NETWORK UPGRADES

SOLUTIONS GUIDE

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Mitel®

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CHAPTER 1: INTRODUCTION

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Chapter 1

INTRODUCTION

Introduction

Upgrading one piece of hardware or software is relatively easy, and fully documented, but upgrading a full network takes some additional planning.

For instance, the following questions may come to mind:

- What if not all the MCD or MiVoice Business nodes in the network are at the same version? Do I have to upgrade them all?
- Does it matter which network elements I upgrade first?
- Does it matter which product I upgrade first?
- If I upgrade MiVoice Business node A to a new version, will I have to upgrade any or all of my applications?
- How long will the upgrade take?
- How can I minimize down-time?
- Do I have to do anything differently when upgrading the virtual components?
- What about non-Mitel components and third-party applications in the network?

Note: When upgrading MCD from a pre-Release 4.0 installation to MCD Release 4.1, 4.2, 5.x, or 6.0, or MiVoice Business Release 7.0, you must always upgrade to MCD Release 4.0, perform a migration to the RDN Synchronization Mode, and then upgrade to the desired version.
For information about performing the migration, see the *Migrating to RDN Synchronization Mode Solutions Guide*.

Terms and Acronyms

The following table defines some of the terms used in this guide.

Table 1: Terms and Acronyms

TERM	DEFINITION
3300 ICP	The 3300 ICP is the proprietary Mitel hardware platform on which the MiVoice Business controller software is run. Note that the MiVoice Business software also runs on industry standard servers, and on VMware virtual machines (MiVoice Business Virtual).
AMC	Applications Management Center Used to generate license keys to be created automatically 24 hours a day, 7 days a week.
ARID	Application Record ID
AWV	MiCollab Audio, Web and Video Conferencing, a feature of MiCollab. Formerly called Mitel Collaboration Advanced (MCA).
CESID	Customer Emergency Services ID
Classic Mode	MCD databases are in Classic Mode if the MCD Release is earlier than 4.0, or if the MCD Release 4.0 database has not yet been migrated to RDN Synchronization mode. You must migrate to RDN Synchronization mode if you plan to upgrade to MCD Release 4.1 or higher, or MiVoice Business 7.0 or higher. Refer to the *Migrating to RDN Synchronization Mode Solutions Guide* for more information and for instructions.
DLM	Designated License Manager
GDM	Global Data Model When an MCD is migrated to RDN Synchronization mode, the databases are converted to the Mitel Global Data Model. You must migrate to RDN Synchronization mode if you plan to upgrade to MCD Release 4.1 or higher, or MiVoice Business 7.0 or higher. Refer to the *Migrating to RDN Synchronization Mode Solutions Guide* for more information and for instructions.
Group ARID	Group Application Record ID
MAS	Mitel Applications Suite (now called MiCollab)
MCA	Mitel Collaboration Advanced (changed to MiCollab Audio, Web and Video Conferencing)
MCD	Mitel Communications Director (the name has changed to MiVoice Business - MiVB) In this guide, the terms MCD and MiVB are used to mean a controller. In the software sense, these are synonymous with 3300 ICP.
MICD	Multi Instance Communications Director (now called MiVoice Business Multi-instance)
MiCollab	Suite of applications, including voice mail, conferencing and collaboration and presence, for use in a Mitel network. Formerly called Mitel Applications Suite (MAS).

Table 1: Terms and Acronyms

TERM	DEFINITION
MiVB MiVB Multi-instance MiVB Virtual	MiVoice Business (formerly MCD) MiVoice Business Multi-instance (formerly MICD) MiVoice Business Virtual (formerly vMCD)
RDN	Relative Distinguished Name RDN Synchronization is the database model for MCD releases after MCD Release 4.0, and MiVoice Business—all releases.
RDN Synchronization Mode	When an MCD is migrated to RDN Synchronization mode, the databases are converted to the Mitel Global Data Model. You must migrate to RDN Synchronization mode if you plan to upgrade to MCD Release 4.1 or higher. Refer to the *Migrating to RDN Synchronization Mode Solutions Guide* for more information and for instructions.
Resilient Pairs	Devices (IP phones and IP consoles) can be configured to have a primary controller and a secondary controller, with the secondary controller available to immediately take over if the primary controller fails. The primary and secondary controllers can be referred to as a resilient pair. SDS allows you to keep these two controllers synchronized so that the devices can be moved seamlessly from primary to secondary in the event of a controller failure.
SDS	System Data Synchronization SDS is the data sharing mechanism that helps keep MCD nodes in a network synchronized with all of the other nodes. See the *Using System Data Synchronization Solutions Guide*.
Sharing Scope	The data shared among network elements using SDS can be shared across the whole network, within the cluster or administrative group, or by resilient pairs. These are some of the choices for the sharing scope.
SI Tool	MiVoice Business Software Installer
Sync or synchronization	In a network, SDS allows you to make the network elements form data the same on each network element. When the form data matches across elements in the network, they are said to be in synchronization. To synchronize the network, you click the Sync button on the Network Element Assignment form.
vMCD	Virtual Mitel Communications Director (now called MiVoice Business Virtual)

Chapter 2

UPGRADING A MITEL NETWORK

Upgrading your network

Every network is different, but there are common things to do in every upgrade (or migration), no matter what kind of network you have, or which part of the network you are upgrading.

Start planning your upgrade using the following steps; more information about completing each step is provided in subsequent sections.

1. Collect site information.

   Before doing anything else, you need to inventory your network. Make a list of all the equipment, along with the software and hardware versions for the MiVoice Business or MCD on each element.

   With each item, record the information you will need to access it; for example, administrator passwords for the controllers and system IP addresses for the MiVoice Business Software Installer (SI Tool).

   Example tables are provided to help in your information collection. See “Collect site information” on page 11.

2. Plan which elements to upgrade.

   You may originally plan to upgrade just one network element or one element type, but you may find that other elements or applications need to be upgraded, too, to remain compatible with the new software.

   For more information, see the software compatibility matrix in “Software compatibility matrix” on page 14.

3. Purchase or move licenses.

   See “Planning and purchasing upgrade licenses” on page 20.

4. Additional considerations before upgrading

   This section discusses planning for resilient MiVoice Business controllers and devices, System Data Synchronization (SDS), and critical functions and applications.

   See “Additional considerations before upgrading” on page 24.

5. Prepare to upgrade.

   When planning your backups, you need to know the state of each controller and the network at backup time. You need to consider the length of time it will take to perform the upgrades, and whether you can complete the upgrades during your regular maintenance window.

   Install the MiVoice Business Software Installer Tool for the version of MiVB you are installing. You can do the database backup, the online upgrade, and the database restore, all from the SI Tool.

   In some cases, it is necessary to perform your upgrades in a particular order, either because of the resiliency configuration of the network, or to reduce down-time, for example.

   This section gives general information about performing the upgrade for the various types of MiVoice Business installation.

If you have MCD Release 5.0+ installed, and you are upgrading to the next release, you can use the Unattended Upgrades feature. For detailed instructions, refer to “Scheduling Unattended Software Upgrades” in the System Administration Tool Online Help.

Note: Starting in MCD 5.0 SP1, optional e-mail notification is provided at the beginning and at the completion of each process in a scheduled software upgrade, and when a process is canceled from the Scheduler.

Also in MCD Release 5.0+ (for upgrading from MCD 5.0+ to a higher release), there are new non-SI Tool upgrade procedures available. Refer to the *Mitel 3300 ICP Technician's Handbook* for Release 5.0.

See “Prepare to Upgrade” on page 28.

6. Perform the upgrades.

   The upgrade procedure includes the backup, the upgrade, and the restore.

   See “Performing the Upgrade” on page 39.

7. If, at some point during the upgrade, you find you are running out of time, (due to AMC access or licensing difficulties, for example), you can revert back to the original MiVB release. Then you can restart the upgrade when the problems are resolved, and you have another time slot available to perform the upgrade.
   - If you are upgrading on a hardware system, you can install the new version of software on a new, fresh drive. Then you can revert back to the original release by taking the drive out, and replacing it with the original drive with the current MiVB release on it.
   - If you are upgrading MiVB on ISS, for example, you can re-install the current MiVB software and then restore the backup.

8. Test your upgraded system, and troubleshoot any problems that might appear.

   This section describes some tests you should run to make sure that the upgrades were successful, and includes some general troubleshooting tips.

   See “Test and troubleshoot your upgraded system” on page 42.

Migrating to MiVoice Business

If your upgrade involves migrating from a legacy system like the SX-2000, please contact Mitel Professional Services.

Some of the peripherals and devices you are using with the SX-2000, or other legacy system, will not work with MiVoice Business. Mitel Professional Services can help recommend similar equipment that will work, although exact replacement functionality may not be possible. You can get help migrating your data to the MiVoice Business controller and making the changeover with the minimum of disruption to your services.

An SX-2000 can also be migrated to MiVoice Business Virtual. This migration requires additional planning for resiliency, system networking, clustering, SDS, and changes in applications integrations.

Collect site information

Before making any changes to your network, inventory your installation to make sure you know exactly what you have, which elements need to be upgraded, and the details you will need handy to proceed with the upgrade procedures.

Ensure that you are current with Mitel Software Assurance, or update it before starting the upgrade. If you are upgrading to MCD Release 5.0+ or MiVoice Business Release 7.0, the licenses are handled differently. In previous releases, you could enter licenses and passwords manually at the time of the upgrade. When upgrading to MCD Release 5.0+, every MiVB must have an ARID in advance.

Also introduced in MCD Release 5.0 is Enterprise Licensing (which uses Group Application Record ID or Group ARID). If you are planning to use Enterprise Licensing, you must factor this into your upgrade planning. For more information about Enterprise Licensing, refer to “Application Group Licensing Example” in the System Administration Tool Online Help.

Fill in Table 2 before make any changes. You should also record details about any third-party hardware and software in the network.

Table 2: General site information

Information needed	Equipment specifics	Details of your installation
Name of site		
Location		
Contact information		
Mitel Communications Platforms:		
	• MiVoice Business • MiVoice Business-ISS • MiVoice Business Virtual • MiVoice Business Multi-instance • 5000 • Axxess	• IP addresses • passwords
	Licensing • Online • Offline If using Enterprise Licensing, which switch will be the Designated License Manager (DLM)?	• Application records (ARID) • Group Application records (Group ARIDs)
	Devices (phones)	
Flexed Dimensions?		
	What (if anything) has been flexed?	
Management tools		
MiCollab (formerly MAS)		

Table 2: General site information

Information needed	Equipment specifics	Details of your installation
	Mitel applications	
Third-party hardware and applications		
	Hardware	
	Software	
	Server (Active Directory)	
Application licensing		
	What applications need to be licensed?	
	Are there Trusted applications that do not need user licenses?	
Type of site		
	single MiVoice Business controller	
	clustered or non-clustered?	
	resilient site(s)	
	multi-site Enterprise - resilient	
	multi-site Enterprise - non-resilient	

Next, gather the version information for all your installed Mitel equipment. In the Notes column, add any login information and IP address information that you will need to upgrade the software.

Table 3: Current installed versions

MITEL PRODUCT	CURRENT SOFTWARE VERSION	NOTES
Mitel SX-2000		
MiVoice Business on 3300 ICP platform		
MiVoice Business Multi-Instance (formerly called MICD)		
MiVoice Business on Industry Standard Server (ISS)		
MiVoice Business Virtual		
MiVoice Office (formerly called Mitel 5000 CP)		
MiCollab (formerly called MAS)		
NuPoint - Unified Messaging		
MiCollab Audio, Web, and Video conferencing (formerly MCA)		
MiCollab Client (formerly UCA)		
MiCollab Mobile Client (formerly UCA Mobile)		
Devices (Phones)		
IPv6 devices?		

Software compatibility with other products and other versions

When upgrading one or more products in the network, you must check that the new version of MiVoice Business software you are installing is compatible with other products and other versions already in place. If the new software version is not compatible with installed versions of Mitel or third-party applications, you will have to upgrade those items as well.

If you have clusters configured in your network, all of the MCDs must be using pre-Release 4.0 MCD, or they must all be using MCD Release 4.0 or later.

CAUTION: You cannot mix pre-Release 4.0 MCD and post-Release 4.0 MCD in the same clustered network.

If you have MCDs at pre-Release 4.0 versions and you want to upgrade to a post-Release 4.0 MCD, you must upgrade all of them to MCD Release 4.0, perform a migration to the RDN Synchronization Mode, and then upgrade to MCD 4.1, 4.2, or 5.0. For information about performing the migration to RDN Synchronization Mode, refer to the *Migrating to RDN Synchronization Mode Solutions Guide*, and the System Administration Tool online help.

Software compatibility matrix

This section provides a high level list of the product versions you may be upgrading, and shows which software versions work together (or do not work together). This helps in planning which MiVoice Business controllers, and which applications, must be upgraded together.

You may also need to update any third-party applications running in the network. For information about third-party applications, refer to the release notes and documentation for each application. Consider the following third-party applications that may have to be upgraded or replaced:

- Call recording software
- Property Management System (PMS)
- Third-party voice mail applications

Table 4 shows a snapshot of compatible software versions as at this publication date; you are strongly cautioned to check the most up-to-date Release Notes and the *Technician's Handbook* for the software you are installing to ensure that you have compatible software versions.

The software downloads and release notes are available on Mitel Online.

Table 4: Software compatibility matrix

MITEL PRODUCT	MCD PRE-4.0	MCD 4.0		MCD 4.1 / MCD 4.2	MCD 5.0, 5.0 SP1	MCD 6.0	MIVB 7.0
		Classic	**RDN Sync**				
Mitel Communication Director (MCD) Pre-Release 4.0 (9.0)	√	√	X	X	X	X	X
MCD 4.0 Classic Mode	√	√	X	X	X	X	X
MCD 4.0 RDN Sync Mode	X	X	√	√	√	√	√
MCD 4.1 and 4.2	X	X	√	√	√	√	√*
MCD 5.0 and 6.0	X	X	√	√	√	√	√
MiVoice Business 7.0	X	X	√	√	√	√	√
OPS Manager	√	√	X	X	X	X	X
MiCollab (MAS) Includes: • MiCollab Client (UCA) • MiCollab Mobile Client (UCA Mobile) • NuPoint Unified Messaging • MiCollab Audio, Web, and Video conferencing (MCA) • MiContact Center Office (CSM)[5]		MAS 1.2 SP1 minimum		MAS 2.1 SP2 minimum	MAS 3.0 SP1 MAS 4.0	MAS 4.2 SP2 MAS 5.0	MAS 4.2 SP2 MAS 5.0 MiCollab 6.0
NuPoint Unified Messaging		4.0 SP2		4.1 SP1 min	4.2 +	4.2 +	4.2 +
MiVoice Border Gateway (MBG)		5.2		5.3 / 6.0	7.0	7.0 8.0 8.1	8.0 8.1
Enterprise Manager		6.0 SP4		6.2	6.2	6.2	6.2
Standalone: MiCollab Client (UCA) MiCollab Mobile Client (UC Mobile)		3.0 /3.1		3.1+	4.1 SP1+	4.1 SP1+	5.0 6.0
MiContact Center Office (CSM)					5.15	5.15	7.0+ 8,0
Mitel Integrated Configuration Wizard (MiCW)		2.2.0.x		2.5 SP1	3.1.x	3.1.x	3.1.x
CHECK THE LATEST RELEASE NOTES FOR THE MOST UP-TO-DATE RELEASE COMPATIBILITY.							

Notes:

1. For more detailed compatibility information, including compatibility for SP releases of both MiCollab and MiVoice Business, see the Release Notes for the MiVoice Business and MiCollab releases you are upgrading to.
2. You can upgrade from MCD Release 4.0 SP4 all the way to MCD 6.0 in one upgrade operation.
3. Pre-Release 4.0 MCD runs in Classic Mode, MCD Release 4.0 runs in both Classic Mode and RDN Synchronization Mode. MCD Release 4.1 and later, and MiVoice Business releases run only in RDN Synchronization Mode.
4. The minimum release for MXe-III is MCD Release 4.0 SP4.
5. CSM 5.1.6.5 is not supported with MCD 5.0+.

Multiple versions of MiVoice Business in the network

You should upgrade all of the MiVoice Business controllers in your network to the same version. This guarantees that all of the features will match across the network. In addition, you will see fewer System Data Synchronization (SDS) distribution errors resulting from database schema differences (if you are using SDS).

This is especially important when MiVBs are used to provide resiliency. Your primary and secondary MiVBs may have to be upgraded on different days, but they must end up at the same MiVoice Business release.

Note: When running different versions of MiVoice Business in the network, there may be some features that do not work across all nodes, but voice service will be operational.

As a temporary situation, as you are staging your upgrades across the network, you can have different versions of the MiVoice Business in your network, as long as the following rules are followed:

- All MiVoice Business controllers in a cluster are either using pre-Release 4.0 or post-Release 4.0 software, with two exceptions:
  - MCD 4.0 in Classic Mode can be run with pre-Release 4.0 versions.
  - MCD 4.0 in RDN Synchronization Mode can be run with MCD Release 4.x or 5.x.
- The MiVoice Business software versions in the network support the Mitel applications you are running in the network. See “Software compatibility matrix” on page 15.

Note: Data sharing between different versions of MiVoice Business may result in System Data Synchronization (SDS) errors if the network includes different versions of MiVB. For more information about SDS, see the *Using System Data Synchronization Solutions Guide*.

Note: In MCD Release 6.0, the CESID length was changed from 10 digits to 12 digits. If 12 digit CESID is shared (by SDS) with a node that supports only 10 digit CESIDs, then the last 2 digits are dropped.

If you have pre-Release 4.0 MCDs in your network:

1. Upgrade all of the pre-Release 4.0 MCDs to Release 4.0 SP4.

2. Perform the migration to the RDN Synchronization Mode using the migration checklist in the System Administration Tool (this checklist is only in MCD Release 4.0 SP4). Refer to the *Migrating to RDN Synchronization Mode Solutions Guide* for detailed instructions. This guide also contains additional steps for migrating a very large multi-node network using MiVoice Business Multi-instance (formerly MICD).
3. Upgrade the MCDs to the desired release.

If you have Release 5.0+ MCDs in your network, you can use the SI Tool or Unattended Upgrades:

1. Run the pre-upgrade check, and make any suggested changes.
2. Follow the steps in the table, depending on the upgrade method.

Table 5: Two ways to upgrade to MCD 5.0+

SI TOOL	UNATTENDED UPGRADES
LOAD THE NEW RELEASE OF THE MIVOICE BUSINESS SOFTWARE.	
The SI Tool allows you to choose one of the following software sources: FTP, CD, or a location on your local hard drive. **Note:** The SI Tool can use a source CD only if the software is expanded. If the CD has the software in the installshield.exe, the SI cannot access the software.	When running an Unattended Upgrade, the only supported software source is FTP. You will be prompted to enter the FTP information, including the specific folder, when adding the download event in the scheduler. Refer to the *MiVB Installation and Administration Guide*. **Note**: Anonymous FTP accounts are no longer supported on MXe Server, MiVoice Business Multi-instance, MiVoice Business for ISS and MiVoice Business Virtual.
UPGRADE THE MIVOICE BUSINESS CONTROLLERS.	
Run the Upgrade.	Run the upgrade. If the upgrade fails, the software load automatically reverts to the starting MiVoice Business release.
UPGRADE THE IP PHONE FIRMWARE.	
Use the LOAD IPDEVICE maintenance command. You can load a maximum of 300 devices at a time, so you may have to run this command more than once. For example: LOAD IPDEVICE 1 TO 300 LOAD IPDEVICE 301 TO 500 **Note:** If you are upgrading to MCD 5.0+ or MiVoice Business, the firmware is updated automatically when the upgrade is complete. All the phones will reset when the firmware is updated.	

Hardware compatibility

If you are upgrading through several MCD/MiVoice Business releases at one time, you may find that the controller must also be replaced to handle the new software requirements. When upgrading MCD, you must determine whether the new MCD/MiVoice Business software will run on the existing controller.

Consider the following:

- Does the controller have enough RAM?
- If not, can the RAM be increased?

If you also have to upgrade other software products:

- Will the new software run on your existing servers?
- If not, can you increase the RAM?

In some cases, you may have to replace controller hardware and various server hardware before you can upgrade the software.

Refer to the hardware requirements described in the MiVB Release Notes for the new MiVB Release, and the documentation for any third-party software and hardware.

Upgrading from a hardware platform to ISS or MiVoice Business Virtual

Before upgrading from a hardware platform to ISS or MiVoice Business Virtual, you must remove all physical components, including all TDM provisioning. For more information and instructions, refer to the *Virtual Appliance Deployment Solutions Guide*.

If you want to upgrade MCD or MiVB running on a 3300 ICP to MCD or MiVB running on an Industry Standard Server (ISS):

- Purchase the upgrade license.
- Attach this upgrade license to a 3300 Application Record and it will be upgraded to an ISS Application Record.
- After it is upgraded, the Application Record ID can no longer be used to license a 3300 Controller.
- When the Application Record is upgraded to MiVoice Business ISS, some licenses may not be activated on the MiVoice Business ISS platform if they are not a supported license type.
  - For example, on MCD 5.0, the MCD ISS solution does not support analog licenses, digital link licenses, or Embedded Voice mail licenses.
  - On MCD 6.0 and MiVoice Business 7.0, the ISS solution does not support analog licenses, or digital link licenses.

If you want to upgrade an MCD to an vMCD or MiVoice Business Virtual:

- Purchase the upgrade license.
- If you are a Hospitality customer, apply to your Mitel representative for the Hospitality Uplift (part # 54005901) that gives you Hospitality pricing. Refer to the *Hospitality Solutions Guide* for more information.
- The non-virtual to virtual upgrade license enables a system upgrade from a 3300 Controller or ISS variant of MiVoice Business to a MiVoice Business Virtual variant. It can be added to an existing 3300 or ISS MiVB Enterprise Base Package or to any MiVB Gateway Base package.

Refer to the *Virtual Appliance Deployment Solutions Guide* for more information about deploying Mitel virtual solutions.

Upgrading MiVoice Business Virtual

Best practice for MiVoice Business Virtual is to create a new virtual machine (VM) and install the new software load on it. Then, if there are any problems, you can restart, or continue to run using the original VM.

When upgrading a virtual appliance, there are two options.

- Download and deploy the new OVA into the virtual Infrastructure, with an MSL data back-up/restore (for MSL-based virtual appliances) used to move the data from the old virtual appliance to the new virtual appliance.
- Upgrade the application's Blades individually through the MSL Blades panel. Refer to the Installation and Maintenance Guides and Release Notes for product-specific guidance. Some products may not support upgrading their blades using the MSL Blades panel. MiCollab Virtual, for example, does not support Blade upgrades.

In general, follow these upgrade rules:

- For minor releases: Use Blade upgrades.
- For major releases (the first digit of the version number changes between old and new loads): Use an OVA upgrade.

There may occasionally be releases where something in the OVA packaging itself is modified and an OVA upgrade is required. In such cases, this requirement will be highlighted in the Release Notes.

For more information, see the *Virtual Appliance Deployment Solutions Guide*.

Planning and purchasing upgrade licenses

To enable or upgrade licenses and options, you must be connected to the Applications Management Center (AMC) using either the MiVoice Business SI Tool or the 3300 ICP System Administration Tool. Connecting to the AMC Server requires specific settings for the SI Tool and the System Administration Tool.

If the MiVBs to be upgraded do not have access to the AMC, you must perform an offline sync of all of the MiVBs, or arrange access for AMC for the controllers that require it.

Based on whether the IP Networking License has been purchased, the Mitel AMC makes an assumption about whether the installation is stand-alone or enterprise.

Licensing for MCD Release 5.0+ and MiVoice Business 7.0

MCD Release 5.0 introduced new licensing features, including the new Application Group feature (purchased feature), and shared licensing.

If you are upgrading to MCD Release 5.0 or higher, and the IP Networking License is detected, the AMC automatically sends the Enterprise defaults to the controller, effectively giving you a head-start on the configuration programming.

The licensing changes in MCD 5.0+ also affect the order of upgrade. For example:

- You upgrade all of the network elements first, then you create the Group ARID and add the Application Record IDs (ARID) from AMC to it.
- You must have SDS sharing active among the network elements that will be sharing the license before allocating the licenses in the **License and Option Selection** form (in the System Administration Tool). Refer to the MCD or MiVoice Business Release Notes and the System Administration Tool Online Help for detailed information.

When using the Group Licensing feature, refer to the *3300 ICP Technician's Handbook* for MCD Release 5.0 for instructions for avoiding license rejection errors in the SI Tool.

Note: In MCD Release 5.x and 6.0 and MiVoice Business Release 7.0, moving and sharing licenses for up to 999 MCDs in a license pool is still free, using the Enterprise License Manager that comes with MCD.

Note: You can manage up to 20 MCDs/MiVBs in an Admin Group. If you have more than 20 MCDs/MiVBs, you can use Enterprise Manager, or purchase the capability separately if Enterprise Manager is not being used.

Upgrading from MCD 4.0 and previous releases

When you upgrade from MCD 4.0 and previous to MCD Release 4.2 or 5.0, licence changes will apply, as shown in the tables below. When upgrading, some of the licensing is modified to reduce the impact of purchasing more licenses, especially if a contact center is running two or three shifts.

- If you are upgrading to MCD Release 4.1, you automatically receive one additional Standard User License for each ACD license on the system you are upgrading. This means that you do not have to buy additional user licenses if the contact center runs one or two shifts.
- If you are upgrading to MCD Release 4.1, and you are running three shifts, you must purchase a Standard User license for each ACD agent on the third shift. (Apply to your Mitel representative for approval to waive the charge for these licenses.)
- You will have more licenses after the upgrade than you may need, so keep in mind that the Software Assurance invoice following the upgrade will include these new users. You can decide to decommission these licenses later, if necessary.
- In MCD Release 4.1, ACD Hot Desk Agent IDS consume an MCD User License.
- In MCD 4.2+, Hot Desk ACD agent IDs consume an MCD user license. In previous releases, they did not.

Table 6 and Table 7 summarize the changes to how ACD agents are licensed and how their capabilities have changed.

Table 6: ACD Users and Phones by Release

	TRADITIONAL AGENTS PRE-RELEASE 4.0	TRADITIONAL AGENTS MCD RELEASE 4.0	HOT DESK AGENTS MCD RELEASE 4.0+ AND MIVOICE BUSINESS
Mobility of users	• Tied to ACD-designated phones • Agents cannot log into General phones	• Tied to ACD-designated phones • Agents cannot log into General phones	• 4.0: General users cannot log into ACD phones • 4.1+: Agents are free to move around organization and log in at any phone. • No dedicated ACD sets required.
Multi-skilled Agents	• Each agent requires multiple agent IDs to change the mix of skills they are active in.	• Each agent requires a single agent ID to change the mix of skills they are active in (using Agent Group Presence).	• Each agent requires a single agent ID to change the mix of skills they are active in (using Agent Group Presence).
Licensing	• Agent licenses are tied to phones. License is consumed when set is programmed as an ACD set. • Licenses are not released when the agent logs out.	• ACD license consumed and released on login/logout. • User licenses not required. • Phones must be programmed as ACD phones.	• ACD licenses consumed and released on login/logout. • User licenses required for every agent. • Agents can log in to any Hot Desk phone

Table 6: ACD Users and Phones by Release

	TRADITIONAL AGENTS PRE-RELEASE 4.0	TRADITIONAL AGENTS MCD RELEASE 4.0	HOT DESK AGENTS MCD RELEASE 4.0+ AND MIVOICE BUSINESS
Licensing for Resiliency	• If two primary controllers share a secondary controller, the secondary must be licensed for the full total of the number of agents on the two primaries. For example, if each primary has 150 licenses, the shared secondary must have 300 resilient agent licenses.	• If two primary controllers share a secondary controller, the secondary need only be licensed for the higher of the number of agents on the two primaries.	• Agent licenses, Resilient Agent licenses, Enterprise licensing changes between MCD Release 4.0, 4.1, and 5.0. See Table 7 for details.
		Example: If one primary has 150 licenses, and the other primary has 175 licenses, the shared secondary must have 175 resilient agent licenses. (Unless you are licensing for the possibility that both primaries fail at the same time.)	
Multiple shifts	• One ACD Agent license for each ACD-programmed set • One Agent license is consumed when each phone is programmed as ACD. • One device license is used for each ACD phone. • One User license is used for each ACD phone.	• One ACD Agent license is consumed for each concurrently logged-in agent. • ACD Agent licenses are consumed when agents log in. • Sets must be programmed as type ACD. • One device license is needed for each ACD phone. • One User license is needed for each ACD phone.	• One Standard Active Agent License for each agent in the shift • No Device Licenses needed. • One Standard User License for each agent.
	Example: 3 shifts of 100 agents • 100 user and 100 device licenses if agents share ACD phones. • 300 user and 300 devices licenses if they each have dedicated ACD phones.	Example: 3 shifts of 100 agents • 100 user and 100 device licenses if agents share ACD phones. • 300 user and 300 devices licenses if they each have dedicated ACD phones.	Example: 3 shifts of 100 agents • 300 Standard User Licenses. •

Table 7: Resiliency Licensing by MCD/MiVoice Business Release

Pre-Release 4.0 MCD Release 4.0	MCD Release 4.1	MCD Release 5.0+ MiVoice Business Release 7.0
ACD Agent Licence	Standard Active Agent License	Standard Active Agent License

Table 7: Resiliency Licensing by MCD/MiVoice Business Release

Pre-Release 4.0 MCD Release 4.0	MCD Release 4.1	MCD Release 5.0+ MiVoice Business Release 7.0
ACD Agent License Resilient Agent License	Enterprise Active Agent License includes: • Standard Active Agent License • Resilient Active Agent License	Enterprise Active Agent License: • Resilient ACD License no longer needed; automatically included with Enterprise licensing • No licenses required on secondary controller

Note: If you are upgrading from 3300 ICP 6.x or 7.x, call your Mitel Sales Engineer for guidance.

Additional considerations before upgrading

When you start planning your upgrades, some of the particular considerations you need to take into account include the scenarios described in Table 8.

Table 8: Upgrade considerations

	Condition or scenario	Instructions/Notes
Clustering		
	Nodes are clustered	**Classic mode network:** 1. Upgrade all nodes to MCD Release 4.0. 2. Migrate all of the MCDs to RDN Synchronization mode. 3. After all nodes are migrated to RDN Synchronization Mode, upgrade all of the MCDs to MCD 4.1 or higher. **RDN Synchronization mode network:** 1. Upgrade the gateway controllers first. 2. Upgrade all of the MCDs./MiVBs. 3. Perform an SDS Sync from the most up-to-date node.
	Nodes are not clustered (SDS sharing not active)	**Classic mode network:** 1. Upgrade each node to MCD Release 4.0. 2. Migrate each MCD to RDN Synchronization mode. 3. Upgrade each MCD to MCD 4.1 or higher. **RDN Synchronization mode network:** • Upgrade all of the MCDs to MCD 4.1 or higher. Nodes can be upgraded in any order, since settings are not communicated automatically among them and the telephone directory is not shared.
Resiliency		
	No resiliency configured	If you want to configure resiliency as part of the upgrade: 1. Perform upgrade. 2. Configure one or more clusters, if this has not been done. 3. Configure resiliency after upgrade is complete. 4. Perform an SDS Sync from the most up-to-date node.
	MCDs/MiVBs have secondary controllers attached for fail-over	Use the Software Installer (SI Tool). **Note:** Hot desk users will be logged out. **Note:** If you are upgrading from MCD Release 5.0+ to a later release, you can use Unattended Upgrade. **Note:** When upgrading to MCD Release 5.0+, all phone sets reset after the automatic firmware upgrade.

Table 8: Upgrade considerations

	Condition or scenario	Instructions/Notes
	Primary and secondary are not using the same MCD/MiVB version.	To ensure that users have the same features available in the case of fail-over to the secondary MCD/MiVB, you must upgrade the primary and secondary controllers to the same version. **Note:** Do not make any SDS-dependent database changes while the two MiVBs are at different releases. Refer to the *Using System Data Synchronization Solutions Guide* for more information.
	Upgrading an Automatic Call Distribution (ACD) system.	ACD paths cannot be made resilient. Configure different paths on each 3300 ICP with relevant routing between them.
		When upgrading from 9.0 software to MCD 4.0, some of the ACD licensing has changed. See "Upgrading from MCD 4.0 and previous releases" on page 20.
System Data Synchronization (SDS)		
	Upgrading MCDs/MiVBs that are configured to use SDS.	1. Start by upgrading the most critical element. 2. Upgrade the other elements, one by one. 3. Run the SDS Sync operation, and fix any errors. 4. Repeat the Sync operation, and fix errors until there are no errors remaining. 5. Allow the database changes to propagate through the system normally using SDS.
Enterprise (multi-MCD/MiVB) upgrade		
	Upgrading to 5.0+, Enterprise Licensing	If you want to use Enterprise licensing, you can set up a Group ARID, and add the MCDs and MiVBs to it in AMC. For more information, see "Planning and purchasing upgrade licenses" on page 20. For detailed instructions, refer to the *Mitel 3300 ICP Technician's Handbook*.
Pre-4.0 MCD upgrades		
	Upgrading from a pre-4.0 MCD release	1. Upgrade to MCD 4.0 SP4. 2. Ensure that SDS is enabled. (This is the default setting.) 3. Ensure that the Admin Groups are configured correctly (This is important only in systems that are already sharing). 4. Ensure that the IP addresses are correctly configured in the SNMP form. **Note:** Starting in MCD 6.0, the SNMP agent is disabled by default. 5. Review and synchronize all systems on the network. Ensure that there are no SDS conflicts and make any required configuration changes.

Table 8: Upgrade considerations

	Condition or scenario	Instructions/Notes
		6. Skip this step for nodes that already have a database: On a node with a database, you must migrate the database to RDN Synchronization Mode using the checklist form in the System Administration Tool (in MCD Release 4.0 SP4). For detailed instructions, refer to the *Migrating to RDN Synchronization Mode Solutions Guide*. 7. Upgrade to MCD Release 4.1 or later. 8. On new node with no database, when you log in to System Administration Tool for the first time, select **Telephone Directory Synchronization via SDS**, and click **Submit**.
MCDs/MiVBs are at different software version levels		
	MCDs/MiVBs in the system are not all at the same level.	Different versions are allowed, but you cannot have a mixed network (Classic and RDN Synchronization Mode). Ideally all MCDs/MiVBs will be running the same software version, especially primary and secondary controllers (for resiliency).
	Upgrading a pre-4.0 MCD to 4.0 or later	If you upgrade any one MCD to a post 4.0 release, you must also upgrade any other pre-4.0 MCDs. Your network cannot contain a mixture of Classic Mode MCDs and MCDs in RDN Synchronization Mode.
Flexible dimensioning		
	Are any of the forms flexed?	After upgrade, you must manually flex the forms so that the restore operation can properly write to the database.
Upgrading virtual components		
	Upgrading MiVoice Business Virtual to a later release	Refer to the *Engineering Guidelines for Industry Standard Servers (ISS) and MiVoice Business Virtual*.
	Upgrading MiVoice Business to MiVB Virtual	You can convert your MiVB license to a virtual MiVB license. You need an upgrade part number to do this. See “Planning and purchasing upgrade licenses” on page 20. Also refer to the *Engineering Guidelines for Industry Standard Servers (ISS) and MiVoice Business Virtual*. For more information about deploying Mitel Virtual Appliances, refer to *Virtual Appliance Deployment Solutions Guide*.
Upgrading MCD or MiVB instances in MICD or MiVB Multi-instance		
	Upgrading MCD/MiVoice Business instances in MICD/MiVoice Business Multi-instance	Refer to the *MICD/MiVoice Business Multi-instance Installation and Administration Guide*.

Table 8: Upgrade considerations

	Condition or scenario	Instructions/Notes
	Upgrading Classic MCDs	If there are Classic Mode MCDs instances, you must upgrade to MCD 4.0 (if this has not already been done), migrate the database to RDN Synchronization Mode, and then continue to upgrade to MCD Release 4.1, 4.2, or 5.0+. Refer to the *Migrating to RDN Synchronization Mode Solutions Guide*.
Upgrading MICD or MiVB Multi-instance		
	Upgrading MICD/MiVoice Business Multi-instance and Media Server	Refer to the *MCD/MiVoice Business Multi-instance Installation and Administration Guide*.

Prepare to Upgrade

This section provides information to help you prepare for the upgrade. It discusses the types of upgrades, and the upgrade tools.

You can use one of the installation and configuration tools to upgrade the network elements, or you can perform the upgrades manually.

Note that the System Administration Tool and Unattended Upgrades require that:

- Certificates must be installed.
- All PCs must be using Microsoft Internet Explorer® 7 or higher.
  - When upgrading to MCD Release 6.0, the PCs must be using IE 8 or higher.
  - When upgrading to MiVoice Business Release 7.0, the PC must be running IE 9 or higher.

Before upgrading

You must address the following before starting to upgrade any MCD or MiVoice Business controller:

- Ensure that your Software Assurance is up-to-date.
- Ensure that your AMC records are up-to-date.
- Ensure that all your features are licensed.
- Are you doing Manual or Online licensing? Not all upgrades allow both options.

  For more information, refer to the *3300 ICP Technician's Handbook* and the System Administration Tool Help for the MCD or MiVoice Business release you are upgrading to.

Upgrade steps

If you are running a recent MCD release, you can upgrade directly to the latest MiVoice Business Release, but if you are running an older MCD version, you will need to upgrade in stages. See Table 9 to determine the upgrade steps you must follow.

Table 9: Upgrade Steps

STARTING RELEASE	INTERMEDIATE STEP1	INTERMEDIATE STEP 2	FINAL RELEASE REQUIRED
3300 ICP Release 6.x	Upgrade to ICP Release 7.0 Migrate from master (local) controller to the slave (remote) controllers. Data Migrate operation to use SDS sharing.	Upgrade to MCD Rel 4.0 SP4. (Migrate to RDN Sync before upgrading to Release 5.0+.)	MCD Release 5.0+ or MiVoice Business 7.0

Table 9: Upgrade Steps

STARTING RELEASE	INTERMEDIATE STEP1	INTERMEDIATE STEP 2	FINAL RELEASE REQUIRED
3300 ICP Release 7.x		Upgrade to MCD Rel 4.0 SP4. (Migrate to RDN Sync before upgrading to Release 5.0+.)	MCD Release 5.0+ or MiVoice Business 7.0
MCD Release 4.0		Upgrade to MCD Rel 4.0 SP4. (Migrate to RDN Sync before upgrading to Release 5.0+.)	MCD Release 5.0*+ or MiVoice Business 7.0
MCD Release 4.1			MCD Release 5.0+ MiVoice Business 7.0
MCD Release 4.2			MCD Release 5.0+ MiVoice Business 7.0
MCD Release 5.0			MCD Release 5.0+ MiVoice Business 7.0
MCD Release 6.0			MiVoice Business 7.0

MiVoice Business Software Installer (SI Tool)

It is recommended that you use the SI Tool, unless otherwise directed by the *3300 ICP Technician's Handbook*, or by Mitel Support.

The SI Tool enables you to automatically install and upgrade software on multiple 3300 ICP systems simultaneously.

You can use the SI Tool to:

- Upgrade or install software on up to 10 controllers at once (over the LAN).
- Back up and restore databases.
- Specify a location for installation of online help files for MCD/MiVoice Business System Administration Tool.
- License a new system and change License and Option Selection (LOS) information.

Online Upgrades

Offline Upgrade is the default upgrade method for 3300 ICP, so you must select the **Offline** option at the beginning of the upgrade if you want to use it.

Performing an Online Upgrade means scheduling very little down time for your upgrade. You can perform most of your upgrade with the system running. The only downtime will be during the reboot. In addition, you can do the entire install, and then schedule the reboot whenever it

is convenient. You can close the SI Tool any time after the Installer has finished transferring the new files to the 3300 ICP.

Obtaining the new software

You can get the new software by downloading it from Mitel Online, or you may have received a software CD.

Reading the Release Notes

Read the Release Notes before getting started. The Release Notes will describe the new release, including:

- compatible releases of other Mitel products
- new features
- changes to features
- where to get the software
- install and upgrade instructions
- known issues

Planning the upgrade

In general, it is recommended that you use the Online Upgrades feature. Otherwise, the network will be out-of-service for the duration of the upgrade.

If you use Offline Upgrade, the upgrade should be performed in the regular maintenance window, or when traffic is lowest.

Single controller network

Upgrading a single-controller installation with no remote branch offices is relatively straight-forward, since no staging is needed and you will not need to match controllers to each other or synchronize them. Follow the upgrade instructions in the appropriate guide. See the list of guides in “Run the upgrade” on page 39.

Assuming that call volume is significantly lower after-hours, you will probably be able to complete the full upgrade in one night or one maintenance window.

The general order of upgrade for the software for a single controller is:

1. Upgrade MCD or MiVoice Business.

Note: If you are upgrading from MCD Release 4.0 Classic Mode, you must perform a Migration to the RDN Synchronization Mode before upgrading to MCD Release 4.x or 5.0.
Refer to *Migrating to RDN Synchronization Mode Solutions Guide* for detailed instructions.

2. Upgrade MiCollab (formerly MAS).

When upgrading MAS for MCD 4.0, there may be special considerations related to Trusted Applications.

Talk to your Sales Engineer or Mitel Support for more information.

3. When upgrading to MCD 5.0, note the following application considerations:
   - Visual Workflow Manager, when purchased as part of Interactive Voice Response (IVR) routing, is an MCD Trusted Application, and does not have to be licensed separately.
   - Intelligent Queue is not a Trusted Application, and still requires MCD port licenses.
4. Upgrade phone device firmware (from the System Administration Tool **Maintenance Commands** form). When upgrading to MCD 5.0+, the firmware upgrade is completed automatically.

Note: If you have third-party applications installed, check with the suppliers of the applications to find out if they support the Mitel product versions you are installing, and how to upgrade them, if necessary.

For networks with multiple, clustered, resilient MiVBs, and multiple branch offices, for example, the staging and order of the upgrade requires additional planning, and it may take days or weeks to complete all of the upgrades.

Table 10 shows a suggested upgrade plan, illustrating how you would use your available maintenance windows. Table 11 shows estimated times for upgrade options.

Table 10: Order of upgrade - plan

UPGRADE WINDOW	UPGRADE TASKS	NOTES
1.	Collect system data and perform backups.	
2.	If you are upgrading pre-MCD 4.0 controllers, upgrade to MCD Release 4.0.	
3.	If you are upgrading from Classic Mode, migrate all systems to the RDN Synchronization Mode.	Refer to the *Migrating to RDN Synchronization Mode Solutions Guide* on MOL for detailed instructions.
4.	Upgrade Mitel applications.	Some applications must be upgraded before the MCD or MiVB is upgraded. Refer to the Release Notes for each application for the application-specific requirements.
5.	Upgrade MCD/MiVoice Business.	Upgrade the gateway controllers first, followed by the secondary and then the primary controllers. Refer to the *3300 ICP Technician's Handbook* for software upgrade instructions. Refer to the Release Notes for the release you are upgrading to for details. ***Attention:*** If you are upgrading to MCD 6.0 or MiVoice Business 7.0, and you want to use the MiCollab add and delete operations of MiCollab Single Point Provisioning, then you should upgrade MAS to Release 4.0 SP2 before performing the MCD or MiVoice Business upgrade.

Table 10: Order of upgrade - plan

UPGRADE WINDOW	UPGRADE TASKS	NOTES
6.	Upgrade Mitel applications Upgrade MiCollab.	Some applications must be upgraded after MCD is upgraded. Refer to the Release Notes for each application for the application-specific requirements. **Note:** MiCollab Single Point Provisioning (SPP) may have a minimum controller version requirement. For example, for MAS 4.0 SP2+ must be paired with MCD 6.0 or MiVoice Business 7.0 for SPP to work. **Note:** For MiCollab upgrade instructions, refer to the Release Notes, and the *MiCollab Installation and Maintenance Guide*.
7.	Upgrade phone device firmware.	Use the System Administration Tool maintenance commands to upgrade the device firmware. **Note:** Mitel IP Phones upgrade their software on resilient fail-over if the software version on the secondary ICP is higher than the version currently on the phone. For more details, see the *MCD/MiVoice Business Resiliency Guidelines*.

Note: If you are upgrading to MCD Release 5.0+ or MiVoice Business 7.0, the devices connected to the MiVoice Business controller you are upgrading are automatically loaded with the new firmware. The phone sets are reset during this operation.

Note: If you have third-party applications, check with the suppliers of the applications to find out if they support the Mitel product versions you are installing, and how to upgrade them, if necessary.

Table 11: Estimated upgrade and reboot times on 3300 ICP hardware

OPERATION	ESTIMATED TIME TO COMPLETE
Upgrade MCD / MiVoice Business	35-77 minutes
Reboot MCD / MiVoice Business	8-14 minutes

UPGRADE TIMES WERE MEASURED ON MXE AND CX HARDWARE.
UPGRADES TIMES VARY, BASED ON THE SIZE OF THE DATABASE AND THE CURRENT AND TARGET VERSIONS.

Network with non-clustered elements

When you have individual nodes programmed with Automatic Route Selection (ARS)—not clustered—upgrading is straight-forward. The MCDs/MiVBs can be upgraded in any order and telephone service will be relatively unaffected. The node you are upgrading will be out of service during its upgrade.

In addition, if the elements are not clustered—they are all independent—then your network can have both Classic and RDN Synchronization Mode nodes in the network and voice service will still be operational.

Network with clustered elements

If the nodes are clustered and sharing with SDS, then changes to each node are automatically propagated to the other nodes in the cluster. All nodes in a clustered network must be either:

- All Classic Mode

  OR

- All RDN Synchronization Mode.

FOR EACH NODE:

If the node release is pre-Release 4.0:
1. Upgrade to MCD Release 4.0.
2. Repeat for all nodes in the network before proceeding to the next step.
3. Migrate the database to RDN Synchronization Mode. Refer to the *Migrating to RDN Synchronization Mode Solutions Guide*.
4. Repeat for all MCDs in the network before proceeding to the next step.
5. Upgrade all controllers to the final release, 4.1, 4.2, 5.x, or 6.0 or MiVB 7.0.
If the node release is Release 4.0, Classic Mode:
1. Upgrade at least one node to MCD Release 4.0 SP4.
2. On the MCD Release 4.0 SP4 node, migrate the database to RDN Synchronization Mode. Refer to the *Migrating to RDN Synchronization Mode Solutions Guide*.
3. Repeat for all controllers in the network before proceeding to the next step.
4. Upgrade all MCDs to the final release, 4.1, 4.2, 5.x, or 6.0 or MiVoice Business 7.0.
If the node release is Release 4.0 RDN Synchronization Mode, or Release 4.1 or 4.2:
Upgrade all MCDs to the final release, 4.1, 4.2, 5.x, or 6.0 or MiVoice Business 7.0.

Networks with resilient elements

Since the network nodes must be in a cluster before being configured for resiliency, all of the instructions for clustered networks must be applied to resilient networks. See “Network with clustered elements” on page 33 for details.

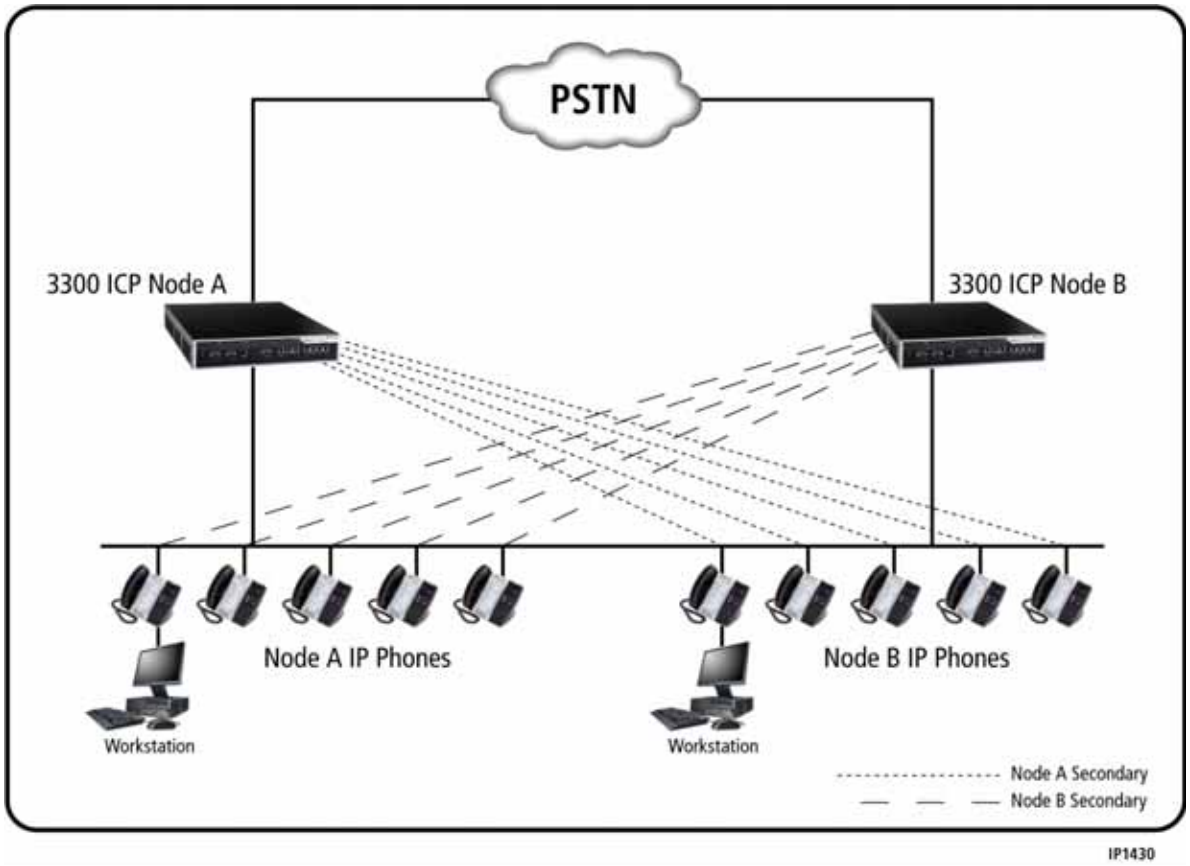
It strongly recommended that you keep resilient pairs of MiVBs at the same MiVB Release, so if you upgrade one, you should upgrade the other. It is important that users have access to the same features whether they are on the primary or secondary MiVB controller. In addition, SDS synchronization between primary and secondary will produce fewer distribution errors if the two MiVBs have databases with matching schema.

In the **Controller Registry** form in the System Administration Tool, the **Resiliency Allow Return to Primary ICP** default setting is **Yes**, which means that the resilient devices and services will automatically fail back to their primary ICP after the upgrade is complete.

When the phones fail over or return to an upgraded MiVB, they will reset. Hot desk and ACD users are automatically logged out, and will have to log back in.

- When upgrading to MCD Release 5.0+ or MiVoice Business 7.0, the phone firmware is automatically updated.
- When upgrading to earlier releases of MCD, you must run the LOAD IPDEVICE command to upgrade the phone firmware. See Table 5 for more information.

Figure 1: Classic call center: mutual resiliency.



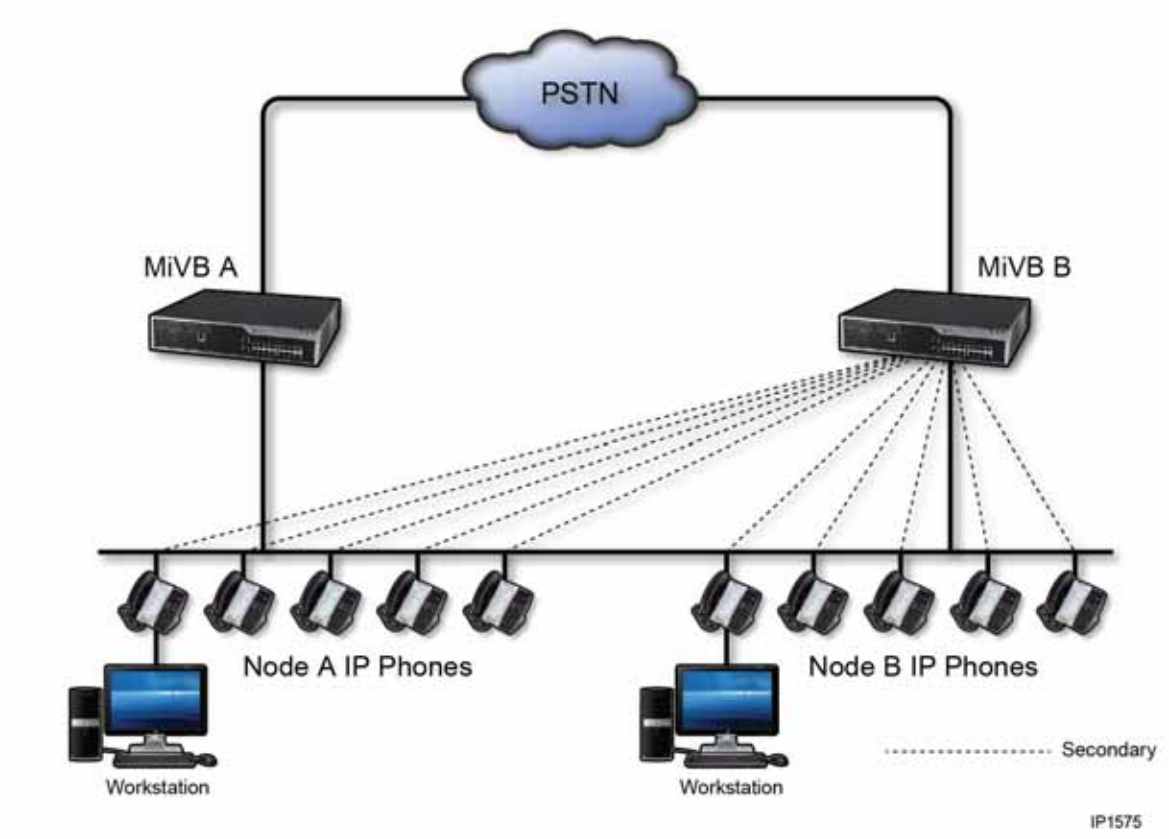
Order of Upgrade - mutual resiliency

In mutual resiliency, Nodes A and B back each other up, as shown in the example in Figure 1. The phones on Node A fail over to Node B (if required), and the phones on Node B fail over to Node A.

In this case, the order of the upgrade is not important, since both nodes are primary MiVBs, and both are also secondary MiVoice Business controllers.

Note: When upgrading to MCD 5.0+ or MiVoice Business 7.0, the phone set firmware is upgraded automatically, and all the phones will be reset.

Figure 2: All users share the same primary and secondary MiVBs

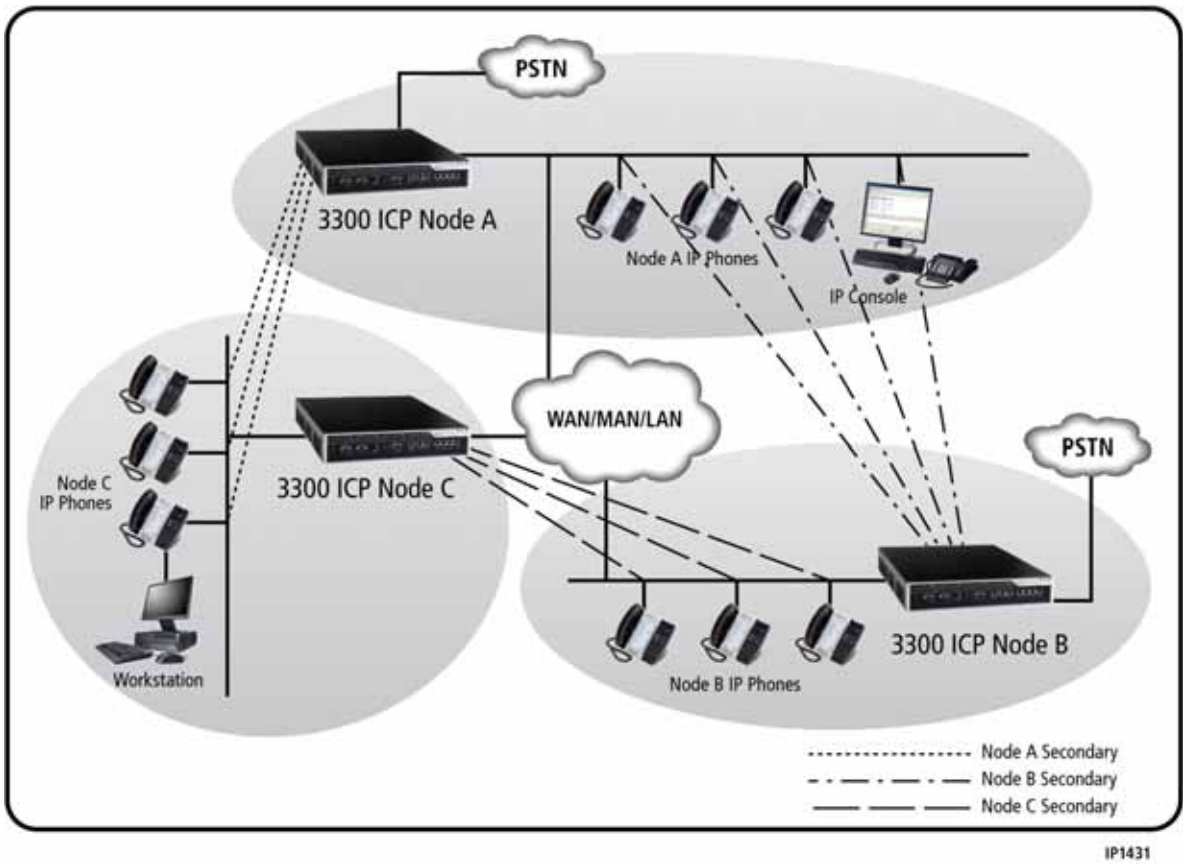


Order of Upgrade - non-mutual resiliency

In the example in Figure 2, the primary controller for all of the users is MiVB A. All of the IP phones fail over to MiVB B.

Start by upgrading MiVB B. Then upgrade MiVB A. During an upgrade of a resilient MiVoice Business system, its resilient devices fail over to their secondary system, in this case, MiVB B. After the upgrade is complete and the system has rebooted, the health check determines that the system is up and running once again. At this point, resilient devices will fail back to their upgraded primary system—MiVB A—unless you force them to remain registered on their secondary MiVB.

Figure 3: Resilient multi-site network



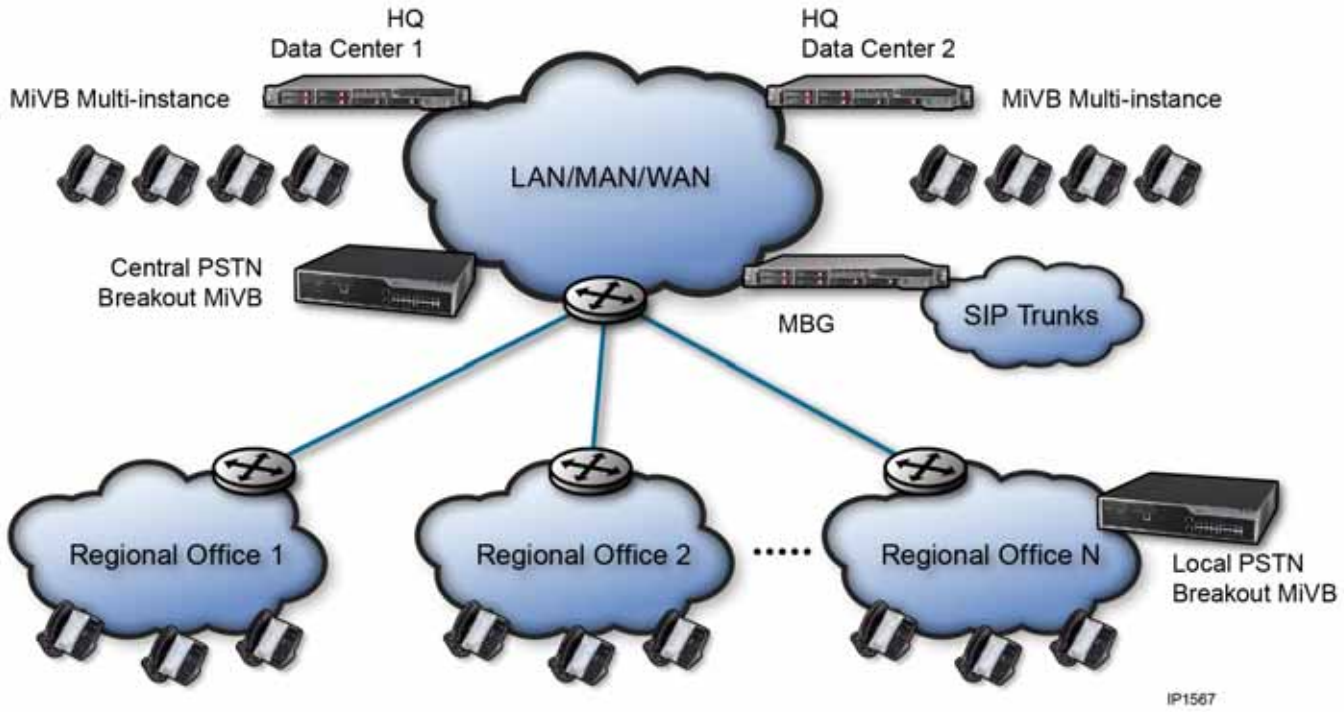
Order of Upgrade - fully resilient

In this network, the order of the upgrade is not important, since all of the nodes are primary MiVBs, and all of them are also secondary MiVBs.

It strongly recommended that you keep resilient pairs of MiVoice Business controllers at the same version, so if you upgrade one, you should upgrade the other. It is important that users have access to the same features whether they are on the primary or secondary. In addition, SDS synchronization between primary and secondary will produce fewer distribution errors if the two MiVoice Business controllers have databases with matching schema.

In Figure 3, Nodes A, B, and C back each other up. The phones on Node A fail over to Node B (if required), and the phones on Node B fail over to Node C. Phones on Node C fail over to Node A.

Figure 4: Non-resilient network with Branch offices



Order of Upgrade - non-resilient, or partially resilient

When you have to upgrade one or more head offices, plus branch or regional, offices, some parts of the network may use resilient MiVBs, while other parts—the branch offices, for example—may not. There are many possible ways to approach the upgrade, but a best practice approach is:

- If you have resilient MiVBs, upgrade in the order described in "Order of Upgrade - non-mutual resiliency" on page 35.

  If it is not clear where to start because there is resiliency everywhere, start at the smaller branch offices. This will allow you to test the upgrade roll-out with a smaller installation, and fewer users will be inconvenienced if the first upgrades go less smoothly than anticipated.

- If the network does not use resiliency, start out at the branch offices. This will allow you to test your upgrade plan on smaller installations with fewer users.

Large, multi-site network

In a large, multi-site, resilient network, the upgrade considerations are the same as for upgrading smaller networks. The difference is in scale, planning, and logistics. In addition, there are likely to be more applications, more management software, and more third-party applications installed on the network.

As in all networks, one of the primary goals is minimizing down-time. In addition to using Online Upgrade, in a large network, the planning is likely to include staged upgrades of the various sites.

Plan the upgrades to take advantage of the maintenance windows at each site, and consider the type of resiliency configured. See “Networks with resilient elements” on page 33 for the best upgrade order.

Performing the Upgrade

The information in the previous sections helped you plan your upgrade. Following your plan, use the following steps to perform the upgrade on each MCD or MiVoice Business controller:

- "Back up the database" on page 39
- "Run the upgrade" on page 39
- "Restore the data" on page 41

Back up the database

You MUST have a current backup before beginning the upgrade. When the upgrade is complete, you can restore the database, and start running again.

A backup is also crucial for times when the upgrade cannot be completed, either because you ran out of time, or because you encountered problems. You can revert to your previous MCD or MiVoice Business version, and restore the backup, and get the system up and running again quickly.

To back up the database before upgrading:

- MCD or MiVoice Business on 3300 ICP: The SI Tool automatically backs up the database onto a separate partition on the 3300. You should specify an off-controller backup as well, in case an error prevents the on-controller backup from being restored correctly.

  For instructions, see the System Administration Tool Help.

CAUTION: The software installation procedure on the 3300 ICP formats the controller hard drive and installs new software. If you are using Offline Upgrade, all system settings and all voice mail messages will be erased, so you must have database backups. If you do not have a database backup to restore, you will have to reprogram the system.

- MiVoice Business Multi-Instance: The SI Tool is included in the *MICD/MiVoice Business Multi-Instance* installation, and you perform the backup from the *MICD/MiVoice Business Multi-Instance* Manager Dashboard. For instructions, refer to the *Installation and Administration Guide for MICD/MiVoice Business Multi-Instance*.
- vMCD or MiVoice Business Virtual: Use the backup procedure in the *Installation and Administration Guide for vMCD/MiVoice Business Virtual*.
- MCD or MiVoice Business on ISS: Use the backup procedure in the *MCD/MiVoice Business Installation and Administration Guide for Industry Standard Servers*.

Run the upgrade

Start by installing the SI Tool. You must run the SI Tool that goes with the release you are upgrading to. Refer to the MiVoice Business Software Installer Tool Help for guidance.

CAUTION: If you are upgrading to MCD 6.0 or MiVB 7.0+, and you want to use the MiCollab add and delete operations of MiCollab Single Point Provisioning, then you should upgrade MAS to Release 4.0 SP2 before performing the MCD or MiVB upgrade.

The MCD Software Installer runs on the following operating systems:

- Microsoft Windows 7
- Microsoft ® Windows® Vista
- Microsoft Windows XP
- Microsoft Windows 2000

The MiVoice Business Software Installer runs on the following operating systems:

- Microsoft Windows 8
- Microsoft Windows 7

You can find instructions for installing and running the SI Tool in the *3300 ICP Technician's Handbook*.

Note: If you encounter any problems with the upgrade or with the backups and restores, refer to the *MCD/MiVoice Business Troubleshooting Guide* for the release you are upgrading.

To upgrade the MCD or MiVB software, follow the instructions in the resources listed here:

- Release Notes for the MCD or MiVoice Business release you are upgrading to.
- MCD or MiVoice Business on 3300 ICP: Install the latest SI Tool. Then run an Online Upgrade using the SI Tool. See the *3300 ICP Technician's Handbook* for details.
- MICD or MiVoice Business Multi-instance: Use the MCD/MiVB Multi-instance Manager Dashboard to backup, upgrade, and restore each controller in turn. If your network shares data using SDS, upgrade the master MCD/MiVoice Business controller first. In this case, the master MCD or MiVB should be the fastest and be running the lightest load.

  To upgrade the MICD/MiVB Multi-instance Manager blade, see the *Multi-Instance Installation and Administration Guide* for MCD or MiVoice Business, as required.
- MCD or MiVoice Business on Industry Standard Server (ISS). See the upgrade procedure in the *MCD/MiVoice Business Installation and Administration Guide for Industry Standard Servers (ISS)*.
- vMCD or MiVoice Business Virtual. See the upgrade procedure in the *Installation and Administration Guide* for MiVoice Business Virtual or vMCD.

To upgrade the MiCollab software, follow the instructions in the resources listed here:

- Release Notes for the MiCollab or MAS release you are upgrading to.
- MiCollab or MAS *Installation and Maintenance Guide*

These guides are available on Mitel OnLine.

Restore the data

To restore the database after the upgrade is complete:

- MCD or MiVoice Business on 3300 ICP: When the upgrade is complete, as part of its post-upgrade reboots of the 3300 ICP, the SI Tool automatically restores the backup made into the other partition before the upgrade started.
- MICD or MiVoice Business Multi-instance: Restore from the MiVB Multi-instance Manager Dashboard for the network element you are upgrading.
- vMCD or MiVoice Business Virtual: Restore using the SI Tool. Restore using the procedure in the *Installation and Administration Guide* for vMCD or MiVoice Business Virtual, as required.
- MCD or MiVoice Business on ISS: Restore using the procedure in the *Installation and Administration Guide for MiVoice Business Virtual* for vMCD or MiVoice Business Virtual, as required.

Test and troubleshoot your upgraded system

Run your test plan. Some examples of things to test include:

- Make sure all inbound and outbound trunks are working.
- Test a voice number.
- Test a Direct Inward Dialing (DID) number.
- Make a test call to the auto-attendant.
- Test the emergency services (911, 999, for example).
- Check that call accounting streaming is working.
- Refresh the Message Waiting Lights for voice mail.

Note: If you encounter any problems, refer to the *MCD/MiVB Troubleshooting Guide* for the release you are upgrading.

Many SDS errors in a mixed MCD/MiVB network

If you are running a network in which the MCDs or MiVBs are not all at the same version (not recommended), you may see SDS errors.

If the forms have changed between releases, there will be some data that cannot be made to match on the two controllers.

There are two solutions:

- Remove the non-matching data fields from sharing.
- Upgrade the software on the controllers to match each other.

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