. Run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD on the system on the Logger system. Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special; also apply the automated hardening when prompted.

8. If you are installing on a Windows Server 2008 R2 system, specify if you want to perform a Technology Refresh or Fresh Install.
Note: If the Technology Refresh Upgrade is selected, you must specify the full path for the RegUtil file that needs to be imported. This must be performed to continue the installation process; otherwise, the Next button remains disabled.

9. Reboot the system, after upgrade is complete, but before running the Web Setup Tool.

Note: If you need to migrate to a new Domain, use the Web Setup tool to change the Domain (page 103). If you do not wish to change the Domain, proceed to the next step.

10. Use the Web Setup Tool to edit the instance and make the necessary changes.

Note: Domain name is selected by default. You cannot change the domain of that instance. When editing an instance you can change the facility and instance number. If the instance does not exist in that domain, then use the Domain Manager to create that instance.


12. Migrate users from the production system to the new environment.

For additional information, see the Staging Guide, Unified ICM/Contact Center Enterprise/Hosted, Release 8.x(y) (http://www.cisco.com/univercd/cc/td/doc/product/icm/icmentpr/icm70doc/microsf7/index.htm)

13. If the Outbound Option is in use, re-import the customer contact lists and do-not-call lists (on the Side A Logger only).


Note: CSA is not supported on Windows Server 2008 R2.

Logger Common Ground Upgrade: Side A/B

Note: The following procedure is used to perform a Common Ground upgrade on both sides of the Logger. When upgrading Side A use the procedure as is. When upgrading Side B, simply replace “Side A” with “Side B” in the procedure.

Step 1 Disable configuration changes.

a. Set the HKEY_LOCAL_MACHINE\Software\Cisco Systems, Inc\ICM\<instancename>\RouterA\Router\CurrentVersion\Configuration\Global\DBMaintenance key to 1 on both sides of the CallRouter in the system being upgraded.

Note: RouterA in the registry key above is RouterB on the Side B CallRouter.

b. Verify that configuration changes are prevented. The following message is displayed when attempting to save a configuration change:
Failed to update the database. Exclusive access to the CallRouter denied because configuration changes are currently disabled in the router registry.

**Step 2** Using Unified CCE Service Control, stop all ICM services on the Side A Logger, Administration & Data Server and HDS and set the ICM services to Manual Start.

**Step 3** Using third party imaging or “ghost” software, perform a full system backup of the Side A Logger so that it can be restored if a critical failure occurs during the Common Ground upgrade process.

**Step 4** If the existing version of CSA is not supported, uninstall and re-install a compatible version.

**Note:** CSA is not supported on Windows Server 2008 R2.

**Step 5** Upgrade the Third Party Software such as virus protection software and VNC, or PC Anywhere.

**Step 6** Reboot the Side A Logger.

**Step 7** If the Outbound Option is in use, backup the Outbound Option private database using the SQL Server Management Studio. The campaign manager is present on only one of the redundant Loggers, and needs to be upgraded on only that Logger.

**Note:** In order to support sequential dialing, and 10 telephone numbers per contact, the outbound option database has changed significantly, and requires you to re-import the campaign lists.

**Step 8** Use the EDMT to migrate the Logger database.

See the Common Ground EDMT Wizard Sequence (page 64) for additional information.

**Step 9** Run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD on the Logger system. Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special; also apply the automated hardening when prompted.

**Step 10** Reboot the system.

**Step 11** If the Outbound Option is in use, re-import the customer contact lists and do-not-call lists (on the Side A Logger only).
CallRouter Upgrade Procedures

CallRouter Pre-upgrade Preparation

Pre-upgrade preparation is an integral part of the upgrade process.

Perform the following on the CallRouter to assist in recovery in the event of a catastrophic upgrade failure:

1. Backup the Cisco Systems, Inc. registry key. See Exporting the Registry in a Technology Refresh Upgrade (page 79) for additional information.

2. Backup the ICM/bin directory (for Common Ground upgrade only).

CallRouter Technology Refresh Upgrade: Side A/B

Note: The following procedure is used to perform a Technology Refresh upgrade on both sides of the Router. When upgrading Side A use the procedure as is. When upgrading Side B, simply replace “Side A” with “Side B” in the procedure.

Step 1
Export the Cisco Systems, Inc. registry key from the production CallRouter and copy the resulting RegUtil file to the new CallRouter. See Exporting the Registry in a Technology Refresh Upgrade (page 79) for additional information.

Step 2
Run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD on the CallRouter. Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special; also apply the automated hardening when prompted.

Step 3
If you are installing on a Windows Server 2008 R2 system, specify if you want to perform a Technology Refresh or Fresh Install.
Note: If the Technology Refresh Upgrade is selected, you must specify the full path for the RegUtil file that needs to be imported. This must be performed to continue the installation process; otherwise, the Next button remains disabled.

**Step 4**
Reboot the system, after upgrade is complete, but before running the Web Setup Tool.

**Note:** If you need to migrate to a new Domain, use the Web Setup tool to change the Domain. (page 103) If you do not wish to change the Domain, proceed to the next step.

**Step 5**
Use the Web Setup Tool to edit the instance and make the necessary changes.

**Note:** Domain name is selected by default. You cannot change the domain of that instance. When editing an instance you can change the facility and instance number. If the instance does not exist in that domain, then use the Domain Manager to create that instance.

**Step 6**
Using the Web Setup Tool, edit the CallRouter component and make the necessary changes based on the environment in which the new CallRouter is to be run.

**Step 7**
Using Unified CCE Service Control, set all ICM processes on the new CallRouter to Manual Start.

**Step 8**
If the Network Gateway resides on a different machine you must upgrade any Network Gateways associated with NICs on the CallRouter. See Network Gateway Upgrades (page 127) for detailed instructions.

**Note:** Important: The Windows Firewall configuration scripts must be deployed before this server can accept network connections. This is done as part of the staging tasks.

---

**CallRouter Common Ground Upgrade: Side A**

**Note:** The following procedure is used to perform a Common Ground upgrade on both sides of the CallRouter. When upgrading Side A use the procedure as is. When upgrading Side B, simply replace “Side A” with “Side B” in the procedure .

**Step 1**
Using Unified CCE Service Control, stop all ICM services on the Side A CallRouter and change all ICM services on the Side A CallRouter to Manual Start.

**Step 2**
Using third party imaging or “ghost” software, perform a full system backup of the side A CallRouter server so that it can be restored should a critical failure occur during the Common Ground upgrade process.

**Step 3**
If the existing version of CSA is not supported, uninstall and re-install a compatible version.

**Note:** CSA is not supported on Windows Server 2008 R2.

**Step 4**
Upgrade the Third Party Software such as virus protection software and VNC, or PC Anywhere.

**Step 5**
Reboot the Side A CallRouter.
Step 6  Run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD on the CallRouter. Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special; also apply the automated hardening when prompted.

Step 7  Reboot the system after the upgrade completes.

Step 8  Install Cisco Security Agent with the latest compatible CSA Agent Policy on the new CallRouter.

Note: CSA is not supported on Windows Server 2008 R2.

Step 9  If the Network Gateway resides on a different machine, you must upgrade any Network Gateways associated with NICs on the CallRouter. See Network Gateway Upgrades (page 127) for detailed instructions.

How to Bring Side A into Service

Once the steps outlined in the Administration & Data Server Upgrade Procedures (page 95), Logger Technology Refresh Upgrade: Side A/B (page 109), and CallRouter Technology Refresh Upgrade: Side A/B (page 113) are completed, follow the steps below to bring the ICM Side A Central Controller components into service:

Note: All components can “ping” public and private IP addresses as applicable to verify network connectivity between the upgraded Unified ICM central controller components, but not to other ICM nodes in production

Step 1  Using Unified CCE Service Control stop all ICM services and shut down all non-upgraded Administration & Data Servers and the SideB CallRouter and Logger. Start the upgraded side.

Step 2  Manually start the ICM services on the Side A CallRouter and Logger, and the upgraded Administration & Data Server. Verify the following basic operations of the Side A Central Controller components:

• General
  – Setup logs indicate no errors or failure conditions
  – AD domain has all users
  – Schema upgrade is successful for all databases (no loss of data integrity, or loss of data)
  – Registry changes are correct and match what is documented in setup logs
  – All component services start without errors
  – All general activities (accessing SQL Server, running third party software components like VNC or PCAnywhere, etc. are not stopped by CSA)
  – Calls are successfully processed
• CallRouter
  – Ccagent is in service but not connected to any peripheral gateways
  – Rtsvr is connected to the Primary Administration & Data Server

• Logger
  – Recovery process not required, no activity other than process start up
  – Users are in correct domain
  – Configuration information is passed to CallRouter
  – Replication process begins when HDS comes online

• HDS
  – Administration & Data Server indicates it is waiting for work
  – Replication process begins with no errors

• Security
  – Specified users are able to use configuration manager
  – Specified users are able to log in to WebView and can access both public and private reports (all previously existing reports are present)

• Script Editor
  – Users previous settings are present when application is opened
  – Validate All script yields same results as pre-upgrade test yielded
  – Scripts can be opened, edited, deleted or new scripts can be created

• ICMDBA
  – Import/Export functionality is present
  – Database space allocation and percent used are correct

• Support Tools
  – Can acquire logs, capture registry information, schedule collection of logs

Step 3

Using Unified CCE Service Control set the ICM services to **Autostart** on each of the upgraded ICM components.

**Warning:** Call processing is impacted until the next 3 steps are completed, and therefore they must be executed at an appropriate pre-planned time.
Note: At this time, default networking should occur.

**Step 4** Using the Unified CCE Service Control, stop the ICM services the Side B Logger and the Side B CallRouter, and all Administration & Data Servers.

**Step 5** Configure all other ICM components (PGs, gateways, NAMs, CICMs, multi-media components) to connect to the upgraded Side A Logger and Side A CallRouter.

**Step 6** Using Unified CCE Service Control, start the ICM services on the upgraded Side A Logger, and Side A CallRouter. Start the ICM processes on the Administration & Data Server-HDS once its upgrade process is complete at any point at or after this step.

**Step 7** Verify production system operation running with the upgraded Side A CallRouter and Side A Logger.

---

**CallRouter Common Ground Upgrade: Side B**

Repeat the steps in CallRouter Common Ground Upgrade: Side A (page 113) on the Side B CallRouter.

**Note: Important:** The Windows Firewall configuration scripts must be deployed before this server can accept network connections. This is done as part of the staging tasks.

Verify the basic operation of the Side B CallRouter and Side B Logger

**Step 1** Manually synchronize Logger B to Logger A (with B being the last to be upgraded and before bringing it online) using ICMDBA.

**Step 2** Start the side B CallRouter and Logger services.

Each service starts several process windows on the task bar of the local machine, each one an ICM program associated with the service. As each node starts up, it looks for the other server components and attempts to register with them. If you completed the ICM-CCE-CCHInstaller and network testing successfully, no major errors should occur.

In order to add configuration data, the Central Controller and Administration & Data Servers must be running. The ICM software loads the Unified CCE Service Control Tool on the desktop of each server used to control the services loaded on that machine.

Verify that the ICM Processes have no errors.

- CallRouters
  - Router: UP and synchronized with peer.
  - Ccagent: [In service, but not connected to any peripheral gateways.]
Step 3  
**Start Administration & Data Server (Administration & Data Server) Services**

Start the Administration & Data Server Service within Unified CCE Service Control. Verify that the ICM Processes have no errors.

**CallRouters**

- Router: UP and synchronized with peer.
- Ccagent: [In service but not connected to any peripheral gateways.]
- Rtsvr: [Feed activated to Administration & Data Server.]

**Loggers**

- Logger: Connected to its respective database and synchronized with peer. MDS is in service.
- Replication: Connected to the Administration & Data Server.
- Campaign Manager: [You see errors, no Outbound Option Dialer setup at this time.]

**Administration & Data Server**

- Updateaw: Displays "waiting for new work".
- Iseman: Listen thread waiting for client connection.
- Replication: Replication and recovery client connection initialized.

Step 4  
**Settings for Production Environment**

Validate the following settings from the system diagram for the Production Environment and make the required changes prior to placing the systems in production:

a. Clear Event logs.

b. Remove any diskettes, CD's or media from drives.

c. Make sure that all Services are set to **Manual Start**. Services are not set to **Autostart** until after the implementation testing in the production environment.
Step 5 Using Unified CCE Service Control, set the ICM services to **Autostart** on the upgraded Side B CallRouter and Logger.

Step 6 Using Unified CCE Service Control, start the ICM services on the new Side B CallRouter and Logger.

If possible, once data synchronization is complete between the Loggers, cycle the ICM services on the Side A CallRouter and Side A Logger and verify that the Side B takes over and that the system continues to operate normally.

Step 7 Verify overall system operation.

Step 8 Enable configuration changes.

a. Set the HKEY_LOCAL_MACHINE\Software\Cisco Systems, Inc\ICM\<instance name>\RouterA\Router\Current\Version\Configuration\Global\DBMaintenance key to 0 on the Side A and Side B CallRouters of the system being upgraded.

**Note:** RouterA in the registry key above is RouterB on the Side B CallRouter.

b. Verify that configuration changes are possible.

Step 9 If the Outbound Option is in use, upgrade all Outbound Option dialers and their associated PGs per the procedures in **Peripheral Gateway (PG) Upgrade Procedures (page 121)**.

Step 10 Upgrade any other Administration & Data Servers and/or HDSs using the steps documented in **Administration & Data Server Upgrade Procedures (page 95)**.
Chapter 12

Peripheral Gateway (PG) Upgrade Procedures

PG Pre-upgrade Preparation

Pre-upgrade preparation is an integral part of the upgrade process.

Perform the following on all PGs to assist in recovery in the event of a catastrophic upgrade failure:

1. Backup the Cisco Systems, Inc. registry key. See Exporting the Registry in a Technology Refresh Upgrade (page 79) for additional information

2. Backup the ICM/bin directory (for Common Ground upgrade only).

Upgrading PGs

While different Peripheral Gateways (PGs) can be upgraded at different times, the A and B side of redundant PG pairs must be upgraded within the same maintenance window, along with associated CTI Servers, CTI OS servers, and Outbound Option dialers. For proper Outbound Option operation, all Outbound Option dialers must be upgraded during the same maintenance window as the Campaign Manager.

If a CAD version prior to 6.0 is connected to the PG being upgraded, both the CAD server and the associated CAD desktops must first be upgraded to a version compatible with Unified ICM/Contact Center 7.1 or later. CAD Version 7.0 requires CTI OS Release 7.0. CAD Version 7.0(1) requires CTI OS Version 7.0 SR3 or later. CAD Version 7.1(x) requires CTI OS 7.1(x). CAD 7.2(x) requires CTI OS 7.2(x). CAD 7.5 requires CTI OS 7.5(1).

For Unified CM PGs and Generic PGs with Unified CM PIMs, Unified CM clusters must be upgraded to a 7.0(x) version (minimum), before upgrading the PG to Unified ICM/Contact Center Release 8.0(1). Versions of Unified CM earlier than 7.1 are not supported by Unified
ICM/Contact Center Release 8.0(1). You must also upgrade Unified IP IVRs or Unified CVPs associated with Unified CM, to a compatible version.

Unified ICM/Contact Center 8.0(1) can operate with PGs at ICM Release 7.1(x), 7.2(x) and 7.5(x).

The version of CTI OS must be aligned with the PG version, for example:

- PGs at ICM Release 8.0(x) require CTI OS Release 8.0(x).
- PGs at ICM Release 7.5(x) require CTI OS Release 7.5(x).
- PGs at ICM Release 7.2(x) require CTI OS Release 7.2(x).

This document assumes that if CTI Gateways are in use, they are collocated on the same server as the PG. The CTI Gateway primary process is the CTI Server. The CTI OS Server is a separate component, but must be collocated with the PG.

**PG Technology Refresh Upgrade**

**Step 1** Set up the new Side A and Side B PG servers as outlined in Setting up the Hardware (page 39).

**Step 2** Using Unified CCE Service Control, stop all ICM and CTI OS services on the Side A production PG.

**Step 3** Export the Cisco Systems, Inc. registry key from the production PG using RegUtil.exe. Copy the registry file to the new PG. If CTI OS Server is to be tech refreshed also, this registry file also includes CTI OS registry information. See Exporting the Registry in a Technology Refresh Upgrade (page 79) for additional information.

**Step 4** Run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD on the new side A PG. Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special; also apply the automated hardening when prompted. If the target system is Windows Server 2008 R2, you must select 8.5(2) Maintenance Release or higher.

**Step 5** Reboot the system, after you complete the upgrade.

**Step 6** The Next Steps Dialog is displayed, offering possible steps you may need to take. Complete the steps as required.

**Step 7** Run PG setup: Select Peripheral Gateway Setup from the Next Steps dialog, or you can run Start>Programs>Cisco Unified CCE Tools> Peripheral Gateway Setup, and make any necessary changes.

The PG Setup Tool is available on a machine that already has the Cisco Unified ICM/Contact Center Enterprise & Hosted software installed; that is, before you can use the PG Setup Tool, you must have run the Unified ICM-CCE-CCHInstaller. The PG Setup Tool is used to set up Peripheral Gateway, CTI Server, Outbound Option Dialer, and CompuCALL Server Gateway components.
Step 8  If CTI OS server is to be installed on the same server as the PG, run setup on the CTI OS 8.0(1) CD to upgrade the CTI OS server. Input the appropriate domain name and other configuration elements as they apply to the new environment.

Step 9  Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special; also apply the automated hardening when prompted. If the target system is Windows Server 2008 R2, you must select 8.5(2) Maintenance Release or higher. Select the Upgrade All button. On the Confirm Upgrade screen, click Yes. Restart your machine. After reboot the CTI OS Maintenance Release runs to completion. Restart the machine again.

Step 10  If this is a Unified CM PG or a Generic PG with a Unified CM PIM, upload the JTAPI Client from Unified CM. See How to Install the Cisco JTAPI Client on the Generic IPCC PG. (page 123)

Step 11  Using Unified CCE Service Control, set the ICM and CTI OS processes on the new Side A PG to Manual Start.

Step 12  Install Cisco Security Agent with the latest compatible CSA Agent Policy on the new PG.

Note: CSA is not supported on Windows Server 2008 R2.

Step 13  If there are Outbound Option dialers associated with the PG pair being upgraded which are on separate servers, upgrade all of them now.

How to Install the Cisco JTAPI Client on the Generic IPCC PG

The Cisco JTAPI Client is a Java Telephony Application Programming Interface implementation that communicates with Unified CM.

After installing the Generic IPCC PG, you must install the Cisco JTAPI Client so that the PG can communicate via JTAPI with Unified CM. You install the Cisco JTAPI Client from Cisco Unified Communications Manager Administration.

Step 1  Open a browser window on the PG machine.

Step 2  Enter the URL for the Cisco Unified Communications Manager Administration utility: https://<Unified CM machine name>.

Step 3  Enter the user name and password that you created when installing and configuring Unified CM.

Step 4  Choose Application > Install Plug-ins.

Step 5  Click the icon next to Cisco JTAPI for Windows. A File Download box opens.

Step 6  Choose Run this program from its current location. Click OK.

Step 7  If a Security Warning box appears, click Yes to install.
Step 8 Choose **Next** or **Continue** through the remaining Setup screens. Accept the default installation path.

Step 9 Click **Finish**.

Step 10 Reboot the system to ensure proper operation of JTAPI.

For additional information, see the [Installation and Configuration Guide for Cisco Unified Contact Center Enterprise Release 8.0(1)](http://www.cisco.com/en/US/docs/voice_ip_comm/cust_contact/contact_center/ipccEnterprise/ipccenterprise8_0_1/installation/guide/ipcc80iugcfg.pdf)

**PG Common Ground Upgrade**

Step 1 Using Unified CCE Service Control, stop all ICM and CTI OS services on the Side A PG, and change all ICM and CTI OS services on the Side A PG to **Manual Restart**.

Step 2 Using third party imaging or “ghost” software, perform a full system backup of the side A Peripheral Gateway server so that it can be restored should a critical failure occur during the Common Ground upgrade process.

Step 3 Upgrade Third Party software such as virus protection software and VNC or PC Anywhere.

Step 4 Reboot the Side A PG.

Step 5 Run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD on the system with the Side A PG. Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special.

Step 6 Reboot the system.

Step 7 If CTI OS is collocated on the same server as the PG, run setup.exe from the CTI OS 8.0(1) CD to install CTI OS 8.0(1) on side A. It is not necessary to uninstall previous releases of CTI OS.

Step 8 If this is a Unified CM PG or a Generic PG with a Unified CM PIM, upload the JTAPI Client from Unified CM. See [How to Install the Cisco JTAPI Client on the Generic IPCC PG](http://www.cisco.com/en/US/docs/voice_ip_comm/ipcc_enterprise/ipccenterprise8_0_1/installation/guide/ipcc80iugcfg.pdf) (page 123)

Step 9 Install Cisco Security Agent with the latest compatible CSA Agent Policy on the Side A PG.

**Note:** CSA is not supported on Windows Server 2008 R2.

Step 10 If there are Outbound Option dialers associated with the PG pair being upgraded which are on separate servers, upgrade all of them now.
Upgrading Outbound Option Dialers

Because of the added capability and increased number of contacts supported by the Outbound Option in Unified ICM/Contact Center Release 8.0(1), it is necessary to re-import the contact and do-not call lists when upgrading.

Information regarding which contacts have been called and which are yet to call on in-process outbound campaigns is lost during the upgrade, so the timing of the upgrade must be planned accordingly. Additionally, the Outbound Option dialers and their associated PGs must be upgraded to a compatible version. See the Cisco Unified Contact Center Enterprise (Unified CCE) Software Compatibility Guide (http://www.cisco.com/en/US/products/sw/custcosw/ps1844/products_device_support_tables_list.html) for compatibility information.

Outbound Option Dialer Technology Refresh Upgrade

Step 1 Set up the new server as outlined in Setting Up the Hardware (page 39).

Step 2 Using Unified CCE Service Control, stop all ICM services on the production dialer being replaced.

Step 3 Export the Cisco Systems, Inc. registry key from the production dialer using RegUtil.exe. Copy the registry file to the new dialer. See Exporting the Registry in a Technology Refresh Upgrade (page 79) for additional information.

Step 4 Run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD on the new dialer. Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special; also apply the automated hardening if prompted.

Step 5 Reboot the system, after upgrade is complete.

Step 6 Using the PG Setup Tool, edit all dialers on the server and make the necessary changes based on the environment in which the new dialer is to run.

Step 7 Exit.

Step 8 Using Unified CCE Service Control, set the ICM processes on the new dialer to Manual Start.

Step 9 If the existing version of CSA is not supported, uninstall and re-install a compatible version.

Note: CSA is not supported on Windows Server 2008 R2.

Step 10 Using Unified CCE Service Control, start the ICM processes on the new dialer and set the ICM processes on the new dialer to Automatic Start.
Outbound Option Dialer Common Ground Upgrade

**Step 1** Using Unified CCE Service Control, stop all ICM services on the dialer and change all ICM services to Manual Restart.

**Step 2** Using third party imaging or “ghost” software, perform a full system backup of the dialer server so that it can be restored should a critical failure occur during the Common Ground upgrade process.

**Step 3** If the existing version of CSA is not supported, uninstall and re-install a compatible version.

*Note:* CSA is not supported on Windows Server 2008 R2.

**Step 4** Upgrade Third Party software such as virus protection software, VNC, or PCAnywhere.

**Step 5** Reboot the dialer.

**Step 6** Run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD. Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special.

**Step 7** Reboot the system.

**Step 8** Install Cisco Security Agent with the latest compatible CSA Agent Policy on the dialer.

*Note:* CSA is not supported on Windows Server 2008 R2.

**Step 9** Using Unified CCE Service Control, start the ICM processes on the new dialer and set the ICM processes to Automatic Start.
Follow these steps to perform a Gateway Technology Refresh upgrade:

**Step 1**
Set up the new server as outlined in Setting Up the Hardware (page 39).

**Step 2**
Using Unified CCE Service Control, stop all ICM services on the production gateway being replaced.

**Step 3**
Install the PCI card on the new server.

**Step 4**
Import the Cisco Systems, Inc. registry key from the existing Gateway to the new 8.0(1) systems. See Exporting the Registry in a Technology Refresh Upgrade (page 79) for additional information.

**Step 5**
Run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD on the system with the new gateway. Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special; also apply the automated hardening when prompted.

**Step 6**
Reboot the system after installation is complete.

**Note:** If you need to migrate to a new Domain, use the Web Setup tool to change the Domain (page 103). If you do not wish to change the Domain, proceed to the next step.

**Step 7**
Use the Web Setup Tool to edit the instance and make the necessary changes.

**Step 8**
Using the Web Setup Tool, edit the component on the server and make the necessary changes based on the environment in which the new gateway is to run.

**Step 9**
Using Unified CCE Service Control, set the ICM processes on the new gateway to Manual Start.
**Step 10** If the existing version of CSA is not supported, uninstall and re-install a compatible version on the new gateway.

*Note:* CSA is not supported on Windows Server 2008 R2.

**Step 11** Using Unified CCE Service Control, start the ICM processes on the new gateway and set them to **Automatic Start**.

---

**Gateway Common Ground Upgrade**

Follow these steps to perform a Gateway Common Ground upgrade:

**Step 1** Using Unified CCE Service Control, stop all ICM services on the gateway and set them to **Manual Start**.

**Step 2** Using third party imaging or "ghost" software, perform a full system backup of the gateway server so that it can be restored should a critical failure occur during the Common Ground upgrade process.

**Step 3** If the existing version of CSA is not supported, uninstall and re-install a compatible version.

*Note:* CSA is not supported on Windows Server 2008 R2.

**Step 4** Upgrade Third Party software such as virus protection software, VNC, or PCAnywhere.

**Step 5** Reboot the gateway.

**Step 6** Run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD on the system with the new gateway. Choose to apply any 8.x(x) Maintenance Release or 8.x(x) Engineering special; also apply the automated hardening when prompted.

**Step 7** Reboot the system, after you complete the upgrade.
Chapter 14

Upgrading a Localized Unified ICM/Contact Center System

Upgrading from Unified ICM/Contact Center 7.1(x), 7.2(x), or 7.5(x)

There is no language selection in Unified ICM/Contact Center 8.0(1). When you run the ICM-CCE-CCHInstaller to upgrade your system, the system checks the language setting of the 7.1(x), 7.2(x), or 7.5(x) system being upgraded and upgrades the language components to the same language in ICM 8.0(1).
CTI OS Agent and Supervisor Desktop Upgrade Procedures

CTI OS Agent and Supervisor Desktop Technology Refresh Upgrade

Technology Refresh upgrades are no different than fresh installations, except that the original desktop is taken off-line. See the CTI OS System Manager's Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted (http://www.cisco.com/en/US/products/sw/custcosw/ps14/prod_installation_guides_list.html).

**Note:** Customized desktops may have different upgrade procedures which are beyond the scope of this document.

CTI OS Agent and Supervisor Desktop Common Ground Upgrade

Upgrading the standard CTI OS Agent and Supervisor Desktops without upgrading the hardware (Common Ground upgrade) involves the following:

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Stop the CTI OS Agent or Supervisor Desktop application that is running on the machine.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>Run the CTI OS Client install from the CTI OS 8.0(1) CD, updating configuration data as prompted.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Reboot the system if directed.</td>
</tr>
</tbody>
</table>
Chapter 16

Cisco Agent Desktop (CAD) Upgrade Procedures

In order to upgrade from previous versions of CAD, see the Cisco CAD Installation Guide. (http://www.cisco.com/en/US/partner/products/sw/custcosw/ps1844/prod_installation_guides_list.html)
Chapter 17

Migrating from Unified SCCE 7.x to Unified CCE Release 8.0(1)

There will be no 8.0(1) release for Cisco Unified System Contact Center Enterprise (Unified SCCE). If you require features that are new in Release 8.0(1), you must migrate to the Cisco Unified Contact Center Enterprise (Unified CCE) software. This chapter provides directions for migrating from Unified SCCE 7.x to Unified CCE Release 8.0(1).

This chapter contains the following topics:

- Notes on Migration, page 135
- Migration Procedure, page 135

Notes on Migration

Unified System CCE 7.x to Unified CCE 8.0(1) Tech Refresh is not supported.

Once the upgrade operation has started, you cannot revert back to System CCE.

Migration Procedure

First, run EDMT 8.0(1) to upgrade the database schema on applicable machines.

After you run EDMT, run the ICM-CCE-CCHInstaller from the Unified CCE Installer DVD. The installer detects that Unified System CCE is installed and displays the following warning message:

Warning: You are about to upgrade and migrate Cisco Unified System Contact Center Enterprise (SCCE - formerly known as System deployment of IPCC Enterprise) to Cisco Unified Contact Center Enterprise (CCE). The Web Administration Tool will no longer be available. You will need to use the Web Setup Tool and the Configuration Manager.
and/or Contact Center Management Portal (CCMP) instead. Are you sure you want to continue?

If you choose not to continue, the upgrade is aborted and the system remains at Unified SCCE Release 7.x. **If you choose to continue at this point, you will not be able to revert back to Unified SCCE.**

Once the upgrade has completed, the machine is ready to run as part of a traditional Unified CCE deployment with a System PG. Note the following:

- The Web Administration Tool will no longer be available. The new Web Setup, Administration Client Setup, and Peripheral Gateway Setup Tools are to be used to add and update components. Configuration Manager is used for configuration.

- Registry entries and services are deleted for all components that were not selected for the target machine.

- No data is deleted from the configuration database. During installation of Unified System CCE, database entries (such as the System PG) are created automatically. After migration to Unified CCE 8.0(1), you are able to see these entries using the configuration tools.

- The description fields in the Logical Controller Tab, Peripheral Tab, and Routing Client Tab in some ICM Configuration Manager Explorer Tools will have the following information. (These configuration entries were added by default during SCCE install; this information is retained after migration to Unified CCE.)
  - PG provided by system installation
  - Peripheral provided by system installation
  - Routing Client provided by system installation
  - Network VRU provided by system installation
  - Label provided by system installation for use with IVR
  - Network Trunk Group provided by system installation
  - Trunk Group provided by system installation for use with IVR
Database Tasks

This chapter contains the following topics:

- How to set the Logger or HDS database data file size for maximum growth using SQL Server Management Studio, page 137
- How to backup the Logger or the HDS database using SQL Server Management Studio, page 138
- How to restore the Logger or the HDS database using SQL Server Management Studio, page 138
- How to Determine the Size of an ICM Database, page 139
- How to Set the tempdb Database Size, page 140

How to set the Logger or HDS database data file size for maximum growth using SQL Server Management Studio

Step 1: Launch Start > Programs > Microsoft SQL Server 2005>SQL Server Management Studio.

Step 2: Expand Microsoft SQL Servers by clicking the + icon next to it.

Step 3: Expand SQL Server Group by clicking the + icon next to it.

Step 4: Expand server name where the destination database is to be created by clicking the + icon next to it.

Step 5: In the Databases folder, drill down and select the appropriate database.

Step 6: Right-click on the selected database and select Properties.

Step 7: Select the Data Files tab.

Step 8: Set file to Automatically grow file.

Step 9: In the Maximum file size section, click Unrestrict file growth (in MB).
How to backup the Logger or the HDS database using SQL Server Management Studio

**Step 1**
Launch Start > Programs > Microsoft SQL Server 2005 > SQL Server Management Studio.

**Step 2**
Enter the required database connection information:

a. Check that the current system name is selected as the Server name

b. Select Windows Authentication.

**Step 3**
Click Connect.

**Step 4**
In the Object Explorer panel on the left, expand Databases by clicking on the + icon next to it.

**Step 5**
Right-click the name of the database that needs to be backed up and select Tasks -> Back Up….

**Step 6**
Note the name and the location of the backup file under the Destination section.

**Step 7**
Click OK.

**Step 8**
Wait for the message confirming that the backup is successful and click OK.

How to restore the Logger or the HDS database using SQL Server Management Studio

**Note:** In Windows Server 2008 R2 run SQL Server Management Studio as an administrator.

**Step 1**
Launch Start > Programs > Microsoft SQL Server 2005 > SQL Server Management Studio.

**Step 2**
Enter the required database connection information:

a. Check that the current system name is selected as the Server name

b. Select Windows Authentication.

**Step 3**
Click Connect.

**Step 4**
In the Object Explorer panel on the left, right-click Databases and select Restore Database…

**Step 5**
Enter the desired To database in the “Destination for restore” section.

**Step 6**
Select From device in the “Source for restore” section and click …

**Step 7**
Select File as the Backup media and click Add to add the desired database backup file

**Step 8**
Click OK.

**Step 9**
Select the newly added backup set (by checking the checkbox in the Restore column) and click OK.
Wait for the message confirming that the restore is successful and click **OK**.

---

**How to Determine the Size of an ICM Database**

When migrating from an older Unified ICM/Contact Center release to a newer Unified ICM/Contact Center release, you need to lookup the database size of the existing ICM database. This number is used later in the process to create an ICM database of the same size. This value may be increased depending on planned ICM 8.0(1) usage patterns. Find the database size either by launching the ICMDBA program or by launching the Microsoft SQL Server Management Studio.

**Using ICMDBA**

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Select <strong>Start &gt; Run</strong>.</td>
</tr>
<tr>
<td>Step 2</td>
<td>In the Run dialog type <strong>cmd</strong> and click <strong>OK</strong> (or press <strong>Enter</strong>).</td>
</tr>
<tr>
<td>Step 3</td>
<td>At the command prompt type <strong>icmdba</strong>.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Drill down to the Logger/HDS database.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Right-click <strong>cust_sideX</strong> and select <strong>Properties</strong> to observe the database size.</td>
</tr>
</tbody>
</table>

**Using SQL Server Management Studio**

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>On the SQL Server systems, launch <strong>Start &gt; Programs &gt; Microsoft SQL Server 2005 &gt; SQL Server Management Studio</strong>.</td>
</tr>
<tr>
<td>Step 2</td>
<td>Enter the required database connection information:</td>
</tr>
<tr>
<td></td>
<td>• Make sure that the current system name is selected.</td>
</tr>
<tr>
<td></td>
<td>• Select <strong>Windows Authentication</strong>.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Click <strong>Connect</strong>.</td>
</tr>
<tr>
<td>Step 4</td>
<td>The Microsoft SQL Server Management Studio application opens. Navigate to <strong>Databases &gt; System Databases &gt; master</strong>.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Right click on the master database and select <strong>New Query</strong>.</td>
</tr>
<tr>
<td>Step 6</td>
<td>On the right side of the window, a query window opens. Enter <strong>EXECUTE sp_helpdb</strong> into the Query window and execute the script by clicking the <strong>green arrow</strong> or by pressing <strong>F5</strong>.</td>
</tr>
<tr>
<td>Step 7</td>
<td>Note the value located in the <strong>db_size</strong> column for the ICM database.</td>
</tr>
</tbody>
</table>
How to Set the tempdb Database Size

The size and configuration of the tempdb database during data migration differs for the parameters used in a production system. This section describes how to set tempdb for each case.

For Data Migration

Step 1 Select Start > Programs > Microsoft SQL Server 2005> SQL Server Management Studio.
Step 2 Expand Databases by clicking on the + icon, right-click on the tempdb database, and select Properties.
Step 3 Click on the Data Files tab. Set the following parameters:

- Space Allocated must be at least 1400 MB.
- Set Automatically grow files.
- Set Unrestricted file growth.

Step 4 Click on the Transaction Log tab. Set the following parameters:

- Space Allocated must be at least 400 MB.
- Set Automatically grow files.
- Set Unrestricted file growth.

Step 5 Click OK.
Step 6 Close SQL Server Management Studio.

For Production Systems

Step 1 Select Start > Programs > Microsoft SQL Server 2005> SQL Server Management Studio.
Step 2 Expand Databases by clicking on the + icon, right-click on the tempdb database, and select Properties.
Step 3 Click on the Data Files tab. Set the following parameters:

- Space Allocated must be at least 100 MB. The allocated space may be significantly larger after data migration. If so, shrink the file down to 100 MB.
• Set Automatically grow files.

• Set Maximum file size to **500 MB**.

**Step 4**

Click on the **Transaction Log** tab. Set the following parameters:

• Space Allocated must be at least **50 MB**.

• Disable **Automatically grow files**.

**Step 5**

Click **OK**.

**Step 6**

Close SQL Server Management Studio.
How to Set the tempdb Database Size
Upgradable Checklists

Select one of the following checklists. Make your choice based on the upgrade procedure that most fits your Unified ICM/Contact Center system upgrade requirements. Modify the checklist as necessary, to match the upgrade requirements of your specific system.

This chapter contains the following topics:

- Technology Refresh Upgrade Checklists, page 143
- Common Ground Upgrade Checklists, page 149

Technology Refresh Upgrade Checklists

Select the appropriate Technology Refresh checklist for your Unified ICM/Contact Center system upgrade.

Table 6: Production HDS/Administration & Data Server Upgraded in Parallel with the Central Controller Upgrade Maintenance Window

<table>
<thead>
<tr>
<th>Step/Completed</th>
<th>Action/Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Upgrade the production system to the required baseline.</td>
<td>Complete the applicable baseline requirements:</td>
</tr>
<tr>
<td></td>
<td>• Ensure all ICM nodes are at Unified ICM/Contact Center Release 7.1(x), 7.2(x), or 7.5(x).</td>
</tr>
<tr>
<td></td>
<td>• Ensure all Unified ICM/Contact Center nodes are running Cisco OEM version or Retail version of Microsoft Windows Server 2003 including latest supported service pack.</td>
</tr>
<tr>
<td></td>
<td>• Ensure the Logger and HDS are running SQL Server 2005, including the latest supported service pack.</td>
</tr>
<tr>
<td>Step/Completed</td>
<td>Action/Reference</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------</td>
</tr>
<tr>
<td>• Ensure the CAD is at Release 6.0, 7.0, 7.1, or 7.2 on Windows 2000 Server SP4 or Windows 2000 Advanced Server.</td>
<td></td>
</tr>
<tr>
<td>• Ensure the CTI OS desktops are at Version 7.1(x), 7.2(x), or 7.5(x).</td>
<td></td>
</tr>
<tr>
<td>• Ensure DCA is at Version 2.1.</td>
<td></td>
</tr>
<tr>
<td>• Ensure Unified CM is version 7.1 or higher with the compatible Unified IP IVR or Unified CVP version.</td>
<td></td>
</tr>
<tr>
<td>• Ensure all ACDs are at a version compatible with Unified ICM/Contact Center 8.0(1).</td>
<td></td>
</tr>
<tr>
<td>• Ensure the hardware meets BOM specifications.</td>
<td></td>
</tr>
<tr>
<td>• Create and configure the Active Directory environment for Unified ICM/Contact Center.</td>
<td></td>
</tr>
<tr>
<td>• Run the Windows firewall configuration scripts to enable network connectivity.</td>
<td></td>
</tr>
<tr>
<td>• Ensure the Unified ICM/Contact Center Support Tools Server is upgraded to Version 2.4(1) or later.</td>
<td></td>
</tr>
<tr>
<td>• Perform a backup of the existing servers and verify the backups.</td>
<td></td>
</tr>
</tbody>
</table>

For additional information see Baseline Requirements (page 23).

2. Create the Active Directory environment.

AD considerations for upgrade:

• You cannot install Unified ICM components on a Domain Controller.

• Migrate users from the old domain to the new domain.

• Put the new servers in the Active Directory domain in the appropriate ICM OU.

• Validate IP connectivity and remote access.

• If the AD domain controller is on any ICM component, migrate the domain controller roles to new non-ICM servers.

**Note:** See "Migrating Active Directory and DNS to a Non-ICM Server" for additional information.

• Invoke the new domain controllers on the domain in which the ICM operates.

• Transfer any applicable flexible single master operations (FSMO) roles.

• Demote the domain controller on the production Logger to a member server.
### Step/Completed
3. Set up the new hardware.

### Action/Reference
Before performing a Technology Refresh upgrade:

- Install the Cisco OEM version or Retail version of Microsoft Windows Server 2003 including latest supported service pack, or install Retail Windows Server 2008 R2 (including the latest service pack).

  **Note:** If you are transitioning to a Windows Server 2008 R2 server, then you must perform a Technology Refresh and you must apply the release 8.5(2) (or later) Maintenance Release before the system is functional.

- Deploy the Windows Firewall scripts.

- Install SQL Server 2005, including the latest supported service pack. See the *Staging Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted, Release 8.x(y)*\(^0\) for additional information.

- Install the required Third Party software.

- Install the newly deployed servers.

- Verify system conditions using the EDMT.

For additional information see Setting Up the Hardware (page 39).

<table>
<thead>
<tr>
<th>Step/Completed</th>
<th>Action/Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Set up a temporary 8.0(1) HDS/Administration &amp; Data Server.</td>
<td>See Setting Up a Temporary Unified ICM/Contact Center 8.0(1) Administration &amp; Data Server-HDS (page 104).</td>
</tr>
</tbody>
</table>

### Start of Central Controller Upgrade Maintenance Window

See Administration & Data Server-HDS Technology Refresh Upgrade (page 100).

**Note:** WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.

### Step/Completed
5. Upgrade the HDS/Administration & Data Server.

### Action/Reference

6. Upgrade the Side A Logger.

### Action/Reference

7. Upgrade the Side A CallRouter.

### Action/Reference
See CallRouter Technology Refresh Upgrade: Side A/B (page 113).

8. Install the WebView server(s) if not collocated on the Administration & Data Server-HDS.

### Action/Reference
See the *WebView Installation Guide*\(^5\)

**Note:** WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.

---


<table>
<thead>
<tr>
<th>Step/Completed</th>
<th>Action/Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Bring down the production system (CallRouters, Loggers, and Administration &amp; Data Servers).</td>
<td>None.</td>
</tr>
<tr>
<td>Invoke the new Side A CallRouter and Logger.</td>
<td></td>
</tr>
<tr>
<td>Point the temporary HDS/Administration &amp; Data Server and PGs to the new CallRouter &amp; Logger in the new domain.</td>
<td></td>
</tr>
<tr>
<td><strong>End of Central Controller Upgrade Maintenance Window</strong></td>
<td>******************</td>
</tr>
<tr>
<td>12. Upgrade the Side B HDS/Administration &amp; Data Server.</td>
<td>See Administration &amp; Data Server-HDS Technology Refresh Upgrade (page 100).</td>
</tr>
<tr>
<td>13. Invoke the Upgraded HDS/Administration &amp; Data Server, when available, at any point after Step 8.</td>
<td>None.</td>
</tr>
<tr>
<td>15. Upgrade the Administration &amp; Data Servers and PGs.</td>
<td>See Administration &amp; Data Server Upgrade Procedures (page 95)</td>
</tr>
<tr>
<td></td>
<td>• PG Technology Refresh Upgrade (page 122)</td>
</tr>
</tbody>
</table>

**Table 7: Production HDS/Administration & Data Server Upgraded before the Central Controller Upgrade Maintenance Window**

<table>
<thead>
<tr>
<th>Step/Completed</th>
<th>Action/Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Upgrade the production system to the required baseline.</td>
<td>Complete the applicable baseline requirements:</td>
</tr>
<tr>
<td></td>
<td>• Ensure all ICM nodes are at Unified ICM/Contact Center Release 7.1(x), 7.2(x), or 7.5(x).</td>
</tr>
<tr>
<td></td>
<td>• Ensure all Unified ICM/Contact Center nodes are running Cisco OEM version or Retail version of Microsoft Windows Server 2003 including latest supported service pack.</td>
</tr>
<tr>
<td></td>
<td>• Ensure the Logger and HDS are running SQL Server 2005, including the latest supported service pack.</td>
</tr>
<tr>
<td></td>
<td>• Ensure the CAD is at Release 6.0, 7.0, 7.1, or 7.2 on Windows 2000 Server SP4 or Windows 2000 Advanced Server.</td>
</tr>
<tr>
<td>Step/Completed</td>
<td>Action/Reference</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------</td>
</tr>
<tr>
<td>• Ensure the CTI OS desktops are at Version 7.1(x), 7.2(x), or 7.5(x).</td>
<td></td>
</tr>
<tr>
<td>• Ensure DCA is at Version 2.1.</td>
<td></td>
</tr>
<tr>
<td>• Ensure Unified CM is 7.1 or higher, with the compatible Unified IP IVR or Unified CVP version.</td>
<td></td>
</tr>
<tr>
<td>• Ensure all ACDs are at a version compatible with Unified ICM/Contact Center 8.0(1).</td>
<td></td>
</tr>
<tr>
<td>• Ensure the hardware meets BOM specifications.</td>
<td></td>
</tr>
<tr>
<td>• Create and configure the Active Directory environment for Unified ICM/Contact Center.</td>
<td></td>
</tr>
<tr>
<td>• Run the Windows firewall configuration scripts to enable network connectivity.</td>
<td></td>
</tr>
<tr>
<td>• Ensure the Unified ICM/Contact Center Support Tools Server is upgraded to Version 2.4(1).</td>
<td></td>
</tr>
<tr>
<td>• Perform a backup of the existing servers and verify the backups.</td>
<td></td>
</tr>
<tr>
<td>For additional information see Baseline Requirements (page 23).</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Create the Active Directory environment.</th>
<th>AD considerations for upgrade:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• You cannot install Unified ICM components on a Domain Controller.</td>
<td></td>
</tr>
<tr>
<td>• Migrating users from the old domain to the new domain.</td>
<td></td>
</tr>
<tr>
<td>• Put the new servers in the Active Directory domain in the appropriate ICM OU.</td>
<td></td>
</tr>
<tr>
<td>• Validate IP connectivity and remote access.</td>
<td></td>
</tr>
<tr>
<td>• If the AD domain controller is on any ICM component, migrate the domain controller roles to new non-ICM servers.</td>
<td></td>
</tr>
<tr>
<td><strong>Note:</strong> See &quot;Migrating Active Directory and DNS to a Non-ICM Server&quot; for additional information.</td>
<td></td>
</tr>
<tr>
<td>• Invoke the new domain controllers on the domain in which the ICM operates.</td>
<td></td>
</tr>
<tr>
<td>• Transfer any applicable flexible single master operations (FSMO) roles.</td>
<td></td>
</tr>
<tr>
<td>• Demote the domain controller on the production Logger to a member server.</td>
<td></td>
</tr>
<tr>
<td>For additional information see Active Directory and DNS Considerations for Upgrades (page 53).</td>
<td></td>
</tr>
</tbody>
</table>
### Technology Refresh Upgrade Checklists

#### Step/Completed

3. **Set up temporary Release 7.1(x), 7.2(x), or 7.5(x) HDS/Administration & Data Server.**

   Before performing a Technology Refresh upgrade:

   - Install the Cisco OEM version or Retail version of Microsoft Windows Server 2003 including latest supported service pack, or install Retail Windows Server 2008 R2 (including the latest service pack).
   - Deploy the Windows Firewall scripts.
   - Install SQL Server 2005, including the latest supported service pack.
   - Install the Administration & Data Server-HDS.
   - Verify system conditions using EDMT (page 58).
   - Install the newly deployed servers.

   For additional information see Setting Up the Hardware (page 39).

4. **Upgrade the HDS/Administration & Data Server.**

   See **Administration & Data Server-HDS Technology Refresh Upgrade (page 100).**

5. **Install the WebView Server(s) if not co-located on the Administration & Data Server-HDS.**


   **Note:** WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.

---

### Start of Central Controller Upgrade Maintenance Window

6. **Upgrade the Side A Logger.**

   See the **Logger Technology Refresh Upgrade: Side A/B (page 109).**

7. **Upgrade the Side A CallRouter.**

   See the **CallRouter Technology Refresh Upgrade: Side A/B (page 114).**

8. **Bring down the side B CallRouter, Logger, and all Administration & Data Server and Administration Client systems.**

   Invoke the upgraded Side A CallRouter, Logger, and HDS/Administration & Data Server.

   None.

   See **How to Bring Side A into Service (page 115).**

9. **Upgrade the Side B Logger.**

   See **(page 111) Logger Technology Refresh Upgrade: Side A/B (page 109).**

10. **Upgrade Side B CallRouter.**

    See **CallRouter Technology Refresh Upgrade: Side A/B (page 117).**

---

### End of Central Controller Upgrade Maintenance Window

11. **Upgrade the Side B HDS/Administration & Data Server and**

    See **Administration & Data Server-HDS Technology Refresh Upgrade (page 100).**

---

Common Ground Upgrade Checklists

Select the appropriate Common Ground checklist for your Unified ICM/Contact Center system upgrade.

**Table 8: Production HDS/Administration & Data Server Upgraded in Parallel with the Central Controller Upgrade Maintenance Window**

<table>
<thead>
<tr>
<th>Step/Completed</th>
<th>Action/Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Upgrade the production system to the required baseline.</td>
<td>Complete the applicable baseline requirements:</td>
</tr>
<tr>
<td></td>
<td>• Ensure all ICM nodes are at Unified ICM/Contact Center Release 7.1(x), 7.2(x), or 7.5(x).</td>
</tr>
<tr>
<td></td>
<td>• Ensure all Unified ICM/Contact Center nodes are running Cisco OEM version or Retail version of Microsoft Windows Server 2003 including latest supported service pack.</td>
</tr>
<tr>
<td></td>
<td>• Ensure the Logger and HDS are running SQL Server 2005, including the latest supported service pack.</td>
</tr>
<tr>
<td></td>
<td>• Ensure the CAD is at Release 6.0, 7.0, 7.1, or 7.2 on Windows 2000 Server SP4 or Windows 2000 Advanced Server.</td>
</tr>
<tr>
<td></td>
<td>• Ensure the CTI OS desktops are at Version 7.1(x), 7.2(x), or 7.5(x).</td>
</tr>
<tr>
<td></td>
<td>• Ensure Unified CM is 7.1 or higher, with the compatible Unified IP IVR or Unified CVP version.</td>
</tr>
<tr>
<td></td>
<td>• Ensure all ACDs are at a version compatible with Unified ICM/Contact Center 8.0(1).</td>
</tr>
<tr>
<td></td>
<td>• Ensure the hardware meets BOM specifications.</td>
</tr>
<tr>
<td></td>
<td>• Create and configure the Active Directory environment for Unified ICM/Contact Center.</td>
</tr>
<tr>
<td></td>
<td>• Run the Windows firewall configuration scripts to enable network connectivity.</td>
</tr>
</tbody>
</table>
Common Ground Upgrade Checklists

<table>
<thead>
<tr>
<th>Step/Completed</th>
<th>Action/Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ensure the Unified ICM/Contact Center Support Tools Server is upgraded to Version 2.4(1).</td>
<td></td>
</tr>
<tr>
<td>• Perform a backup of the existing servers and verify the backups.</td>
<td></td>
</tr>
<tr>
<td>For additional information see Baseline Requirements (page 23).</td>
<td></td>
</tr>
<tr>
<td>2. Create the Active Directory environment.</td>
<td>AD considerations for upgrade:</td>
</tr>
<tr>
<td>• Migrating users from the old domain to the new domain.</td>
<td></td>
</tr>
<tr>
<td>• Put the new servers in the Active Directory domain in the appropriate ICM OU.</td>
<td></td>
</tr>
<tr>
<td>• Validate IP connectivity and remote access.</td>
<td></td>
</tr>
<tr>
<td>• If the AD domain controller is on any ICM component, migrate the domain controller roles to new non-ICM servers.</td>
<td></td>
</tr>
<tr>
<td>Note: See &quot;Migrating Active Directory and DNS to a Non-ICM Server&quot; for additional information.</td>
<td></td>
</tr>
<tr>
<td>• Invoke the new domain controllers on the domain in which the ICM operates.</td>
<td></td>
</tr>
<tr>
<td>• Transfer any applicable flexible single master operations (FSMO) roles.</td>
<td></td>
</tr>
<tr>
<td>• Demote the domain controller on the production Logger to a member server.</td>
<td></td>
</tr>
<tr>
<td>For additional information see Active Directory and DNS Considerations for Upgrades (page 53).</td>
<td></td>
</tr>
<tr>
<td>3. Set up a temporary 8.0(1) HDS/Administration &amp; Data Server.</td>
<td>See Setting Up a Temporary Unified ICM/Contact Center Administration &amp; Data Server-DS (page 104).</td>
</tr>
<tr>
<td>Start of Central Controller Upgrade Maintenance Window</td>
<td>*******************</td>
</tr>
<tr>
<td>4. Upgrade the HDS/Administration &amp; Data Server.</td>
<td>See Administration &amp; Data Server-HDS Common Ground Upgrade (page 103).</td>
</tr>
<tr>
<td>7. Install the WebView Server(s) if not co-located on the Administration &amp; Data Server-HDS.</td>
<td>See the WebView Installation Guide.</td>
</tr>
<tr>
<td>Note: WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.</td>
<td></td>
</tr>
</tbody>
</table>

### Table 9: Production HDS/Administration & Data Server upgraded before the Central Controller Upgrade Maintenance Window

<table>
<thead>
<tr>
<th>Step/Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Upgrade the production system to the required baseline.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Action/Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete the applicable baseline requirements:</td>
</tr>
<tr>
<td>• Ensure all ICM nodes are at Unified ICM/Contact Center Release 7.1(x), 7.2(x), or 7.5(x).</td>
</tr>
<tr>
<td>• Ensure all Unified ICM/Contact Center nodes are running Cisco OEM version or Retail version of Microsoft Windows Server 2003 including latest supported service pack</td>
</tr>
<tr>
<td>• Ensure the Logger and HDS are running SQL Server 2005, including the latest supported service pack.</td>
</tr>
<tr>
<td>• Ensure the CAD is at Release 6.0, 7.0, 7.1, or 7.2 on Windows 2000 Server SP4 or Windows 2000 Advanced Server.</td>
</tr>
<tr>
<td>Step/Completed</td>
</tr>
<tr>
<td>---------------</td>
</tr>
<tr>
<td>• Ensure the CTI OS desktops are at Version 7.1(x), 7.2(x), or 7.5(x)</td>
</tr>
<tr>
<td>• Ensure Unified CM is 7.1 or higher, with the compatible Unified IP IVR or Unified CVP version.</td>
</tr>
<tr>
<td>• Ensure all ACDs are at a version compatible with Unified ICM/Contact Center 8.0(1).</td>
</tr>
<tr>
<td>• Ensure the hardware meets BOM specifications.</td>
</tr>
<tr>
<td>• Create and configure the Active Directory environment for Unified ICM/Contact Center.</td>
</tr>
<tr>
<td>• Run the Windows firewall configuration scripts to enable network connectivity.</td>
</tr>
<tr>
<td>• Ensure the Unified ICM/Contact Center Support Tools Server is upgraded to Version 2.4(1).</td>
</tr>
<tr>
<td>• Perform a backup of the existing servers and verify the backups.</td>
</tr>
<tr>
<td>For additional information see Baseline Requirements (page 23).</td>
</tr>
</tbody>
</table>

2. Create the Active Directory environment.  

AD considerations for upgrade:

• Migrating users from the old domain to the new domain.

• Put the new servers in the Active Directory domain in the appropriate ICM OU.

• Validate IP connectivity and remote access.

• If the AD domain controller is on the Logger, migrate the domain controller roles to new non-ICM servers.

**Note:** See "Migrating Active Directory and DNS to a Non-ICM Server" for additional information.

• Invoke the new domain controllers on the domain in which the ICM operates.

• Transfer any applicable flexible single master operations (FSMO) roles.

• Demote the domain controller on the production Logger to a member server.

For additional information see Active Directory and DNS Considerations for Upgrades (page 53).

3. Set up temporary Release 7.1(x), 7.2(x), or 7.5(x) HDS/Administration & Data Server.  

See Setting Up a Temporary Unified ICM/Contact Center Administration & Data Server-HDS (page 104).
<table>
<thead>
<tr>
<th>Step/Completed</th>
<th>Action/Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Upgrade the HDS/Administration &amp; Data Server.</td>
<td>See Administration &amp; Data Server-HDS Common Ground Upgrade (page 103).</td>
</tr>
</tbody>
</table>
| 5. Install the WebView Server(s) if not co-located on the Administration & Data Server-HDS. | See the **WebView Installation Guide** 8.  
**Note:** WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2. |

**Start of Central Controller Upgrade Maintenance Window**

<table>
<thead>
<tr>
<th>Step/Completed</th>
<th>Action/Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Upgrade the Side A CallRouter.</td>
<td>CallRouter Common Ground Upgrade: Side A (page 114)</td>
</tr>
</tbody>
</table>
| 8. Bring down the side B CallRouter, Logger, and all Administration & Data Server and Administration Client systems. | None.  
See How to Bring Side A into Service (page 115). |
| Invoke the upgraded Side A CallRouter, Logger, and HDS/Administration & Data Server. |                                                                                                                                 |

**End of Central Controller Upgrade Maintenance Window**

<table>
<thead>
<tr>
<th>Step/Completed</th>
<th>Action/Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. Upgrade the Side B HDS/Administration &amp; Data Server and bring it into service once the upgrade is completed.</td>
<td>See Administration &amp; Data Server-HDS Common Ground Upgrade (page 103).</td>
</tr>
</tbody>
</table>
| 12. Upgrade the Administration & Data Servers and PGs.                   | See Administration & Data Server Upgrade Procedures (page 95).  
See Peripheral Gateway (PG) Upgrade Procedures (page 121). |

Part 3: Post-upgrade Testing
Develop a Test Plan

A test plan is utilized at various stages of the upgrade process. It is up to you to develop the actual test cases with actual dialed numbers, labels, targets, and expected results. The key areas in which to develop test cases follow.

Application test

The most crucial test is the ability of the system to route calls to defined peripheral targets. Side A of the ICM system is upgraded to Unified ICM/Contact Center 8.0(1) first, then returned to service. Monitor the ICM call routing decisions to determine if it is making the appropriate routing decisions. The Key Administration & Data Servers, upgraded prior to the side B Central Controller, are used to monitor call routing.

System Integrity Tests

The remaining tests are performed to ensure proper functionality of all system components when the ICM is running in duplex mode. Give special attention to redundancy testing.

Process Testing

Validate processes on the Unified CCE system. For example, check the following processes for:

- RTR: If all configuration data is transferred from Logger
- LGR: If initialization is complete
- Administration & Data Server: If the update is complete
Step 1  Ensure each software process is running according to specification.
Step 2  Check each NIC for the proper connection to the carrier (IXC) network.
Step 3  Halt and restart each process.

Redundancy Testing
Step 1  Stop each active PG to ensure that the backup PG assumes an active state.
Step 2  Stop the active CallRouter side to ensure that the system switches to the alternate CallRouter side without loss of functionality.
Step 3  Perform the same tests on the Logger and the NIC.

Historical Reporting Testing
Step 1  Launch queries against the upgraded Loggers to ensure the presence and integrity of historical call detail

WebView Reporting Testing (Optional)
Note: WebView is not supported in Release 8.5(1) or later and WebView is not supported on Windows Server 2008 R2.
Step 1  Open the commonly used WebView views.
Step 2  Examine the data presented.

Internet Script Editor Testing (Optional)
Step 1  Open the most commonly monitored ICM scripts using Internet Script Editor.
Step 2  Examine the data presented.

Set All ICM Services to Automatic Start
Step 1  Double-click the local Unified CCE Service Control icon on each ICM component.
Step 2  Select each ICM Service and set it to Automatic start.
Notify Stakeholders

Notify the stakeholders that the upgrade migration is complete (see Stakeholder Notification (page 157)).

Run Post-upgrade Tests

A test plan is utilized at various stages of the upgrade process. It is up to you to develop the actual test cases with actual dialed numbers, labels, targets, and expected results. The key areas in which to develop test cases follow.

See the Run Pre-upgrade tests for additional information on the following tests:

- Application test
  - Validate Scripts
- System Integrity Tests
  - Process testing
  - Redundancy testing
  - Historical reporting testing
  - WebView reporting testing (optional)
  - Internet Script Editor testing (optional)

**Note:** It may be necessary to run additional tests as required due to the new Unified ICM/Contact Center release functionality.

Validate Scripts

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Open Script Editor.</td>
</tr>
<tr>
<td>Step 2</td>
<td>Select Script &gt; Validate All (or click Validate All in the tool bar).</td>
</tr>
<tr>
<td>Step 3</td>
<td>Observe all scripts are functioning properly. Make note of any scripts not operating properly after the upgrade, then compare these to the list generated prior to the upgrade.</td>
</tr>
</tbody>
</table>
Develop a Test Plan
Index

active directory....2
administration and data servers....17
administration client systems....92
backup and restore
  backup panel properties....69
  restore panel properties....70
call detail....95
callrouter....15
call varaible....95
central controller....30
cisco agent desktop....5
cisco security agent....40
common fields....67
common ground upgrade....4
CTI gateways....122
CUIS archiver....96
database connection
  destination panel properties....68
  source panel properties....68
dialer....110
domain controller....54
domain manager....44
dynamic content adaptor....24
enhanced database migration tool ....4
ethernet....41
fibre channel adapter....43
flexible single master operations (FSMO)....152
HDS schema....2
historical reporting....104
ICM central controller....93
infomaker....104
IPCC enterprise....135
logger....23
migration control
  properties....70
  starting data migration....72
  terminating in-process data migration....73
migration type
  properties....67
migration version
  properties....67
MR patch....75
network gateways services....96
network interface controller....15
network VRU....136
peripheral gateway....136
peripheral gateway(s)....1
pre-upgrade testing....13
primary domain controller emulator....56
real-time reporting....81
redundancy testing....159
routing client....136
schema upgrade....115
script editor....116
server configuration manager....2
silent installation....93
SQL enterprise manager....6
system switches....158
trunk group....136
unified CCE service control....110
webview third party installer....101
webwiew server....45
windows firewall....75
wizard menus
  file menu....66
  help menu....66