

MiVoice Business

Installation and Administration Guide for Industry Standard Servers (ISS) and vMiVB

RELEASE 9.2

March 2021



Notice

The information contained in this document is believed to be accurate in all respects but is not warranted by **Mitel Networks™ Corporation (MITEL®)**. The information is subject to change without notice and should not be construed in any way as a commitment by Mitel or any of its affiliates or subsidiaries. Mitel and its affiliates and subsidiaries assume no responsibility for any errors or omissions in this document. Revisions of this document or new editions of it may be issued to incorporate such changes. No part of this document can be reproduced or transmitted in any form or by any means - electronic or mechanical - for any purpose without written permission from Mitel Networks Corporation.

Trademarks

The trademarks, service marks, logos and graphics (collectively "Trademarks") appearing on Mitel's Internet sites or in its publications are registered and unregistered trademarks of Mitel Networks Corporation (MNC) or its subsidiaries (collectively "Mitel") or others. Use of the Trademarks is prohibited without the express consent from Mitel. Please contact our legal department at legal@mitel.com for additional information. For a list of the worldwide Mitel Networks Corporation registered trademarks, please refer to the website: <http://www.mitel.com/trademarks>.

®, ™ Trademark of Mitel Networks Corporation
© Copyright 2021, Mitel Networks Corporation
All rights reserved

Contents

Chapter: 1	Introduction	1
	About this Guide	1
	What's New in this Release?	1
	MiVoice Business Release 9.2	1
	MiVoice Business Release 9.0 SP1	1
	MiVoice Business Release 9.0	1
	MiVoice Business Release 8.0	2
	MiVoice Business Release 7.2	2
	MiVoice Business Release 7.1	2
	MiVoice Business Release 7.0 SP1	2
	MiVoice Business Release 7.0	2
	MCD Release 6.0 SP2	2
	MCD Release 6.0 SP1	3
	MCD Release 6.0	3
	About MiVoice Business for ISS	3
	Linux Operating System	3
	About the MiVoice Business Virtual Appliance	4
	About the Documentation Set	4
	Accessing Mitel Documentation	5
	Applications Management Center (AMC) Licensing	5
	About AMC Licensing	5
	MiVoice Business for ISS Licensing	7
	MiVoice Business Virtual Licensing	7
	MiVoice Business Virtual in Hyper-V	7
	Requesting a New AMC Account	11
	Accessing your Account	12
Chapter: 2	MiVoice Business for ISS Software Installation	13
	Installing MiVoice Business for ISS or Hyper-V on Mitel Standard Linux .	13
	Before you Begin	13
	Collect Site Information	14
	Install the MiVoice Business for ISS Software	14

	Launch the MiVoice Business System Administration Tool	15
Chapter: 3	MiVoice Business Virtual Software Installation	16
	Installation Overview	16
	Collect Site Requirements	16
	Requirements	17
	Installing the MiVoice Business Virtual Software	17
	Before you Begin	17
	Install the MiVoice Business Virtual Software	18
	Configuring Virtual Machine console	18
	Configuring MiVoice Business Application	19
Chapter: 4	Maintenance and Troubleshooting	21
	Maintenance and Troubleshooting Overview	21
	MiVoice Business for ISS Software Maintenance	21
	Upgrade the MiVoice Business for ISS Software	21
	Upgrade the MiVoice Business for ISS Software Blade Using the Online Upgrade Utility	22
	Upgrade the MiVoice Business for ISS software using a fresh installation 22	
	Back up the MiVoice Business for ISS Database	24
	Restore the MiVoice Business for ISS Database	25
	Disaster Recovery	25
	To recover from a disaster	26
	To schedule an MSL backup	26
	MiVoice Business Virtual Software Maintenance	27
	Re-Deploy MiVoice Business Virtual	27
	To re-deploy MiVoice Business Virtual	28
	Upgrade the MiVoice Business Software	29
	Online Upgrades	30
	Offline Upgrades	30
	Backup and Restore the Call Server Database	30
	Back up a Call Server Database	30
	Restore a Call Server Database	31
	Restore from Another Running Server	32
	Conditions	32
	About IP Addressing	33
	To restore from a running server	34
	Backup and restore the MiVoice Business Virtual	35
	To backup MiVoice Business Virtual into an OVA file	35
	To restore MiVoice Business Virtual from an OVA file	35
	Upgrading MiVoice Business to a Virtual Environment	36
	Troubleshooting	37
	MiVoice Business for ISS Installation and Upgrade	37
	MiVoice Business Virtual Installation and Upgrade	37

Introduction

About this Guide

This Installation and Administration Guide is intended for Distributors and Resellers who are installing and configuring MiVoice Business software on an Industry Standard Server (ISS), or as a software blade on a Virtual Appliance created with VMware.

Mitel introduced separate brands for its range of hardware and software-only solutions for the IP communications market. MiVoice Business is the brand name of the call-processing software that runs on hardware platforms such as the 3300 ICP and industry standard servers. The 3300 ICP name continues as the brand for Mitel hardware platforms that run MiVoice Business.

This guide describes the installation, administration, maintenance, and troubleshooting procedures of the MiVoice Business software:

- on an ISS or Microsoft Hyper-V on the Mitel Standard Linux (MSL) platform
- as a virtual application (vApp) deployed on a vCenter Server

NOTE: This guide does not describe the setup and operation of the VCenter Server with the vSphere Client. Refer to the VMware documentation for details.

What's New in this Release?

MiVoice Business Release 9.2

- MiVoice Business Virtual is now supported on vSphere 5.5, 6.0, 6.5, 6.7, and 7.0.

MiVoice Business Release 9.0 SP1

- MiVoice Business Virtual is now supported on vSphere 5.5, 6.0, 6.5, and 6.7.

MiVoice Business Release 9.0

- This release supports a single IP address for both MiVoice Business system and Mitel Standard Linux (MSL) instead of separate IP addresses.
- This release supports MSL 11.0.
- The user interface of Application Management Center (AMC) Licensing is modified in this release.
- If you are upgrading from MCD 6.0 SP3 or later, run the pre-migration audit for the MiVoice Business system to ensure your database is compatible with MiVoice Business Release 9.0 or later. An attempt to restore an incompatible database in MiVoice Business Release 9.0 will result in a default database. For more information, see the MiVoice Business Migration Guidelines document.

MiVoice Business Release 8.0

- MiVoice Business requires MSL 10.4 (64-bit version of the MSL operating system). The 32-bit version of MSL is no longer supported. Users on a 32-bit MSL platform must upgrade their MSL platform to MSL 10.4 to install MiVoice Business 8.0.
- MiVoice Business is no longer supported on Red Hat Enterprise Linux (RHEL) on Stratus ftServer. Users must migrate their system to a supported platform (ISS or Microsoft Hyper-V on MSL, or software blade on a Virtual Appliance) to install MiVoice Business release 8.0. Note that Stratus hardware supports VMware ESXi. Users can install ESXi on existing Stratus hardware and deploy MiVoice Business as a software blade on a vApp.
- MiVoice Business release 8.0 is now supported on any qualified MSL server. Please refer to the Mitel Standard Linux Qualified Hardware List for a list of supported servers.

MiVoice Business Release 7.2

- MiVoice Business Virtual is now supported on MSL 10.3.
- During deployment of the virtual appliance, customized properties for the OVF need to be entered into the Deploy OVF Template Properties window. This is essentially a wizard that will configure the virtual appliance and MSL. If any of the information entered is incorrect or incomplete, it will be necessary to re-start the deployment procedure, or the deployment configuration will not be as expected.

MiVoice Business Release 7.1

- Red Hat Enterprise Linux (RHEL) version 6.3 and 5.4 can run on any supported Stratus® ftServer system.

MiVoice Business Release 7.0 SP1

- The MiVoice Business software can now be installed within a Hyper-V environment.

MiVoice Business Release 7.0

- The Mitel Communications Director (MCD) product name has been changed to MiVoice Business, for Release 7.0 and up.
- vMCD is now referred to as MiVoice Business Virtual.
- MiVoice Business Virtual is now supported on vSphere 5.0, 5.1 and 5.5.
- The EMEM (Embedded Mitel Express Manager) prompts are now part of the MiVoice Business Blade and no longer need to be separately installed on an Industry Standard Server.
- The Small business configuration for the OVF Template deployment supports 250 users.
- Engineering Guide now documents resource dimensions that can be applied manually to the MiVoice Business Virtual that allows for up to 5000 users.

MCD Release 6.0 SP2

MSL 10.0 is supported effective Release 6.0 SP2.

MCD Release 6.0 SP1

- Effective Release 6.0 SP1, MCD for ISS on RHEL can be installed on the Stratus ftServer 2700 hardware server.
- Embedded Voice Mail Application prompts are installed automatically with the MCD-ISS software on RHEL.
- Support for the Stratus fault tolerant hardware platforms to be a Designated License Manager (DLM).

MCD Release 6.0

- For MCD-ISS:
 - Integrated MCD/MSL Backup. During an MSL backup, the MCD is also backed up, and bundled into the MSL backup file.
 - The number of IP addresses is reduced to one for MSL and one for MCD-ISS. The reduction of IP address usage does not apply to MCD on the Stratus server.
 - When upgrading to Release 6.0, the Automatic Local Network Addition in the MSL Local Network Panels is configured according to the RFC 1918.
 - Embedded Voice Mail Application prompts are included in MCD-ISS ISO as a blade.
 - Secure Shell Settings are disabled when configuring Remote Access in MSL due to security reasons.
- For vMCD:
 - The introduction of support for Medium business configuration during the OVF Template deployment

About MiVoice Business for ISS

MiVoice Business for ISS is an application package installed and delivered on a server offering PBX functionality. MiVoice Business for ISS is based on the 3300 ICP software, utilizing only its call control aspects. Essentially, MiVoice Business for ISS treats voice as an application independent of any hardware.

MiVoice Business for ISS has the following characteristics:

- a call-control only application, with no TDM or analog interfaces
- IP addressing provisioned during Linux installation
- Layer 2 switching and VLAN tagging performed by an external Layer 2 switch
- Media Server functionality such as conferencing, music on hold, and group paging provisioned as a software solution

Linux Operating System

The MiVoice Business for ISS is available for installation on the Mitel Standard Linux (MSL) operating system.

Mitel Standard Linux (MSL) is a 64-bit operating system and server solution that provides a base for a suite of managed services and applications. MSL can be installed on a variety of hardware server platforms. To protect data integrity, MSL can be configured to support disk mirroring (RAID 1).

When it is installed on MSL, MiVoice Business for ISS contains a software application *blade* that offers PBX functionality independent of any specialized hardware.

About the MiVoice Business Virtual Appliance

VMware supports a software solution optimized for the cloud OS, known as a Virtual Appliance (vApp). A vApp is a logical entity composed of one or more virtual machines, which can be managed as a unit. The vApp specifies and encapsulates components of an application (such as MiVoice Business) as well as the operational policies and service levels associated with it. The vApp gives application owners (such as Mitel) a standard way to describe operational policies for an application, which the cloud OS can consistently interpret and run. The vApp is a broad category of virtual applications that are built by independent software vendors (ISVs), system integrators, value-added resellers, and on-site IT administrators.

The Open Virtualization Format (OVF) is a standard used for packaging and distributing virtual appliances or, more generally, software to be run in virtual machines. It is employed to represent a single virtual machine or combination of multiple virtual machines. Note that OVF files are recognized by their .ova file extension, which is a tar archive file with the OVF directory inside. The MiVoice Business is a virtual application (vApp) which is deployed through vCenter Server with the vSphere Client. The MiVoice Business vApp runs on vSphere 5.1, 5.5, 6.0, 6.5, 6.7, or 7.0.

The MiVoice Business vApp contains the following software/components:

- MiVoice Business for ISS. Please refer to the MiVoice Business Virtual Release Notes to confirm the proper Release version currently supported.
- Mitel Standard Linux (MSL), the base operating system on which all other applications reside.
- VMware tools used to manage the MiVoice Business Virtual
- Embedded Voice Mail Application prompts

MiVoice Business Virtual is based on the 3300 ICP software, utilizing only its call control aspects, essentially treating voice as an application independent of any hardware.

MiVoice Business Virtual has the following characteristics:

- a hardware-independent, call-control only application
- a vApp that encapsulates both MSL and MiVoice Business which is deployed using the vSphere Web or Desktop Client. The vSphere Client can be used to deploy MiVoice Business Virtual directly onto the ESX/ESXi server or through the vCenter Server.
- Layer 2 switching and VLAN tagging performed by a Layer 2 switch external to MiVoice Business Virtual
- includes Media Server functionality such as conferencing, music on hold, and group paging

About the Documentation Set

To access the documentation pages, go to <https://www.mitel.com/document-center/business-phone-systems/mivoice-business/mivoice-business>.

Accessing Mitel Documentation

Mitel Product Documentation

To access the product documentation:

1. Go to <https://www.mitel.com/>
2. Click **SUPPORT**.
3. Under **Customer Support**, click **Technical Documentation**.
4. Click **BUSINESS PHONE SYSTEMS > MIVOICE BUSINESS**.

Product Bulletins

To access Mitel Product Bulletins:

1. Log on to [MiACCESS](#) Portal.
2. In the left pane, click **InfoChannel**.
3. In the **InfoChannel** list, select **Mitel-Worldwide**.
4. In the left pane, click **Product Bulletins & Announcements**.

Mitel Knowledge Base Articles

To access Mitel Knowledge Base Article:

1. Log on to [MiACCESS](#) Portal.
2. In the left pane, click **Knowledge Management System**.

Applications Management Center (AMC) Licensing

The Mitel Applications Management Center (AMC) is a web-based service that provides licensing, monitoring, management, and a variety of other services for installations of software applications.

About AMC Licensing

The AMC allows licensing keys to be automatically created at all times (24 hours a day, 7 days a week) through remote license keys generation.

The AMC is also the procurement and provisioning interface for AMC-delivered products and services. As a reseller of Mitel products, you receive a unique licensing account on the AMC. By logging in to the AMC with the username and password you are given when you obtain your account, you can view a list of your AMC-enabled products, check their status, and add services to any of them.

When you place a new order for products with the Mitel Customer Care Center, the order information is entered into the AMC system. The AMC places the purchased licenses into your licensing account for use in creating an application record. After you install MiVoice Business application, you must create the application record from the AMC.

1. Log on to the AMC.
2. From the **Quick Navigation** grid of the **My Dashboard** page, click **Register a License**. The Search Criteria page is displayed.

3. In the **Customer name** field, enter the customer name you want to search, and click **Search**.
The search results for the customer are displayed.
4. In the **Search Results** area, click the **List App Records** icon for the customer. The Create Application Record page is displayed.
5. In the **Application RecordDescription** field, enter a description for the application record ID.
6. Click **Submit** and then click **Commit**. A new page is displayed with the application record ID at the top of the page. Make a note of the application record ID.
7. On the **Home** tab, in the **Quick Navigation** grid, click the **Register a License** option. The Order Products page is displayed.
8. In the **Reference** field, type the application record ID you created in step 6.
9. Expand **MiVoice Business Products**.
10. Enter the required number of licenses in the **Quantity** field for the MiVoice Business product you require.
11. Scroll down to the bottom of the page, and click **Next**. The Order Confirmation page is displayed.
12. Click **Confirm**. The order fulfillment page is displayed. This may take a few minutes.
13. On the **Home** tab, in the **Quick Navigation** grid, click the **Assign a License** option. The Search Criteria page is displayed.
14. Under **Application Record Criteria**, in the **Identification** field, enter the application record ID, and click **Search**.
15. From **Search Results**, click **List App Records** icon next to the Customer ID. The Applications Records window is displayed.
16. Click **Assign** icon in the Actions column. The Assign – License Bank page is displayed.
17. In the **PO #** field, enter the application record ID and then click **Search**.
18. Enter the quantity in the **Assign** field and click **Assign** to confirm.
19. Click **Order Details** icon. The Assignment Confirmation Transaction report is displayed.
20. Click **Done**.

Both the MiVoice Business for ISS application and MiVoice Business Virtual use the AMC to obtain licensing information, which is required for installing main base software, for installing upgrade software (language packs excluded), and for installing system option upgrade software (language packs excluded). To complete the installation from the AMC, you must install the operating system and register it with the AMC online, and then install and upgrade MiVoice Business for ISS/ MiVoice Business Virtual and all purchased options.

MiVoice Business Virtual also synchronizes its licenses periodically with the AMC. A failure to synchronize with the AMC within a timely period may result in having the MiVoice Business application enter into license violation. When working off-line where connectivity to the AMC is restricted, it is recommended to use a Designated License Manager (DLM) as a replacement for the AMC. Although MiVoice Business Virtual can share its licenses with the DLM (or be a DLM) it needs access to the AMC. Connectivity to the AMC is required for any virtual appliance. The recommended license configurations are described in [MiVoice Business Virtual Licensing](#).

For additional information about the Mitel Applications Management Center (AMC), refer to the AMC Web site and the AMC online Help (<https://extstg.mitel-amc.com>).

MiVoice Business for ISS Licensing

MiVoice Business for ISS is delivered in a software only format for field installation on industry standard platforms. The software can be obtained through:

- Download from the AMC — The MiVoice Business blade can be downloaded from the AMC through the regular MSL software blade download mechanism.
- Download from Mitel OnLine Software — The MiVoice Business ISO image can be downloaded from Mitel OnLine, burned to a CD-ROM or stored on a network drive. The software can then be installed from either location onto the server.

When the installation of the MSL operating system software is complete, the system generates a unique Hardware ID that includes the MAC address of the server. When you connect to the AMC over the Internet, the system uses the Hardware ID and the Application Record ID to communicate with the AMC to obtain licensing information.

MiVoice Business Virtual Licensing

MiVoice Business Virtual is delivered in a software only format for field installation on a VMware server running vSphere 5.1, 5.5, 6.0, 6.5, 6.7, or 7.0 as specified in the MiVoice Business for Industry Standard Servers (ISS) and MiVoice Business Virtual Engineering Guidelines. The software can be obtained by downloading the OVF (.ova) file from Mitel OnLine and then importing the file onto the server.

MiVoice Business Virtual supports three distinct mechanisms to activate, update, and synchronize licenses with a license server:

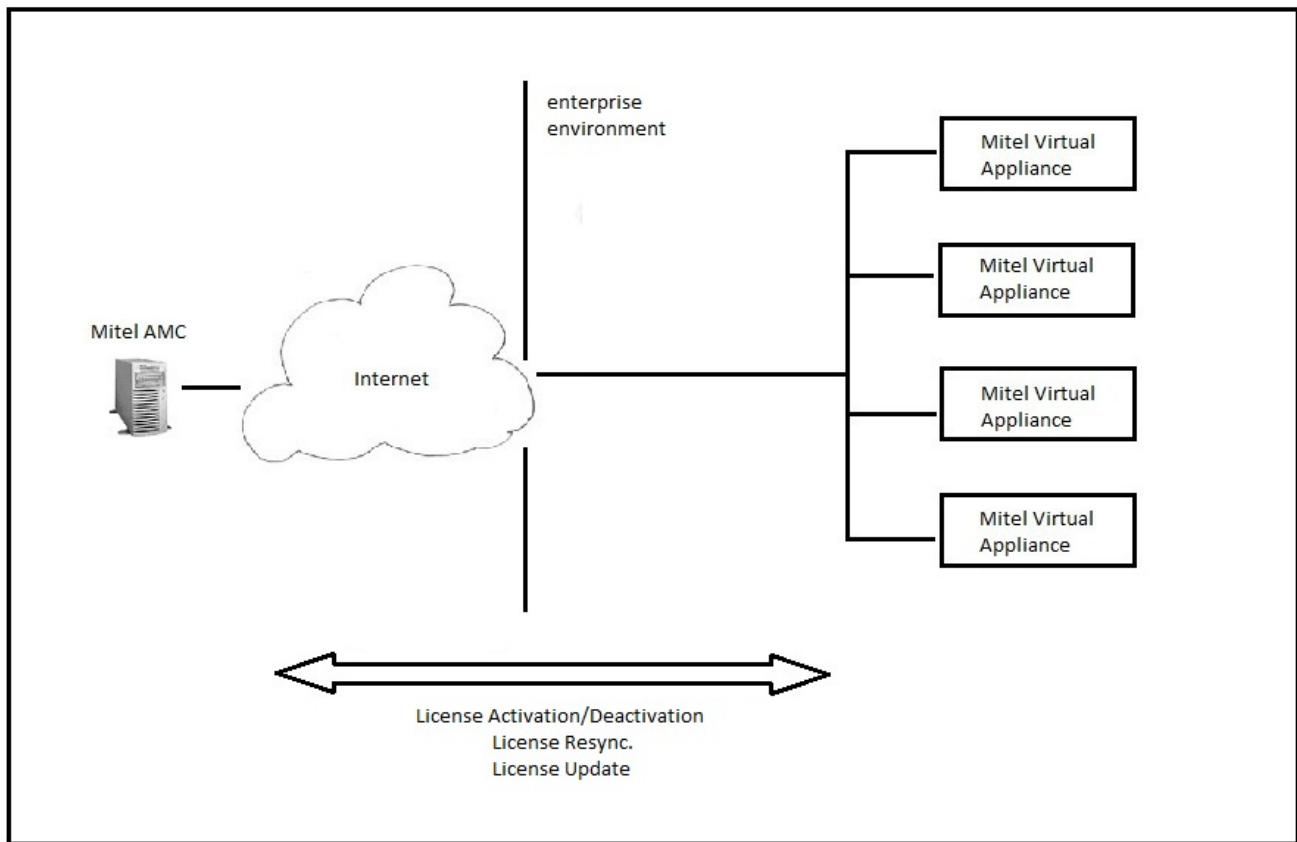
- Direct online connectivity with the AMC
- Online connectivity with the AMC through an enterprise firewall
- Use of a Designated License Manager (DLM) as the license server, but with AMC connectivity in place

MiVoice Business Virtual in Hyper-V

Installing Mitel virtual applications in Hyper-V is very similar to installing on a physical server. For Hyper-V installations, you use the same MSL and application ISO images as for installing during the physical procedures, but you must still purchase the virtual version of the license for the Mitel products.

Direct online connectivity with the AMC

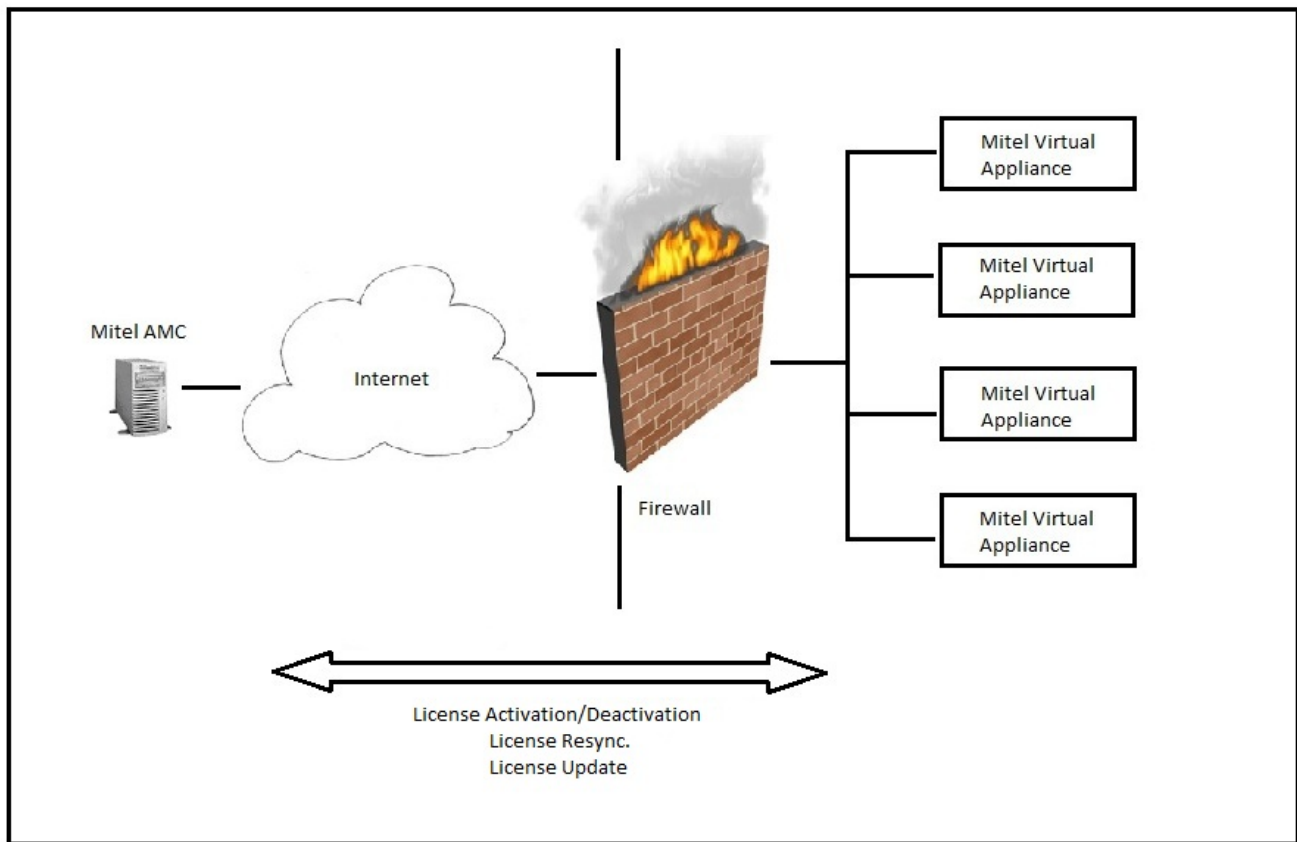
The following figure illustrates how the Mitel Virtual Appliance interacts with the AMC to activate and synchronize licenses.



Since there is no firewall filtering network traffic between the Mitel AMC and Mitel Virtual Appliances, licensing can be done online without restrictions. License requests and responses can flow through the Internet without any blockage. One of the main disadvantage of this configuration is the security exposure to the hostile Internet environment.

Online connectivity with the AMC through an enterprise firewall

The following figure illustrates the network connection between the Mitel AMC and Mitel Virtual Appliances with a firewall provisioned to allow Mitel licensing traffic.



Mitel online licensing requires at least one of the TCP ports 22, 8222, or 80 be opened to allow online licensing network traffic (SSH2) to flow through. The firewall is acting as a licensing proxy server and is

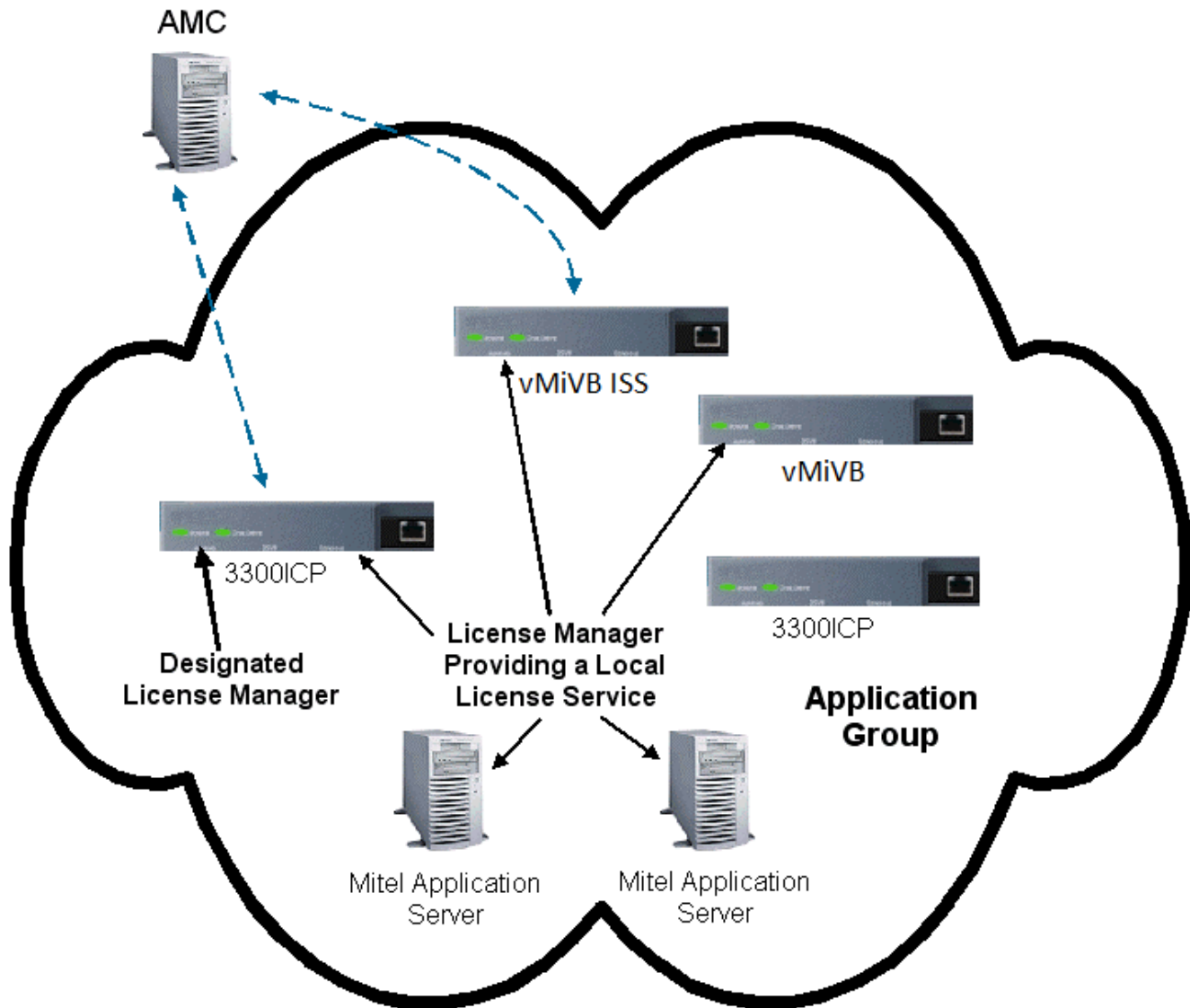
configured in the Server Manager status panel when MiVoice Business Virtual is initially licensed as illustrated below:

The screenshot shows the Mitel Standard Linux web interface. The top header includes the Mitel logo and the text "Mitel Standard Linux". Below the header, the user is logged in as "admin@vm2.mitel.com" with a "Logout" link. The left sidebar contains a navigation menu with categories: ServiceLink (Blades, Status), Administration (Backup, View log files, Event viewer, System information, System monitoring, System users, Shutdown or reconfigure), Security (Remote access, Local networks, Port forwarding, Web Server Certificate, Certificate Management), and Configuration (Clustering, E-mail settings, DHCP, Date and time, Hostnames and addresses, Domains). The main content area is titled "Operation status report". It contains the following text: "Your server has now been deactivated from ServiceLink, and will no longer sync with the Applications Management Center. You may re-activate your server at any time by returning to the [Status](#) panel and entering your service account ID." A note states: "NOTE: In order to re-activate the server afterwards using the same service account ID, you will have to clear the signature from the [Applications Management Center](#)." It then describes ServiceLink features and provides a link to <http://www.mitel.com/>. Below this, it explains how to activate ServiceLink using a service account ID. At the bottom, there are input fields for "Service account ID:" (containing "52843062"), "Address of Mitel AMC or proxy (optional):" (containing "192.168.137.1"), "TCP port to use for AMC connection (optional):" (containing "1808"), and a checkbox for "Enable offline license generation:" which is currently unchecked.

Use of a Designated License Manager (DLM) as the license server

This configuration requires that MiVoice Business Virtual be configured as member of an Application Group and share its licenses with the Designated License Manager (DLM), as illustrated in the figure below. Although MiVoice Business Virtual can share its licenses with the DLM (or be a DLM), it needs

access to the AMC. Refer to the *MiVoice Business System Administration Tool Help* for a description of how to configure MiVoice Business Virtual as a member of the Application Group using a DLM.



Requesting a New AMC Account

To request an AMC account, send an e-mail containing the following information to amc_accounts@mitel.com:

- Name of your certified Technician
- Full company name
- Company mailing address
- Phone 1/Phone2
- Fax number
- Admin e-mail (address of the person who should receive notification of service expiry dates)

- Tech e-mail (address of the person who should receive notification of update releases and other technical notices)
- Company URL (if any)
- Your Mitel SAP account number
- Specify if you would like your user ID and password delivered to you by fax, phone, or both (for security reasons user IDs and passwords are not sent by e-mail).

NOTE: Please allow two business days for your AMC account to be created.

Accessing your Account

To access your account for the first time:

1. Go to the Mitel web site (<http://www.mitel.com>) and log in using your Mitel MiAccess account.
2. Click **Tools**.
3. In the License Management area, click **License Server AMC**.
4. Select your account from the drop-down list. Sign in with your unique AMC ID and password to establish your single sign-on. On subsequent visits, you access your AMC account directly after signing in to Mitel MiAccess.

For information about using the AMC, click the online Help link in your AMC account.

MiVoice Business for ISS Software Installation

Installing MiVoice Business for ISS or Hyper-V on Mitel Standard Linux

The following procedure describes how to install MiVoice Business software on a Mitel Standard Linux (MSL) platform.

Before you Begin

- An industry standard server platform or Hyper-V virtual machine must be installed with the MSL operating system .
 - **CAUTION:** Ensure that the 64-bit version of MSL is installed as the operating system.
- Hyper-V is supported when installed in the standalone product—Hyper-V Server 2012 R2—and when installed as a role in Windows Server 2012 R2. Older versions of Hyper-V are not supported, and versions of MiVoice Business older than 7.0 are not supported on Hyper-V.
- Browser requirements
 - Internet Explorer (IE) 11 with the latest Service Pack
 - Mozilla Firefox 36.0.4 or later
 - Google Chrome 59 or later
 - Microsoft Edge 38 or later
- Internet access must be available to allow licensing from the Applications Management Center (AMC).
- If you are changing the hardware or re-formatting the hard-drive, you must clear the Hardware ID as part of the AMC licensing process.
 - **NOTE:** Installations on Hyper-V must use a virtual version of a MiVoice Business base-kit.
- Access to the following network resources must be available:
 - Domain Name System (DNS) server
 - Default Gateway
 - Network Time Protocol (NTP) server
- An IP address that will be used for both MSL and the MiVoice Business system.
- A monitor and keyboard must be attached to the server on which you are installing the software and applications.
- For Hyper-V, refer to the virtual machine settings as described in the in the *Virtual Appliance Deployment Solutions Guide*.
- The ISO images must be downloaded and burned to a CD, or installed from the AMC. Install the software blade using the MSL Server Manager as described in [Install the MiVoice Business for ISS Software](#) .
- You must have correct versions of the software and applications. Log into <https://miaccess.mitel.com/> , in the left pane, click **Software Download Center**

Collect Site Information

The following table lists the information you need during installation and configuration. For efficient installation, it is recommended that you gather this information beforehand.

Item	Notes
Administrator Password	For password strength, choose a password that contains a combination of upper and lower case letters, numbers, and punctuation characters, and that is not a dictionary word.
Domain Name of MSL Server	Names must start with a letter; can contain letters, numbers, and hyphens.
System Name of MSL Server	
IP Address of your external NIC	The IP address of your external Ethernet connection.
IP Address for MiVoice Business for ISS blade and MSL	The same IP address used for the MiVoice Business for ISS system and MSL.
Application Record ID	The number generated when you purchase the MiVoice Business product from AMC.

Install the MiVoice Business for ISS Software

The MiVoice Business for ISS software blade is installed from the blade panel in the MSL Server Manager. Installing and activating the MiVoice Business for ISS software blade consists of the following steps:

- Logging in to the MSL Server Manager
- Loading the software onto the MSL Server from the MiVoice Business for ISS CD, or download it from the AMC and then accessing the blade panel in the MSL Server Manager to install the MiVoice Business for ISS software blade.

To install the MiVoice Business-ISS software on MSL:

1. **OPTIONAL:** If installing from a CD, then place the CD in the optical drive.
2. Login into the Server Manager using a supported browser with the user name '*admin*' and the password you gave when configuring the MSL server. The Server Manager is accessed by entering the following URL:

<IP address of the MSL Server>/server-manager
3. Click on **Status**, located in the left-side panel under the **ServiceLink** heading.
4. Enter your ARID.
5. Scroll to the bottom of the page and click on **Sync**.

 It may take a few minutes for the synchronization to complete.
6. Click on **Blades**, located in the left-side panel under the **ServiceLink** heading.

7. Click **Update List** to ensure an up-to-date listing of software blades.
8. Click the **Install** link, located beside the MiVoice Business for ISS blade name.
It may take a few minutes for the software to install.
9. When the installation is complete, click on **Mitel Communications Director**, located in the left-side panel under the **Applications** heading.
10. On the next screen click **Modify**.
11. If the MSL IP address falls under one of the RFC 1918 private local networks, the corresponding network is added in Local Networks. For example, if the MSL IP address is 10.45.102.222, then in the Local Networks you will see 10.0.0.0.
 - a. Click **Networks**, located in the left-side panel under the **Configuration** heading.
 - b. In the right-side main window, click **Add Network**.
 - c. In the **Network Address** field, enter the IP address of the network to designate as “local”.
 - d. In the **Subnet Mask** field, enter the mask to apply to the Network Address.
 - e. In the **Router** field, enter the IP address of the router you will use to access the newly-added network.
 - f. Click **Add**.
12. Click **Save**.
13. Test the installation:
 - a. log into the MiVoice Business for ISS System Administration Tool (ESM)
 - b. navigate to the **License and Options (LOS)** form
 - c. check that the license information is properly displayed

Launch the MiVoice Business System Administration Tool

The MiVoice Business System Administration Tool provides a web-based interface that trained technicians use to perform the following functions:

- system configuration
- system administration
- maintenance and diagnostics
- accessing programming and configuration forms

To launch the MiVoice Business System Administration Tool:

1. Browse to the System IP address for the MiVoice Business for ISS blade using the supported browser.
NOTE: This is the IP address you entered in step 11 of [Install the MiVoice Business for ISS Software](#) above, and gives you access to the MiVoice Business Embedded System Manager (ESM).
2. Enter the username 'system' and the password 'password'.
NOTE: If logging in for the first time, you will be prompted to enter a new password. Do not forget this new password!
3. Click on **System Administration Tool**.

For more information about the MiVoice Business System Administration Tool, see the *MiVoice Business System Administration Tool Help*.

MiVoice Business Virtual Software Installation

Installation Overview

MiVoice Business Virtual is installed using the vSphere Web Client connected to the vCenter Server.

NOTE:

1. VMware recommends using the vSphere Web Client, instead of the vSphere desktop client connected directly to the ESX/ESXi server. The vSphere Web Client provides additional feature functionality not found with the vSphere desktop client.
2. If using the vSphere desktop client, consult the VMware Compatibility Guide (<http://www.vmware.com/resources/compatibility/>) for a list of servers that are approved for use with product releases 5.1, 5.5, 6.0, 6.5, 6.7, and 7.0.

Collect Site Requirements

The following table lists the information you need during installation and configuration. For efficient installation, it is recommended that you gather this information beforehand.

Item	Notes
Administrator Password	For password strength, choose a password that contains a mix of upper and lower case letters, numbers, and punctuation characters, and that is not a dictionary word.
Domain Name of MSL Server	Names must start with a letter; can contain letters, numbers, and hyphens.
System Name of MSL Server	
IP Address	The same IP address used for MSL Server and MiVoice Business Virtual.
Subnet mask	An appropriate subnet mask for the MSL Server IP address.
Gateway IP address	The IP address of the router.
ARID	The number generated when you purchase the MiVoice Business product from AMC.
vSphere Web Client	The vSphere Web Client is used to deploy MiVoice Business Virtual. The vSphere Web Client acts as a console to operate virtual machines, and as an administration interface into the vCenter Server. Refer to the VMware website for detailed configuration information and additional documentation.

Item	Notes
vCenter Server(s) installed on the network	A service that acts as a central administrator for vSphere Web Client, and ESX/ESXi hosts connected on a network. This service directs action on the virtual machine and the hosts. The vCenter Server is the working core of vSphere. Refer to the VMware website for detailed installation procedures and additional documentation.
ESX/ESXi 5.1, 5.5, 6.0, 6.5, 6.7, or 7.0 installed on the server	Use the latest software version as specified in the <i>MiVoice Business for Industry Standard Servers (ISS)</i> and <i>MiVoice Business Virtual Engineering Guidelines</i> .

Requirements

MiVoice Business Virtual must be installed on servers as specified in the *MiVoice Business for Industry Standard Servers (ISS)* and *MiVoice Business Virtual Engineering Guidelines*.

The minimum software release installed on the server must be as specified in the *MiVoice Business for Industry Standard Servers (ISS)* and *MiVoice Business Virtual Engineering Guidelines*.

Installing the MiVoice Business Virtual Software

Installing and activating MiVoice Business Virtual software consists of the following steps:

- Logging in to the vCenter Server using the vSphere Web Client.
- Deploying MiVoice Business Virtual as a virtual machine and virtual application operating on VMware vSphere 5.1, 5.5, 6.0, 6.5, 6.7, or 7.0.
- Powering up the Virtual Machine.

Before you Begin

- VMware ESX/ESXi release 5.1, 5.5, 6.0, 6.5 or 6.7 must be installed on an Intel based server with a minimum Xeon 55xx Series @ 2Ghz or better (supporting Core i7/Intel Nehalem architecture), with hyper-threading enabled. If you are using a Stratus ftServer, ESXi 4.0 is supported.
- vCenter Server must be deployed on the network. Refer to the VMware website for detailed installation procedures and additional documentation.
- vSphere Web Client must be connected to the vCenter Server.
- (Optional) vSphere Client must be installed on a Windows workstation. Refer to the VMware website for detailed installation procedures and additional documentation.
- Internet access must be available to allow licensing from the Applications Management Center (AMC).
- A DNS server must be available and reachable from the platform.
- An IP address must be available that is used for MSL and the MiVoice Business Virtual.

- MiVoice Business Virtual software is contained in an Open Virtualization Alternative (OVA) format archived file. This archive OVA file contains the OVF 1.0 descriptor and VMDK file.
- The versions of the software and applications must be correct. Go to Mitel Online at <https://www.ebiz.mitel.com>. Point to **Support, Technical Support**, then click **Software Downloads**.
- If you are cloning the MiVoice Business virtual machine, or transferring the virtual machine to a different server you may need to clear the Hardware ID (part of the AMC process).

Install the MiVoice Business Virtual Software

Installing the MiVoice Business Virtual software involves deploying the OVA file, configuring the MSL server, and configuring the MiVoice Business for ISS software blade.

When deploying the MiVoice Business virtual appliance, you need to complete an OVF Template Properties sheet. ***It is extremely important to note the following when deploying the MiVoice Business virtual appliance:***

1. If any value specified in [Collect Site Requirements](#) table is missing, the wizard will finish but the virtual appliance may not boot. A corresponding error message appears, and you must restart the OVF deployment.
2. If any of the [Collect Site Requirements](#) table values are invalid, the Mitel Virtual Framework (MVF) blade uses the default values for the MSL console. It is necessary to set the parameters using the MSL Console configuration procedure described below.

Configuring Virtual Machine console

1. Create a Virtual Machine using an Open Virtualization Archive (OVA) file.
NOTE: The OVA file must be downloaded from Mitel site.
2. Log on to VMware vSphere Web Client.
3. Deploy the OVA file.
4. Click the instance created, and then click **Launch Remote Console**.
5. In the VMWare Remote Console, enter the Application Record ID (ARID) and press **Next**.
You may also enter the ARID from the **Status** page on the Server Manager, at a later time.
NOTE: If ARID is not available, skip this step. For information on creating an ARID, see [About AMC Licensing](#).
6. Enter the MSL server user name and password, and press the ENTER key.
The Server Console screen displays a list of server-related functions.
7. Select **Configure this server** and press the Enter key.
8. Enter the domain name, and then press **Enter**.
9. Enter a system name, and then press **Enter**.
10. Enter an available IP address that is used for MSL server and MiVoice Business Virtual, and then press **Enter**.
11. Enter the IP address for the subnet mask, and then press **Enter**. A dialog box appears that prompts whether you want to configure IPv6.

12. Select **Yes** if you want to configure IPv6 -or- Select **No**, and then press **Enter**.
13. Enter the gateway IP address and press **Enter**.
14. Enter the Corporate DNS server address, and then press **Enter**. -or- Press **Enter** to skip the step.
15. If you did enter a corporate DNS server address, then select the method that the system must use to resolve domain names.
16. Select **Reboot Now**, for the new configuration settings to take effect.
17. After the reboot, log into the VMWare vSphere Web Client and select the created instance again.
If you had not entered the ARID in step 5, then a prompt to enter the ARID is displayed. You may enter the ARID now or later.
If you had entered the ARID in step 5, then the console login prompt is displayed.
18. Enter the MSL server user name and password. See step 6.
19. Scroll down and select the **Manage Trusted Networks** option. Click **Next**.
20. Do one of the following:
 - Select the **Add IPv4 trusted networks** option.
 - Select the **Add IPv6 trusted networks** option.
21. Enter the IP address range you want to add to the trusted networks, and then click **Next**.
22. Enter the IP address range of the subnet mask you want to add to the trusted networks, and then click **Next**.
23. Enter the IP address of the gateway, and then click **Finish** to complete the console configuration.

Configuring MiVoice Business Application

1. Open a browser window.
2. Enter **<IP address of the MSL Server> /server-manager**.
The MSL Server Login page is displayed.
3. Enter the user name and the password.
4. In the left navigation pane, under **Security**, click **Remote Access**. The Change remote access setting page is displayed. Enter the following:
 - In the **Network** field, enter the IP address range. For example, 10.0.0.0
 - In the **Subnet mask** field, enter the IP address range for the subnet mask. For example, 255.0.0.0
5. Scroll down and click **Save**.
6. In the left navigation pane, under **ServiceLink**, click **Status**.
7. Enter the ARID in the **Service Account ID** field, and then click **Activate**. It may take a few minutes for the software to activate.
8. Test the installation:

9. Log on to the MiVoice Business for ISS System Administration Tool using the System IP address. (See Configuring Virtual Machine console, step 11)
 - a. Navigate to the **License and Options (LOS)** form.
 - b. Check that the license information is properly displayed. Ensure that licenses allocated in the **License and Options (LOS)** form are purchased. The MiVoice Business database restore will fail if the Allocated Licenses are not set properly.
 - c. Check that configuration options (especially for non-North American deployments) are correct.

Maintenance and Troubleshooting

Maintenance and Troubleshooting Overview

This chapter describes the hardware and software maintenance procedures for MiVoice Business for ISS and MiVoice Business Virtual, and their respective troubleshooting symptoms, causes, and corrective actions.

NOTE: Hardware maintenance is specific to the servers and associated components on which the software is installed. Please refer to the manufacturer's documentation for information about hardware maintenance.

MiVoice Business for ISS Software Maintenance

Software maintenance involves upgrading the MiVoice Business for ISS blade, backing up and restoring the databases, and performing basic maintenance commands.

CAUTION: During the upgrade process, the MiVoice Business application may need to be restarted which will result in service degradation.

NOTE: In the following procedures, where a release of MiVoice Business is earlier than 7.0, then Mitel Communications Director displays in the MSL Server Manager panel.

This section contains the following information:

- [Upgrade the MiVoice Business for ISS Software](#)
- [Back up the MiVoice Business for ISS Database](#)
- [Restore the MiVoice Business for ISS Database](#)
- [Disaster Recovery](#)

Upgrade the MiVoice Business for ISS Software

Different upgrade paths are available. The following table summarizes which procedure to use for each upgrade path.

Upgrade path	Use this procedure
MCD 6.0 → MCD 6.0 SP1	Upgrade the MiVoice Business for ISS Software Blade Using the Online Upgrade Utility
MCD6.0 → MCD 6.0 SP2 and up	Upgrade the MiVoice Business for ISS software using a fresh installation
MCD 6.0 SP1 → MCD 6.0 SP2 and up	Upgrade the MiVoice Business for ISS software using a fresh installation
MiVB 7.0 → MiVB 7.0 SP1	Upgrade the MiVoice Business for ISS software using a fresh installation

Upgrade path	Use this procedure
MiVB 7.0 SP1 → MiVB 8.0 and up	Upgrade the MiVoice Business for ISS software using a fresh installation
MiVB 7.1 → MiVB 8.0 and up	Upgrade the MiVoice Business for ISS software using a fresh installation
MiVB 7.2 → MiVB 8.0 and up	Upgrade the MiVoice Business for ISS software using a fresh installation
MCD 6.0 SP3 and up → MiVB 9.0	Upgrade the MiVoice Business for ISS software using a fresh installation

NOTE: Ensure that there is an Internet connection to allow for AMC access.

Upgrade the MiVoice Business for ISS Software Blade Using the Online Upgrade Utility

This procedure is most useful for a patch or Service Pack upgrade, and takes into account that the MSL operating system does not need to be upgraded. Backing up and restoring the databases are part of the online upgrade process.

CAUTION: This upgrade process will cause a service interruption.

1. **OPTIONAL:** If installing the MiVoice Business-ISS software from a CD, then place the CD in the optical drive.
2. Log in to the MSL Server Manager using a browser with the user name and password when initially configuring the MSL server.
3. Click on **Blades**, located in the left-side panel under the **ServiceLink** heading.
4. Click **Update List** to view the new versions available from the AMC in the blade list.
5. In the MiVoice Business for ISS row of the list of blades, click on the **Upgrade** link beside the version being upgraded. The End User License page appears.
6. Read the End User License Agreement, and at the bottom of the page click **Accept all Licenses**. A page showing the upgrade progress appears.
7. When the installation is complete, click **Clear this report**.

NOTE: The installation time is dependent on the size of the database being backed up. The system takes approximately 30 to 90 minutes to back up an average-sized database (50 - 100 MB).

Upgrade the MiVoice Business for ISS software using a fresh installation

The fresh installation process involves the following steps:

- Backing up the MSL and MiVoice Business-ISS database

CAUTION: If you are upgrading from MCD 6.0 SP3 or later to MiVoice Business Release 9.0 or later, ensure that the system database is audited and corrected. For more information, see the *MiVoice Business Migration Guidelines* document.
- Installing the new version the MSL operating system
- Re-installing a new version of the MiVoice Business-ISS software
- Restoring the databases

CAUTION: If you are restoring a database from MCD 6.0 SP3 or later into MiVoice Business Release 9.0 or later, ensure that the database is corrected and compatible with MiVoice Business Release 9.0 or later. An attempt to restore incompatible database will result in a default database. For more information, see the MiVoice Business Migration Guidelines document.

Database information such as the System (Call Server) IP, local network settings, date and time settings, ARID, etc. is retained in the databases during the upgrade process.

You can upgrade a physical servers running MSL 9.3 or later to MSL 10 or later without the need for physical media or console access using Remote Fresh Install. See the *Mitel Standard Linux Installation and Administration Guide* for more information.

CAUTION: This procedure will cause a service interruption.

NOTE: This procedure also backs up all application data through the MSL backup feature. Performing a separate backup of the MiVoice Business-ISS database (below) may not be necessary, depending on local administration/maintenance protocols.

1. Backup MSL and the MiVoice Business-ISS databases:
 - a. Log in to the MSL Server Manager using a browser with the user name and password when initially configuring the MSL server.
 - b. Click on **Backup**, located in the left-side panel under the **Administration** heading.
 - c. In the **Select an action** drop-down list, choose to back up to either a desktop or network location.
 - d. Click **Perform**.
2. **Optional:** Backup the MiVoice Business-ISS database on an external PC using the MiVoice Business ESM backup facility (see [Back up the MiVoice Business for ISS Database](#)).
3. Obtain a printout or an export copy of the license and options form to determine which configuration options need to be set after installing the new blade.
4. Install the new MSL operating system software. See the Mitel Standard Linux Installation and Administration Guide for details.

NOTE: During installation, make sure to select the following options:

- Erase all disks and perform fresh install
- Yes, when prompted to restore from backup

NOTE: Physical servers running MSL 10.x can upgrade to MSL 11.0 without the need for physical media or console access, by using the Remote Fresh Install (RFI) blade feature. The RFI blade requires sufficient disk space for a backup. If the system has insufficient disk space, the blade will not be listed on the Blades panel. See the Mitel Standard Linux Installation and Administration Guide for details.

Once the server has been re-configured, log back into the MSL Server Manager with the user name and password when configuring the upgraded MSL server.

5. **Optional:** If installing the MiVoice Business-ISS software from a CD, then place the CD in the optical drive.
6. Click on **Status**, located in the left-side panel under the **ServiceLink** heading.
7. Enter your ARID.
8. Scroll to the bottom of the page and click on **Sync**. The message “Please wait a moment for the sync to complete.” It may take a few minutes for the synchronization to complete.
9. Click on **Blades**, located in the left-side panel under the **ServiceLink** heading.
10. Click **Update List** to view the new version available from the AMC in the blade list.

11. Click the **Install** link, located beside the MiVoice Business for ISS blade name to start the installation process. The End User License page appears.
12. Scroll to the bottom of the page and click Accept all licenses. A page showing the installation progress appears.

NOTE: The installation process may take up to 5 minutes to complete.

13. Connect to the MSL Server Manger using the PuTTY.
14. At the login as prompt, type the administrator login ID, and press the ENTER key.
15. At the password prompt, type the password, and press the ENTER key. The server console is displayed.
16. Click **7. Restore from a backup**, and then click **Next**. The system restores the latest backup file generated from the Server Manager.
17. Click **Reboot Now**.

The system restores the database and then reboots the server. **NOTE:** This will restore the MiVoice Business-ISS databases. If for some reason the database is not restored, use the "[Restore the MiVoice Business for ISS Database](#)" procedure. **NOTE:** You will need to select Use dimensions from backup file in the restore window.

Refer to the product Release Notes for any additional information.

Back up the MiVoice Business for ISS Database

TIP: It is very important to maintain current database backups; backups should be done on a regular basis. You need the following information and equipment to back up a database:

- Installer PC
- System IP address
- System Administration Tool username and password

Use the following procedure to back up a database.

NOTE: The sytem takes approximately 10 to 15 minutes to back up an average-sized database (50 - 100 MB)

CAUTION: During a system backup, no other users can access any of the web-based tools (Desktop Tool, Group Administration Tool, or System Administration Tool), or save changes. To avoid blocking other users, we recommend that you perform system backups outside of business hours.

1. Access the MiVoice Business System Administration Tool. See [Launch the MiVoice Business System Administration Tool](#).
2. Click **Maintenance and Diagnostics** from the drop-down menu in the **Selection** area on the left.
3. Click **Backup**.
4. Copy the **identitydb.obj** file to your PC (required for every user profile on every PC used for backup and restore). Follow the instructions displayed on the screen.

TIP: Do this only once per PC per user.

5. Click **Browse** to launch the **Save As** dialog box, then navigate to the location on your local drive where you want to save the backup file (for example, C:\3300_ICP\backup).
6. Type a name for your backup file, and then click **Save As**.
7. Select the check box for Call History records if you want them included in your backup. Each addition can increase the backup time noticeably.
8. Click **Start Backup**. System will display progress and then a backup complete message.
9. Click **OK**.
10. Verify the presence of the backup file on the local drive.

Restore the MiVoice Business for ISS Database

You need the following information and equipment to restore a database:

- Installer PC
- MSL system IP address
- MSL Server Manager username and password

Use the following procedure to restore a previously saved database.

CAUTION: If you are restoring a database from MCD 6.0 SP3 or later into MiVoice Business Release 9.0 or later, ensure that the database is corrected and compatible with MiVoice Business Release 9.0 or later. An attempt to restore an incompatible database will result in a default database. For more information, see the *MiVoice Business Migration Guidelines* document.

NOTE: The system takes approximately 10 to 15 minutes to restore an average-sized database, during which time the files are copied to the server. Once the files have been copied, you must reset the server. Note that the system can take up to an additional 1 hour to reset.

CAUTION: You must restart the MiVoice Business application after restoring a database. Service will be LOST during this reboot.

1. Connect to the MSL Server Manager using the PuTTY.
2. At the login as prompt, type the administrator login ID, and press the ENTER key.
3. At the password prompt, type the password, and press the ENTER key. The server console is displayed.
4. Click **7. Restore from a backup**, and then click **Next**. The system restores the latest backup file generated from the Server Manager.
5. Click **Reboot Now**. The system restores the database and then reboots the server.

Disaster Recovery

Having a backup and recovery plan in place will contribute to mitigating any potential major outages. Such outages can include:

- Computer migration
- Hard disk replacement
- Hard disk re-formatting (e.g. clean installation of MSL)

To prepare for any potential disaster, implement a backup plan where a scheduled MSL backup contains the MiVoice Business-ISS backup. See [To schedule an MSL backup](#).

MSL has a backup facility that will perform regular backups of the MSL databases and any completed MiVoice Business-ISS backups. MSL backups will include the most recent previously created MiVoice Business-ISS backup. As an added precaution, backup the MiVoice Business database separately using the MiVoice Business System Administration Tool. See [Back up the MiVoice Business for ISS Database](#).

To recover from a disaster

1. Locate the MSL and the MiVoice Business database backups.
2. Install the new MSL operating system software. See the *Mitel Standard Linux Installation and Administration Guide* for details.
3. Restore the MSL and the MiVoice Business database. See [Restore the MiVoice Business for ISS Database](#).
4. Install the MiVoice Business-ISS software blade. See [Install the MiVoice Business for ISS Software](#).
5. De-activate the ServiceLink account:
 - a. In the MSL Server Manager, click on **Status** located in the left-side panel under **ServiceLink**.
 - b. In the right-side panel, click the link in **If you wish to deactivate your ServiceLink account, please click [here](#)**.
 - c. Click **Deactivate** on the next page that displays.
6. Log in to the AMC and clear the hardware ID.
7. Activate the ServiceLink account:
 - a. In the MSL Server Manager, click on **Status** located in the left-side panel under **ServiceLink**.
 - b. Complete the fields as appropriate and click **Activate**.
8. The recovery will automatically proceed until completion.

To schedule an MSL backup

1. Log in to the MSL Server Manager using a browser with the user name and password when initially configuring the MSL server.
2. Under Administration, click **Backup**.
3. From the Select an action list, click **Configure network backup**.
4. Click **Perform**.
5. Configure the server where the backup file will be stored:
 - a. Enter the **IP address** of the file server where the backup will be stored.
 - b. Enter the **Sharename** of the shared folder where the backup file will be stored. (For example, "Backups".) The shared folder must have permissions set to "Full Control".
 - c. Enter the **(Optional) Sub Directory** where the backup will be stored. If you leave this field blank, the file will be stored at the root of the shared folder. Spaces and multi-level directory names are permitted; for example, "MSL backup" and "MSL backup/2011/October" are valid sub directory names. Dashes (-) are not permitted.
 - d. Enter the **Username** to use when connecting to the backup server.
 - e. Enter the **Domain** or **Workgroup** name of the server. (For example, mitel.com.)

- f. Enter the **Password** to use when connecting to the backup server. Available storage space is displayed.
 - g. Select the **Maximum number of backup files to keep** (1-999) on the server (default is 5). When the number of stored files reaches this maximum count, the oldest version is deleted.
6. Select the frequency with which you want to perform backups (Daily, Weekly, Monthly, Never). Backup file names will include timestamps in the format: mslserver_ <host-name>_yyyy-mm-dd_hh-mm.tgz:
 - a. To disable regularly scheduled backups, click **Disabled**.
 - b. For **Daily** backups, select a time of day (hour, minute, AM/PM)
 - c. For **Weekly** backups, select a time of day, and day of the week
 - d. For **Monthly** backups, select a time of day, and day of the month
 - e. For **immediate** backup file creation, proceed to the next step.
7. To test your backup configuration, or to run an immediate backup, click **Backup Now**
8. Click Save to save the schedule information.

If the scheduled backup fails, an alarm is raised and can be seen in the Event Viewer panel. Refer to the *Mitel Standard Linux Installation and Administration Guide* for details.

For MiVoice Business-ISS releases prior to Release 6.0, separately restore the MSL backup and the MiVoice Business-ISS backup. Refer to the *Mitel Standard Linux Installation and Administration Guide* for details about restoring the MSL backup; follow the procedures in [Upgrade the MiVoice Business for ISS software using a fresh installation](#), beginning at Step 3.

MiVoice Business Virtual Software Maintenance

Software maintenance involves upgrading the MiVoice Business application software. There are two ways to upgrade the MiVoice Business software:

- re-deploy MiVoice Business Virtual (applicable when upgrading from MCD 6.0 SP3 or later to MiVoice Business Release 9.0 or later)
- upgrade the MiVoice Business for ISS blade from the AMC (either automatically using the online Upgrade capability within the Server Manager, or manually)

NOTE: It is not necessary to back up and restore the MSL and MiVoice Business databases when using the automatic online upgrade utility in Server Manager. The online upgrade utility automatically backs up and restores the databases.

CAUTION: During the upgrade process, the MiVoice Business Virtual may need to be restarted which will result in service degradation.

NOTE: In the following procedures, where a release of MiVoice Business is less than 7.0, Mitel Communications Director is displayed in the MSL Server Manager panel.

Re-Deploy MiVoice Business Virtual

The MiVoice Business Virtual re-deployment upgrade process consists of backing up and restoring the MSL and MiVoice Business databases, removing the MiVoice Business Virtual, and re-deploying MiVoice Business Virtual.

If you are re-deploying MiVoice Business Virtual, backup the MSL and MiVoice Business databases prior to the upgrade and restore them after the upgrade.

Note the following guidelines:

- For a new Software Release (a major release where the first digit of the version number changes between old and new software loads) you must re-deploy MiVoice Business Virtual, unless specified otherwise in the Software Release Notes. A new MiVoice Business Virtual typically contains a new MSL server version.
- For a Software Update (SP) release or patch (a minor release), you can upgrade the MiVoice Business for ISS software blade from the AMC, unless specified otherwise in the Software Release Notes.

There may be releases where an element 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*.

CAUTION: If you are upgrading from MCD 6.0 SP3 or later to MiVoice Business Release 9.0 or later, ensure that the system database is audited and corrected. For more information, see the MiVoice Business Migration Guidelines document.

CAUTION: Do not install or upgrade MiVoice Business Virtual from any CD ROM drive that may be attached to the virtual machine. The CD ROM interface is not present in the vSphere Client and should not be added since it may impact the overall performance of the system.

CAUTION: Information entered during the MSL configuration such as the System (Call Server) IP, local network settings, date and time settings, ARID, etc. will be lost during the upgrade process.

CAUTION: This upgrade process will cause a service interruption.

To re-deploy MiVoice Business Virtual

1. Login into the Server Manager with the user name 'admin' and the password you gave when configuring the MSL server. The Server Manager is accessed by entering the following URL: **http://<www.hostname> OR <IP address of the MSL Server>/server-manager**
NOTE: Take note of the System (Call Server) IP address, local network settings, date and time settings, and Application Record ID (ARID) as this information will be lost during the upgrade process.
2. Back up the database. You can also back up the Call Server database on an external PC using the MiVoice Business ESM backup facility (see [Back up the MiVoice Business for ISS Database](#)).
TIP: It is very important to maintain current database backups; backups should be done on a regular basis.
3. Obtain a printout of the **License and Options (LOS)** form to determine which configuration options and allocated licenses need to be set after installing the new blade. It is also recommended to export the **System Capacity** form which contains the allocated licenses.
4. From the MSL Server Manager, click **Backup** located in the left-side navigation panel under the **Administration** heading.
5. Select **Backup to desktop** from the **Select an action** drop-down list.
6. Click **Perform**. MSL prepares the system for backup.
7. The *Backup to desktop* screen displays with the estimated backup size. Ensure that your browser and target file system support downloads of this size, and then click **Begin Download**.
8. When prompted to Open or Save, click **Save**.

9. In the file download window that appears, name the file (SMEServer.tgz) and then select the location on the desktop where the file will be saved and then click **Save**. A confirmation message displays. After saving, you can copy the backup file to a network share on your PC. A network share will need to be set-up to allow a MSL restore when re-deploying the new OVA.
10. Launch the vSphere Web Client and login.
11. Right click on the MiVoice Business Virtual and select **Power Shut Down Guest**.
12. With the old MiVoice Business Virtual powered-down, re-deploy a new version of MiVoice Business Virtual with a different name if the appropriate disk resources are available. This is to ensure that you can revert to the previous version. Once the new version has been verified, you can delete the previous version using the **Delete from Disk** by right clicking on the VM.
13. Configure MSL as follows, by opening the virtual machine MSL Server Console from within the vSphere client, and selecting the **Console** tab in the main display window:
 - a. In the MSL Server Console window that appears place and click the cursor in the console window to continue. If at any time you want to have the cursor available for other desktop activities, press the CTRL + ALT.
 - b. From the console, select the option to **Restore from backup**.
 - c. After the reboot is complete, click **Yes** to continue, and then select **Restore from network share**. You will be prompted for the following:
 - to select a network interface to use for the restore (LAN or WAN)
 - the address and netmask of the local MSL server
 - the address, gateway and Microsoft domain name of the backup server
 - the network share containing the backup file (from Step 9 above)
 - the username and password required to log in to the backup server.
 - d. After responding to all prompts, click **Next** to restore the backup data. A progress bar displays while the restore is in progress. When it completes, MSL re-boots the server to activate the restored configuration.
 - e. When the reboot is complete, log back in to the server console and perform a synchro-nization with the AMC if necessary.
14. Ensure that licenses allocated in the Licence and Options (LOS) form are purchased. The MiVoice Business database restore will fail if the Allocated Licenses are not set properly. If MiVoice Business Virtual was previously sharing licenses with a DLM, manually enter the allocated licenses previously captured in step 3 above.

NOTE: You must select Use dimensions from backup file in the restore window.

Refer to the product Release Notes for any additional information.

Upgrade the MiVoice Business Software

You can upgrade the MiVoice Business software using the online or offline upgrade capability.

NOTE: In a resilient setup, with DLM installed on the primary server, first upgrade the primary server and then the secondary server.

Online Upgrades

You can upgrade the MiVoice Business software using the online upgrade capability within the Sever Manager, or by performing a manual upgrade.

Follow the instructions in [Upgrade the MiVoice Business for ISS Software](#) to upgrade the MiVoice Business software blade using the online upgrade utility.

NOTE: Ensure that there is an Internet connection for AMC access.

Offline Upgrades

You can perform an offline MiVoice Business Virtual software upgrade using the following procedure:

1. Backup the MSL configuration database. See the *Mitel Standard Linux Installation and Administration Guide* for details. The MSL database must be stored on a network share which is accessible from the network where MiVoice Business Virtual is being installed.
2. Backup the MiVoice Business (Call Server) database on an external PC using the MiVoice Business ESM backup facility (see [Back up the MiVoice Business for ISS Database](#)).

TIP: It is very important to maintain current database backups; perform backups on a regular basis.

3. Obtain a printout of the **Licence and Options (LOS)** form to determine which configuration options and allocated licenses need to be set after installing the new blade. It is also recommended to export the **System Capacity** form which contains the allocated licenses.
4. Deploy the MiVoice Business Virtual (see [Install the MiVoice Business Virtual Software](#)).
5. During the deployment, in the MSL Console, answer **Yes** when prompted to restore the MSL database from backup. You will be prompted to specify the domain name, IP address, network share, user-name/password of the PC where the MSL backup was stored in step 1.
6. Ensure that licenses allocated in the **License and Options (LOS)** form are purchased. The MiVoice Business database restore will fail if the Allocated Licenses are not set properly. If MiVoice Business Virtual was previously sharing licenses with a DLM, manually enter the allocated licenses previously captured in step 3 above.
7. Restore the MiVoice Business Call Server database restore from the external PC using the MiVoice Business ESM restore facility (see [Restore the MiVoice Business for ISS Database](#)).

Backup and Restore the Call Server Database

Back up a Call Server Database

TIP: It is very important to maintain current database backups; backups should be done on a regular basis.

You need the following information and equipment to backup a database:

- Installer PC
- System IP address
- System Administration Tool username and password

Use the following procedure to back up a database.

NOTE: The system takes approximately 30 to 90 minutes to back up an average-sized database (50 - 100 MB).

CAUTION: During a system backup, no other users can access any of the web-based tools (5140/5240 IP Appliance Online Services, Desktop Tool, Group Administration Tool, or System Administration Tool), or save changes. To avoid blocking other users, we recommended that you perform system backups outside of business hours.

1. Access the MiVoice Business System Administration Tool (see [Launch the MiVoice Business Administration Tool](#)).
2. Click **Maintenance and Diagnostics** from the drop-down menu in the **Selection** area on the left.
3. Click **Backup/Restore**, then **Backup**.
4. Copy the **identitydb.obj** file to your PC (required for every user profile on every PC used for backup and restore). Follow the instructions displayed on the screen.

TIP: Do this only once per PC per user.

5. Click **Browse** to launch the **Save As** dialog box, then navigate to the location on your local drive where you want to save the backup file (for example C:\3300_ICP\backup).
6. Type a name for your backup file, and then click **Save As**.
7. Select the check box for Call History records if you want them included in your backup. Each addition can increase the backup time noticeably.
8. Click **Start Backup**. System will display progress and then a backup complete message.
9. Click **OK**.
10. Verify the presence of the backup file on the local drive.

Restore a Call Server Database

You need the following information and equipment to restore a database:

- Installer PC
- System IP address
- System Administration Tool username and password

Use the following procedure to restore a previously saved database.

CAUTION: If you are restoring a database from MCD 6.0 SP3 or later into MiVoice Business Release 9.0 or later, ensure that the database is corrected and compatible with MiVoice Business Release 9.0 or later. An attempt to restore an incompatible database will result in a default database. For more information, see the MiVoice Business Migration Guidelines document.

NOTE: If you are restoring a database from MCD 6.0 SP3 or later into MiVoice Business Release 9.0 or later, ensure that the database is corrected and compatible with MiVoice Business Release 9.0 or later. An attempt to restore an incompatible database will result in a default database. For more information, see the MiVoice Business Migration Guidelines document.

CAUTION: You must reboot the server after restoring a database. Service will be LOST during this reboot.

1. Access the MiVoice Business System Administration Tool (see [Launch the MiVoice Business System Administration Tool](#)).
2. Click **Maintenance and Diagnostics** from the drop-down menu in the **Selection** area on the left.
3. Ensure that licenses allocated in the **Licence and Options (LOS)** form are purchased. The MiVoice Business database restore will fail if the Allocated Licenses are not set properly.

4. Click **Backup/Restore**, then **Restore**.
 5. Copy the **identitydb.obj** file to your PC (required for every user profile on every PC used for backup and restore). Follow the instructions displayed on the screen.
- TIP:** If you are doing the restore on the same PC the backup was saved to and you are logged in as the same user (same user profile), you don't need to copy the identitydb.obj again.
6. Type the location of the database that is being restored, or use the browse facility.
 7. Click **Yes** if you want to include Hotel/Motel wake-up information in your restore.
 8. Choose the Dimension Selections:
 - if there are no changes to the software dimensions, accept **Use Dimension Selections from backup file** OR
 - click **Use Current Dimension Selections** if you are restoring the database after programming new Dimension Selection information.
 9. Click **Start Restore**.
 10. Click **OK**. The system shows an *In Progress* message.
 11. When the status window shows *Complete*, click **OK**.
 12. Reset the system:
 - a. Log into the MiVoice Business System Administration Tool (see “Launch the MiVoice Business System Administration Tool” on page 18).
 - b. In the Maintenance Commands form enter **Reset** in the **Command** field.
 - When the reset is complete, the database is converted, and the system automatically resets.
 - If you have programmed Dimension Selection, the system reboots automatically one more time.

TIP: While the System Administration Tool is restoring the database, no other users can access any of the web-based tools. We recommend performing restores outside of business hours.

Restore from Another Running Server

Restore from running server is now supported for migration and upgrade of MiVoice Business virtual systems when the database meets the database audit requirements (VMware hypervisor only).

NOTE:

1. This procedure enables users to easily replace an existing virtual machine with a new one. If any problems arise, the original implementation can be restored with minimal downtime.
2. This procedure is not supported for systems with flex dimensions.

Conditions

If the two servers are on:

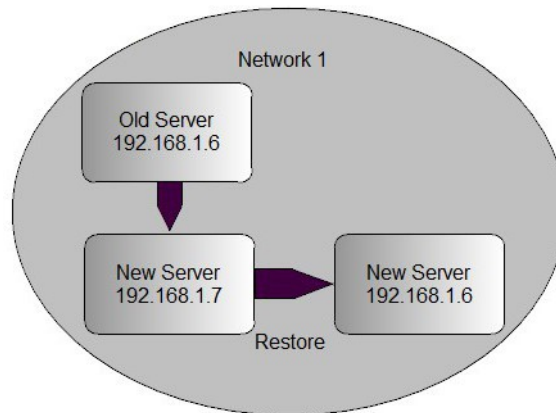
- connected networks (that have the same IP address range and there is no router between them), both servers must have the same subnet mask applied.
- different networks:
 - the system requests for a gateway (router) IP address to use for access.

- when the restore is complete, the new server must be reconfigured its network.

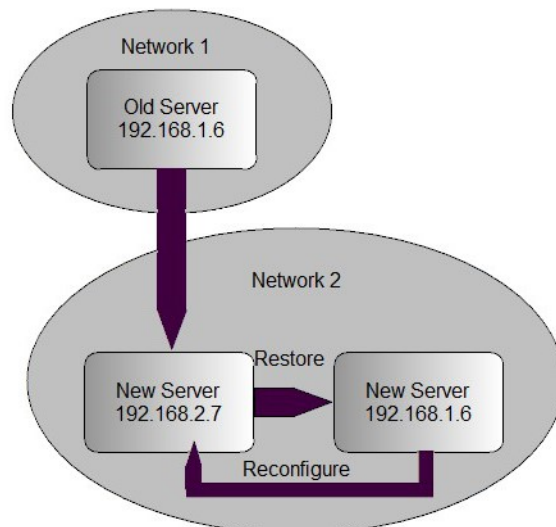
WARNING: Booting up the original server after the restore procedure results in IP address conflicts.

About IP Addressing

The IP address of the new server must be distinct from the running server duration the migration. If the two servers are on a connected network, the new server requires a temporary IP address from the same network range. When the migration is complete, the new server reboots with the IP address of the old (running) server and is usable immediately.

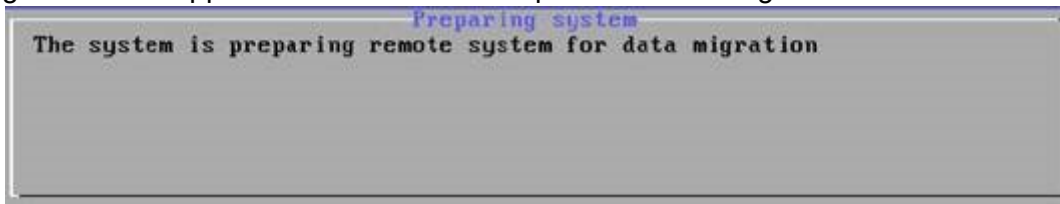


If the two servers is on a different network, the new server requires a permanent IP address in the range of that network. The system prompts for a gateway IP address that it can use to access the old (running) server. When migration is complete, the new server reboots with the IP address of the old server, which will not be reachable on the new server's network. You must select the console option to "Reconfigure this server" and enter the correct IP address (that was used for the migration).

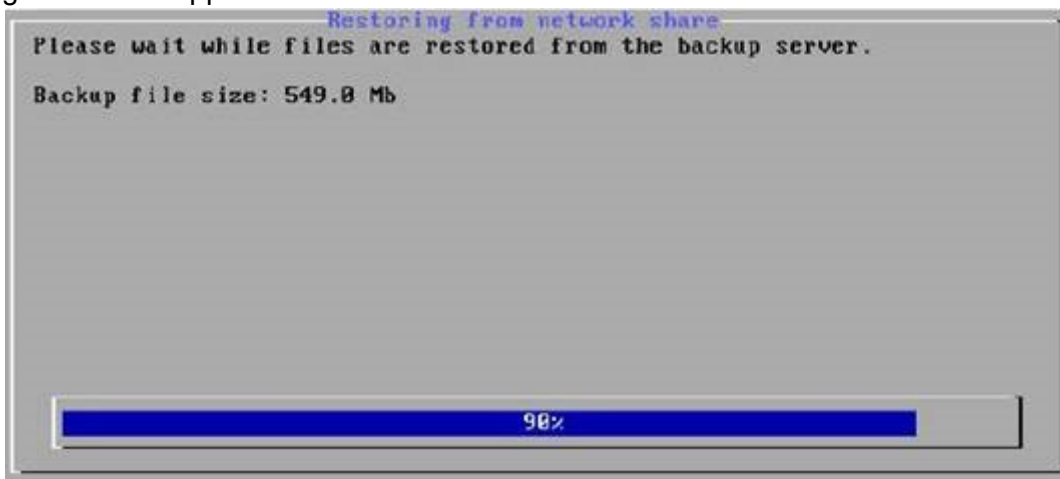


To restore from a running server

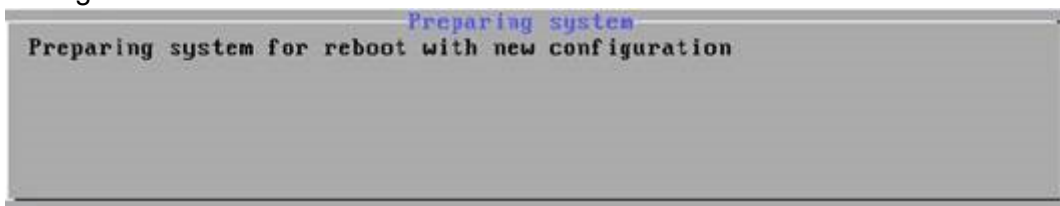
1. Deploy a new OVA. See [Installing the MiVoice Business Virtual Software](#).
2. At the Restore from a backup? prompt, select Yes.
3. When prompted, select Restore from another running server.
4. If your system has more than one network adapter, select the adapter to use for the restore procedure. (usually the LAN adapter.)
5. Enter the local IP address of the new server.
6. Enter the appropriate subnet mask for this server.
7. Enter the IP address of the existing server.
8. If the two servers are on different IP networks, the system prompt sfor the gateway IP address to use to access the existing server (This prompt does not appear if both servers are on the same, connected network).
9. When prompted, enter the admin password for the existing server.
10. The system does the following:
 - Configuration and application data is backed up from the existing server



- Configuration and application data is restored to the new server.



- The existing server is shut down.



11. On the new server, the restore is confirmed. Press Enter to reboot and activate your restored configuration settings.
12. If the two servers are on different networks, reconfigure the new server's network settings to reflect its network information, rather than the inherited data from the running server.

Backup and restore the MiVoice Business Virtual

MiVoice Business Virtual can be backed up as an OVA file and restored at a later stage.

This process might be useful for the following tasks:

- A dealer could use this process to deploy MiVoice Business Virtual, commission the data-base, export as an OVA file, and re-deploy at a customer site.
- The backup can be used for disaster discovery.
- Moving MiVoice Business Virtual to a different server.

To backup MiVoice Business Virtual into an OVA file

1. Launch the vSphere Web Client and login.
2. Right click on the MiVoice Business Virtual and select **Power** → **Shut Down Guest**.
3. Click on the MiVoice Business Virtual and select **File** → **Export** → **Export OVF Template....**
4. Choose a name and directory on the local PC where to store the OVA file.
5. Select **Optimized for Physical Media (OVA)**.
6. Select **OK** to proceed with the backup.

To restore MiVoice Business Virtual from an OVA file

1. Launch the vSphere Web Client and login.
2. Follow the steps in [Install the MiVoice Business Virtual Software](#).

NOTE: Step 3-5, 13 are only required if you intend to change IP configuration for MiVoice Business Virtual

3. Right-click on the newly created MiVoice Business Virtual and select **Open Console** to access the MSL Server console.
4. Login with the username admin and the administrator password.
5. From the menu presented select **Configure this server** to update the MSL IP address, Gateway IP, DNS Server, etc. Activating the new MSL IP configuration will cause the MSL server to reboot.
6. Open a browser window and enter the IP address of the MSL Server.
7. Login into the Server Manager with the username *admin* and the administrator password.
8. Click **MiVoice Business** located in the left-side panel under the Applications heading and update the System IP address for MiVoice Business if required.

Upgrading MiVoice Business to a Virtual Environment

The following information is pertinent for MiVoice Business systems that are currently deployed in a physical environment and will be migrated to a virtual environment. As an example these include the following types of installation:

- 3300 ICP (user controller or SIP gateway) running MCD 4.0 software or above
- MiVoice Business on ISS
- a single MiVoice Business instance on MiVoice Business Multi-instance

These are considered physical MiVoice Business deployments rather than virtual MiVoice Business deployments. A 3300 ICP with PSTN (analog or digital) gateway functions cannot be converted to a MiVoice Business Virtual deployment, as the PSTN connections require physical interfaces and connections. A virtual MiVoice Business installation cannot provide these physical links.

For existing deployed MiVoice Business systems, software license upgrades can be performed using one of the following methods:

1. A new Virtual MiVoice Business can be purchased and the user/options licenses transferred.
2. An upgrade part number can be applied to the existing MiVoice Business application record in the AMC.

Both approaches protect the customer's investment in existing user/options licenses as well as provide the ability to transfer the system data across to the Virtual MiVoice Business.

When purchasing a new Virtual MiVoice Business software package, Mitel offers the ability to transfer the software licenses from an existing MiVoice Business or MiVoice Business-ISS deployment to Virtual MiVoice Business. This must be done by the authorized PARTNER. However, note that MCD 4.0 or earlier systems cannot transfer user licenses and system options to a Virtual MCD 4.2. These customers must first buy Virtual MCD 4.0, transfer the user/options licenses across and then upgrade to Virtual MCD 4.2.

This approach is useful if the existing 3300 ICPs deployed in the customer's network are being re-deployed as service provider trunking gateways in the event that traditional TDM interconnect to the PSTN is required or as resilient failover controllers.

The second approach for deploying Virtual MiVoice Business is by applying the newly created upgrade part number (see section below on Product Part Numbers and Pricing) to a customer's existing MiVoice Business server Application Record in the AMC. This converts the licensing for the deployed system from a native server implementation to a virtual appliance implementation. The upgrade part number can be applied to existing MCD 4.2 Enterprise PBX, Enterprise ISS, and Enterprise Gateway systems. Customer-deployed MCD systems at Release 4.0 or earlier can also take advantage of this upgrade part number if they have IP networking enabled. Note that deployed MCD 4.2 Standalone PBX systems must first upgrade to Enterprise PBX.

The new upgrade part number can only be used when converting an existing MCD system to Virtual MCD 4.2. It cannot be applied for upgrades to Virtual MCD 4.0.

You can transfer the user configuration data from an existing MiVoice Business to the Virtual MiVoice Business through a backup/restore. In this case, any analog lines, digital trunking and EMEM (Embedded Mitel Express Manager) configuration must be removed prior to backing up the database.

Once the Virtual MiVoice Business appliance is installed, the MiVoice Business software within the virtual appliance can be upgraded by software download from the AMC using standard processes.

Troubleshooting

MiVoice Business for ISS Installation and Upgrade

Table 4.1: Installation and Upgrade Troubleshooting

Symptom	Possible Cause	Corrective Action
MiVoice Business for ISS licensing failed on Mitel Standard Linux platform.	Incorrect ARID provisioned for the server.	Clear the hardware ID associated with the ARID on the AMC.
		De-activate and re-activate your ServiceLink account in the Status section of the Server Manager.

MiVoice Business Virtual Installation and Upgrade

Table 4.2: Installation and Upgrade Troubleshooting (Sheet 1 of 2)

Symptom	Possible Cause	Corrective Action
MSL network interface fails to start while booting MSL.	Different MAC address for the network interface. Attempting to deploy an OVA file for a MiVoice Business Virtual Appliance that was already pre-configured with an IP address.	Follow Steps 3 to 5 in To restore MiVoice Business Virtual from an OVA file .
MSL network interface fails to start while booting MSL.	Wrong Ethernet adapter type being used following an import of a MiVoice Business OVA file.	Right click on the MiVoice Business Virtual Machine and select Edit Settings. In the Hardware tab, select Network adapter 1. If the Adapter Type is not set to VMXNET 3, the MSL network interface will not start. To mitigate the problem, shutdown the MiVoice Business Virtual Machine. Once the virtual machine is powered off, follow IMPORTANT NOTE in To restore MiVoice Business Virtual from an OVA file .

Table 4.2: Installation and Upgrade Troubleshooting (Continued) (Sheet 2 of 2)

Symptom	Possible Cause	Corrective Action
MSL network interface starts but cannot ping the MSL server IP.	Missing local network	Refer to the MSL Installation and Administration Guide.
MiVoice Business for ISS licensing failed.	Incorrect ARID provisioned for the server.	Clear the hardware ID associated with the ARID on the AMC.
		De-activate and re-activate your ServiceLink account in the Status section of the Server Manager.
A pop-up message indicating that the "Appropriate feature has not been purchased" appears after the database restore.	Completed the database restore without first performing a System Reset.	Ensure that a system Reset is performed during a database restore. See Restore the MiVoice Business for ISS Database .

