INTEGRATING WITH MICROSOFT LYNC AND EXCHANGE

SOLUTIONS GUIDE

DECEMBER 2014

Mitel®

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Integrations with Microsoft Lync and Exchange
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CHAPTER 1: INTRODUCTION

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Chapter 1

INTRODUCTION

Introduction

This guide describes the benefits of integrating Mitel Communications Director with Microsoft® Lync™ and Microsoft Exchange.

For the full list of products that are integrated with or compatible with Mitel products, refer to *Mitel Compatibility and Third-Party Certification Reference Guide for Mitel Products* - Knowledge Base Article 08-5159-00014.

Note: The replacement for this integration is MiVoice for Lync. For more information, refer to the MiVoice for Lync documentation on Mitel OnLine.

Terms and Acronyms

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

Table 1: Terms and acronyms

TERM	DEFINITION
CPU	Central Processing Unit
Exchange	Microsoft Exchange
ICP	Integrated Communications Platform
LBG	Mitel Live Business Gateway
Lync	Microsoft Lync
MCD	Mitel Communications Director, now called MiVoice Business
MiVoice Business	Previously called Mitel Communications Director (MCD)
NIC	Network Interface Card
RAM	Random Access Memory
VoIP	Voice over IP

Chapter 2

INTEGRATING WITH MICROSOFT LYNC

Live Business Gateway and Microsoft Lync integration

Mitel supports integration with Microsoft Lync through the Mitel Live Business Gateway (LBG). This chapter describes that integration.

Note: The replacement for this integration is MiVoice for Lync. For more information, refer to the MiVoice for Lync documentation on Mitel OnLine.

For more information, also refer to:

- *Mitel Live Business Gateway Overview* available on Mitel.com
- *Live Business Gateway Installation and Maintenance Guide*
- *Live Business Gateway Engineering Guidelines*
- *Configure the Mitel LBG 3.2.0.9 with Microsoft Lync 2010* - Knowledge Base Article 11-5159-00074 on Mitel OnLine
- *Configure MCD 4.2 for use with Microsoft Lync Server 2010* - Knowledge Base Article 11-4940-00161
- *Configure MCD 5.0 for use with Microsoft Lync Server 2010* - Knowledge Base Article 11-4940-00161_2

Microsoft Lync Overview

Microsoft Lync is a unified communications platform that is fully integrated with Microsoft Office®.

With Lync, users can keep track of their contacts' availability; send an IM; start or join an audio, video, or web conference; or make a phone call—all through one interface. The Microsoft Lync 2010 desktop client is available for Windows and for Mac and mobile versions are available for Windows Phone, iPhone, iPad, and Android devices.

Mitel allows integration of MiVoice Business with Lync through the Mitel Live Business Gateway.

Note: The recommended solution is MiVoice for Lync. For more information, refer to MiCollab Client (previously called UCA) documentation, available at Mitel OnLine.

Live Business Gateway Overview

LBG enables enterprises to implement IP-based solutions, including Microsoft Lync. Working with Microsoft Office Communications Server 2007 R2 or Microsoft Lync 2010 Server, a SIP-based presence and collaboration server, LBG delivers advanced applications for global communication and collaboration.

Mitel Live Business Gateway enables telephony features for Office Communications Server 2007 R2 or Lync by integrating the Office Communications Server 2007 R2 or Lync Server with Mitel applications to enable access to key business resources on demand, resulting in faster decision making and issue resolution.

Key features of Live Business Gateway

- Telephony Capabilities – Microsoft Office Communicator 2007 R2 or Lync users can initiate calls from their Mitel desk phone to any other internal or external number. Users are notified of incoming calls and can choose how to answer them.
- Presence and Availability – Users can see the status of co-workers, including telephony status. Leveraging presence and availability from the Communicator 2007 R2 or Lync interface, users can receive notifications when co-workers become available.
- Integration with Microsoft Outlook® and Office Suite – Missed calls are flagged in the user's inbox. They can see a co-worker's status within Outlook or Microsoft Office suite, and calls from these applications are a click away.
- VMware® qualified – LBG release 3.3 is qualified for use in a VMware environment. Businesses can enjoy all the benefits of a virtualized VMware environment.

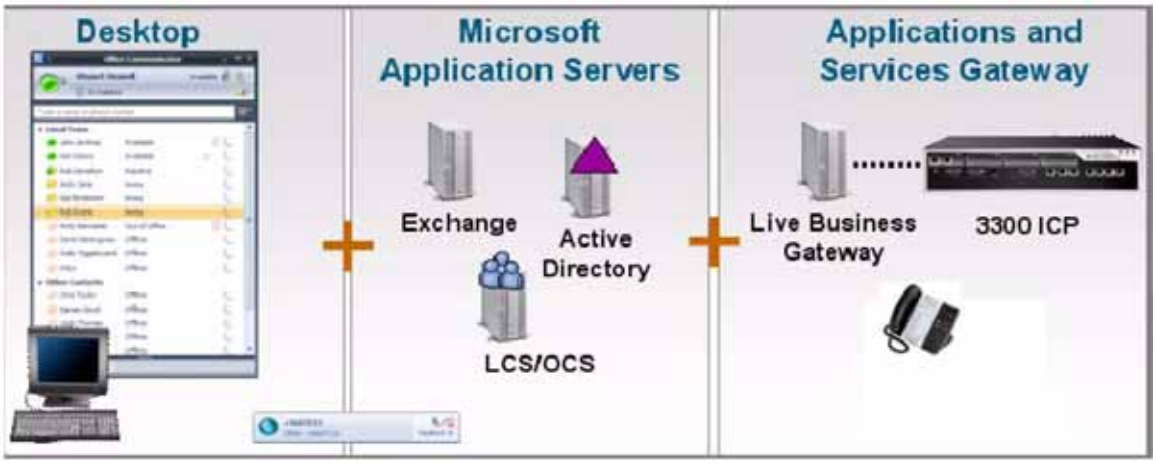

Figure 1: Live Business Gateway Integration

Table 2 contains the minimum system requirements for LBG deployments of 2500 users and 10,000 users.

Table 2: LBG Minimum system requirements

	FOR 2500 USERS	FOR 10,000 USERS
CPU	X86, 1 GHz processor	X86, 2 GHz processor
RAM	1 GB	2 GB
Hard Drive	40 GB	40 GB
Configuration	Single, dual, or quad core processor	Single, dual, or quad core processor
Network Interface Cards (NIC)	One or more NICs	One or more NICs

LBG supports the following Mitel phones (in MiNet mode only):

420 DNI Phone	4015 DNI Phone	4012 DNI Phone	4025 DNI Phone
4125 DNI Phone	4150 DNI Phone	5212 IP Phone	5215 IP Phone
5220 IP Phone	5224 IP Phone	5235 IP Phone	5240 IP Phone
5304 IP Phone	5312 IP Phone	5320 IP Phone 5320e IP Phone	5324 IP Phone
5330 IP Phone	5340 IP Phone 5240e IP Phone	5360 IP Phone	Navigator

MiVoice Business and LBG

Live Business Gateway can connect to up to 25 MiVoice Business controllers. Each MiVoice Business controller can connect to a maximum of five LBGs. One Microsoft Windows Server can connect to multiple LBGs (limits determined by Microsoft).

Integration Overview

When integrated with Mitel LBG, Microsoft Communicator 2007 R2 or Lync users can get a visual indication of the status of other users on the network, including the status of a Mitel IP Phone. If a colleague or team member is busy on a call, the contact can be “tagged” via the Communicator 2007 R2 or Lync desktop client so that when the user becomes free, a pop-up notification is provided to alert the user that this contact is now available.

The integrated solution from Mitel and Microsoft includes:

- Microsoft Office Communicator 2007 R2 or Microsoft Lync desktop client
- Microsoft Office Communications Server 2007 R2 or Microsoft Lync Server 2010
- Mitel Live Business Gateway Release 3.2 or higher
- Mitel 3300 ICP, MCD 4.0 SP4 or higher, MiVoice Business 7.0
- Microsoft Active Directory Server
- Mitel-supported phone (IP or DNIC)
- Layer 2 Ethernet switch

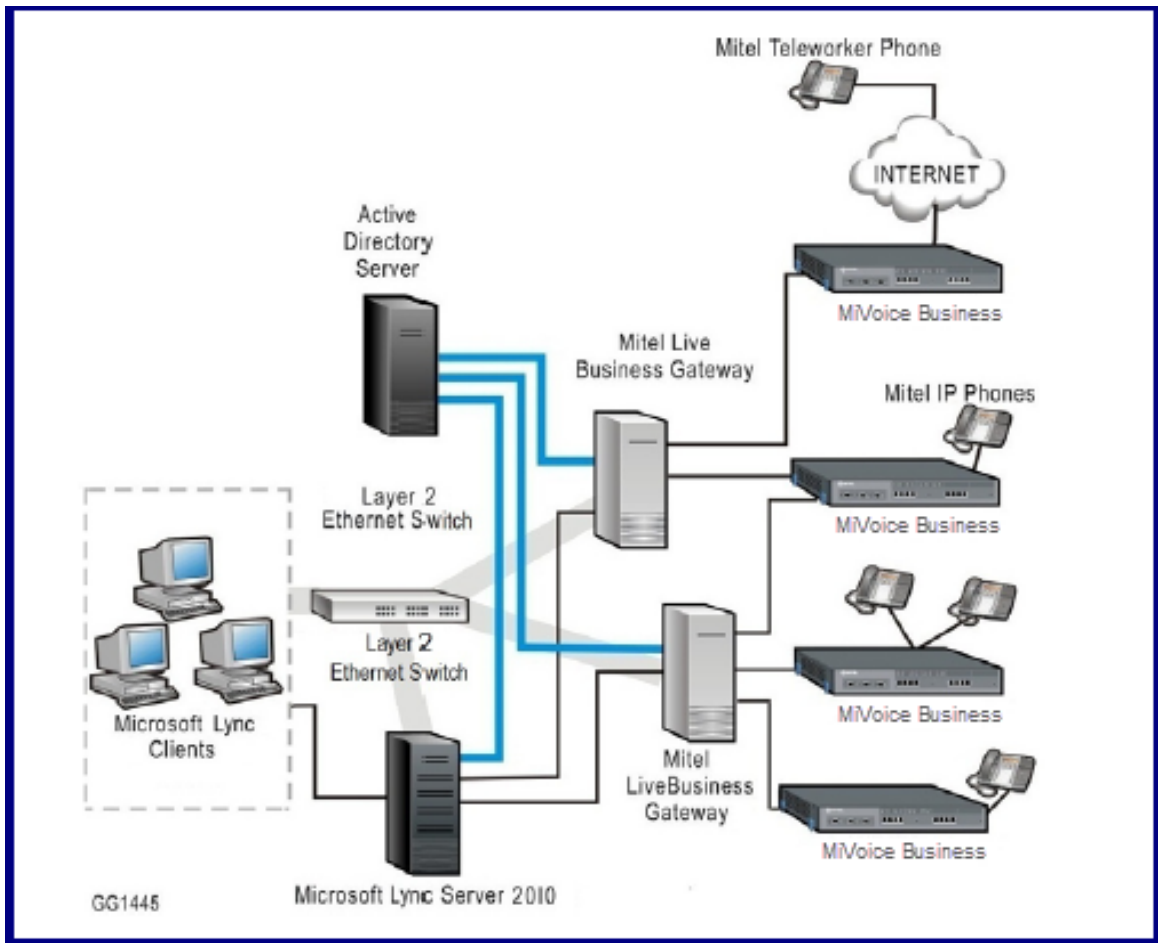

Figure 2: Typical LBG Deployment

Notes:

1. Live Business Gateway, Active Directory, and Lync Server 2010 must be co-located with MiVoice Business. Do not deploy NAT devices or internet-facing firewalls between these components.
2. The VPN connection between Live Business Gateway and MiVoice Business has not been tested and is not recommended.
3. Microsoft Lync 2010 Enterprise DNS load balancing is not supported. Load balancing can still be achieved by using a separate hardware load balancer.

The flow of information includes the following steps:

1. The Lync client sends messages to and registers with Lync Server 2010.
2. Lync Server 2010 sends requests to and receives events from Live Business Gateway on behalf of the Lync client. Live Business Gateway communicates with Lync Server 2010 using SIP/XML/CSTA messages.
3. Live Business Gateway sends requests to MiVoice Business using Mitel proprietary messages.

Note: Mitel phones communicate only with MiVoice Business controllers.

Note: Refer to the *Live Business Gateway Technical Engineering Guidelines* for deployment details.

Integration with Microsoft Outlook and the Microsoft Office System

Incoming calls to the Communicator 2007 R2 or Lync user that are not answered will be flagged as a missed call in the user's Microsoft Outlook inbox. In addition, a conversation folder in Outlook tracks all voice and IM conversations. A user's telephony presence can be seen from within Outlook or the Microsoft Office system.

Calls can be established directly from within these applications through the click of a mouse. Out-of-office messages and calendar information can be synchronized with Communicator 2007 R2 or Lync, enabling other users to get detailed information about a particular user's availability and whereabouts.

Flexible Deployment Options

Live Business Gateway is supported with either Microsoft Windows® Server® 2003 operating system or Microsoft Windows Server 2008 R2 operating system.

Live Business Gateway release 3.3 is supported on a wide range of commercially available servers or in a VMware environment, enabling voice and business applications to run together in fault tolerant, high availability environments. Mitel Live Business Gateway release 3.3 is able to take advantage of the improved performance, ease of use, and comprehensive management capabilities of data center virtualization. All licenses are controlled and managed by the Mitel Applications Management Center (AMC), simplifying installation procedures and providing a cost-effective method to add licenses.

Key Benefits

Live Business Gateway enables telephony capabilities for Office Communications Server 2007 R2 or Lync Server 2010. Live Business Gateway integrates the Office Communications Server 2007 R2 or Lync Server 2010 with MiVoice Business to provide access to key business resources in the moment they are needed, resulting in faster decision making and issue resolution.

- Integrates Mitel's trusted voice solution with Office Communications Server 2007 R2 or Lync Server 2010 and the Communicator 2007 R2 or Lync desktop clients.
- Make, receive, and manage (hold, transfer) calls directly from the Office Communicator 2007 R2 or Lync desktop clients or any Office system program (Microsoft Outlook, Microsoft Word, Microsoft Excel®, Microsoft SharePoint®, for example) from a Mitel desktop phone.
- Provides telephony status (voice presence) of enterprise users to Office Communications Server 2007 R2 or Lync Server 2010 and the Office system.
- Provides the user with a wide range of familiar Mitel IP Phones and wireless devices.
- Provides end-to-end voice network security for all calls between Mitel IP end points.

- Provides a telephony gateway to the PSTN for Communicator 2007 R2 or Lync-controlled calls.
- Integrates with legacy voice equipment including DPNSS and Q.SIG to utilize existing investments, avoiding costly replacement programs.
- The voice solution is not dependent on Office Communications Server 2007 R2 or Lync Server 2010, the Communicator 2007 R2 or Lync desktop client, or the PC. If the Lync or Communicator fail, users can still place and receive calls on their desktop phone (connected to MiVoice Business) as usual.
- Missed calls are flagged to the user's Outlook inbox.
- A conversation history is kept in the user's Outlook inbox.

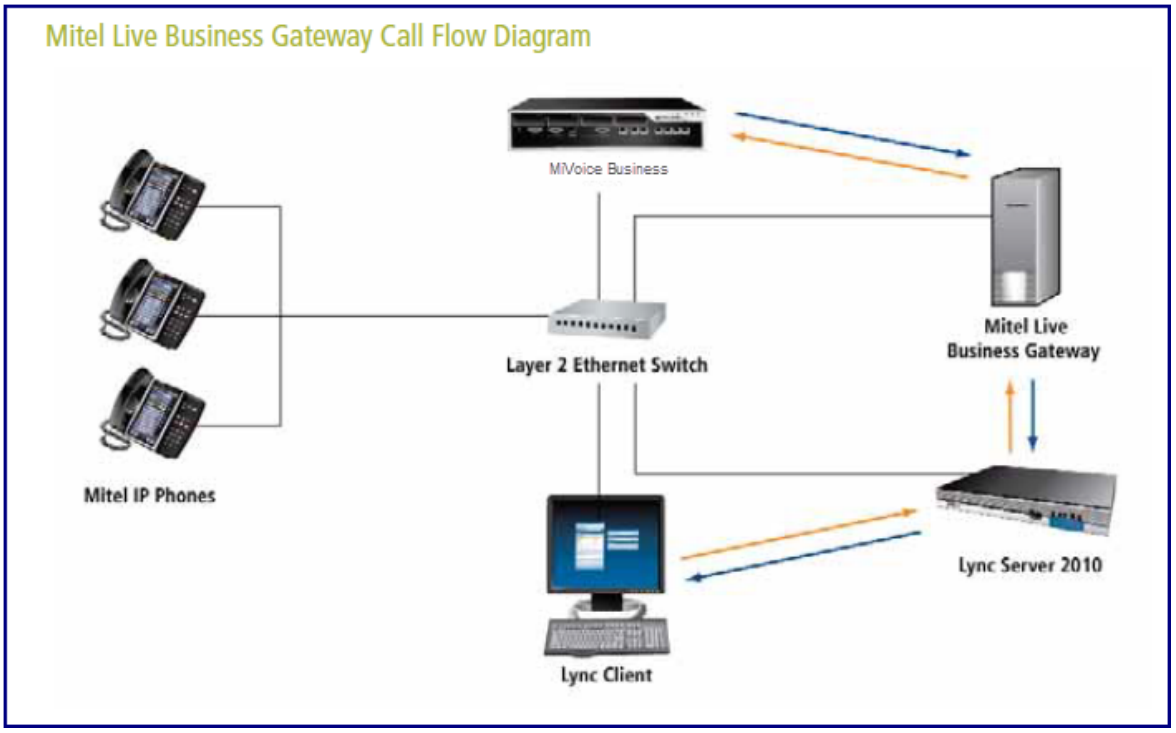

Figure 3: LBG Call Flow

Integration limitations

Although the MiVoice Business-Lync integration is successful for most of the MiVoice Business and Lync functionality, there are some limitations. For detailed information about limitations of the integration, refer to Knowledge Base Article 11-5159-00074 on Mitel OnLine.

Table 3 shows an overview of the features tested.

Table 3: MiVoice Business-Lync integration test overview

FEATURE	FEATURE DESCRIPTION	ISSUES
Basic call	Making and receiving calls, call holding, transferring, busy calls. Limitations: • Call ID in Lync client window is telephone number rather than extension number • Communicator window does not list entire phone number	
Hot Desking	Hot Desking allows a number of users to share one or more hot desk-enabled IP sets. To use a hot desk set, the user logs in using a hot desk DN and PIN. The Lync client is associated with the Hot Desking DN.	
Trunk calling	IP, PRI, and LS trunk calls	
Personal Ring Groups (PRG)	Receiving calls through to a personal ring group. Also, moving calls to and from the prime member and group members.	
Teleworker	Making and receiving calls to and from Teleworker extensions.	
Fault Tolerance	Tested five second outage, and prolonged outage: Communicator client recovers successfully and regains phone integration. Tested prolonged Lync server outage: Communi ct or client recovers successfully and regains phone integration.	

Legend:

No Issues found

Issues found

X

Issues found, cannot recommend for use

Direct SIP integration with Lync Server 2010

Microsoft-certified direct SIP connectivity between MiVoice Business and Microsoft Office Communications Server (OCS) 2007 R2 and Microsoft Lync 2010 Server allows end-users to establish calls from a Microsoft Office Communicator or Lync client, acting as a basic SIP soft phone, to or from a Mitel desk phone, the public switched telephone network (PSTN), or any other network-connected PBX. The term Direct SIP refers to calls from PC to PSTN, phone to PC, and PSTN to PC.

This solution is typically used by mobile employees who do not have a desk phone but instead want to use the embedded SIP softphone capability within the Communicator 2007 R2 or Lync client.

Users can dial through the **Find** field, through a contact list, or through the Microsoft Office suite of products as defined by the Microsoft server specifications. All telephony services for the Communicator softphone are provided by OCS 2007 R2 or Lync. There is no integration between the Communicator or Lync client and a Mitel desk phone; if this is required, then Mitel Live Business Gateway and remote call control should be used.

Mitel has successfully completed Microsoft certification testing for direct SIP connectivity between MiVoice Business and Office Communications Server 2007 R2 or Lync 2010 Server, and is now a certified PBX vendor for direct SIP connection. Direct SIP is supported with OCS R2 and Lync using MCD 4.2 SP1 and higher.

For more information about the Microsoft Unified Communications Open Interoperability Program for Lync Server, refer to http://technet.microsoft.com/en-us/lync/gg131938.aspx#tab=1.

Direct SIP provides Communicator or Lync users with access to the full range of features provided by Office Communications Server 2007 R2 or Lync 2010 Server (for example, audio and video conferencing, web collaboration, and simultaneous ringing).

Integration of Unified Communicator Advanced Federation with Lync Server 2010

In a large organization, there may be a mixture of MiCollab Client, (formerly Mitel Unified Communicator Advanced (UCA)), and Microsoft Lync, as different departments may have made different purchase decisions independently.

MiCollab Client Federation provides a communication path between a single MiCollab Client Service (formerly called MAS Server) and one or more Lync Servers to provide MiCollab Client users with presence and chat features to allow communication with Microsoft Lync server 2010 users.

The communication path between the MiCollab Client Service and the Lync Server 2010 uses the Extensible Messaging and Presence Protocol (XMPP).

Figure 4 shows a basic MiCollab Client Service to Lync Server 2010 federation configuration.

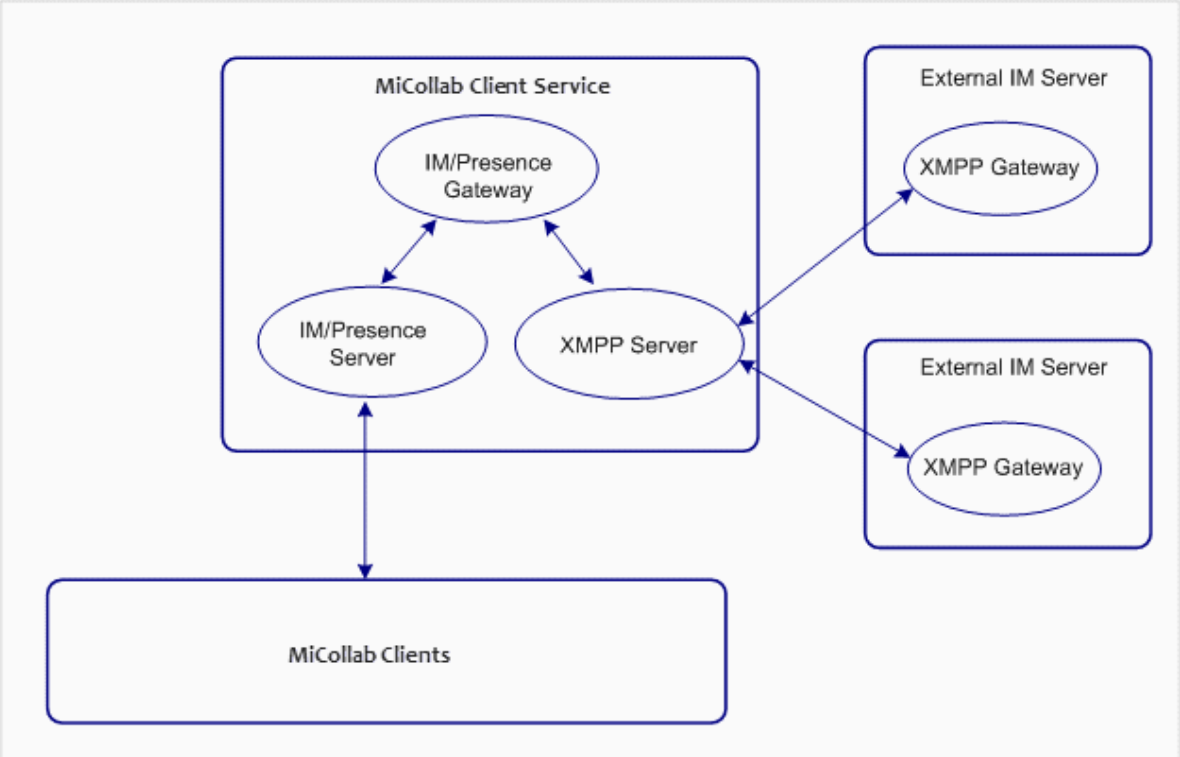

Figure 4: MiCollab Client Service Federated with Lync Server 2010

MiCollab Client Service federation capabilities are provided by the following services:

- **Subscription Federation** service: Creates subscriptions for local MiCollab Client users to the Lync Server 2010.
- **Presence Gateway** service: Sends presence information to and from the MiCollab Client Service and the Lync Server 2010. This service translates information from SIP to XMPP, and vice versa. The Presence Gateway service allows Desktop Client users to view and

refresh IM presence information for Lync Server 2010 contacts. MiCollab Client account presence (Dynamic Status) and telephony presence is not available through this service.

- **Instant Messaging (IM)** service: Allows Desktop Client users to chat (point-to-point) with Lync Server 2010 contacts using the Desktop Client Chat window. Federated chat sessions are page-mode conversations, similar to conversations using a two-way pager device or Short Message Service (SMS), where a small number of independent messages are exchanged between two participants and are perceived as part of the same conversation. Page mode does not support multi-party chat or file transfer.

There are two different methods you can use to configure Federation using the MiCollab Client Service Administrator interface:

- Perform an AD/LDAP synchronization with the Lync Server 2010 from the peer server. After synchronization, the Lync Server 2010 contacts are imported to the MiCollab Client Service database and federation is automatically enabled. When you configure federation this way, federated Lync Server 2010 contacts are displayed in a separate list in the user's corporate directory from the Desktop Client's Contacts View.
- Enable Federation and configure the Lync Server 2010 domain from the Federation Tab. When you configure federation this way, instruct users to manually add the Lync Server 2010 contacts. Users should create a new personal contact, and then add the IM login information for the contact using the MiCollab Client Login option.

Refer to the MiCollab Client Administrator Portal Help for information and instructions for configuring federation for MiCollab Client Service.

Please note the following rules when deploying MiCollab Client Service Federation:

- The site must purchase the Federation license for MiCollab Client Service.
- The external IM server must be installed and the IM server’s XMPP gateway must be deployed before you can configure federation for MiCollab Client Service. Refer to the Lync IM server documentation for information about configuring federation for the IM server.
- When configuring federation for MiCollab Client Services managing multiple Enterprises, each enterprise should use a sub-domain with the same XMPP server domain. All sub-domains must be resolvable by the IM server. For example, if the XMPP server is configured as mitel.com, and two Enterprises (Phoenix and Las Vegas) exist on the MiCollab Client Service, the XMPP sub-domains should be Phoenix.mitel.com and LasVegas.mitel.com. Mitel strongly suggests that you use the same value for the XMPP sub-domain as you use for the Enterprise domain field (Enterprise tab) for each Enterprise.
- Presence for federated contacts is limited to IM presence only. MiCollab Client account and telephony status is not provided.
- Chat for federated contacts is limited to point-to-point only. Multi-party chat and file transfer is not available.

Chapter 3

INTEGRATING WITH MICROSOFT EXCHANGE

Microsoft Exchange integration

Mitel supports integration of MiVoice Business with Microsoft Exchange 2010. This chapter describes that integration.

For more information, also refer to:

- *Configure MCD 4.0 UR3 for use with Microsoft Exchange 2010* - Knowledge Base Article 10-4940-00117_2
- *Configure MCD 4.1 for use with Microsoft Exchange 2010* - Knowledge Base Article 10-4940-00118_2

When you enable users for Microsoft Exchange Server 2010 Unified Messaging (UM), users can receive e-mail, voice mail, and fax messages in their individual Exchange inbox. Microsoft Outlook 2010 features for Exchange 2010 Unified Messaging allow a UM-enabled user who is using Outlook 2010 to:

- See the transcription for voice messages.
- Play a voice message from Windows Media Player, which is integrated into an Outlook mail form, or from a message list.
- Play a voice message on a telephone.
- Configure individual voice mail settings.
- Reply to a voice message with e-mail when the sender’s contact information is known.
- Add received phone numbers to Contacts using the shortcut menu.

Outlook 2010 and Microsoft Office Outlook Web App in Exchange 2010 offer Exchange 2010 UM-enabled users a full set of voice mail features. These features include many voice mail configuration options, Voice Mail Preview, and the ability to play a voice message from either the Reading Pane using an integrated Windows Media Player, or from the message list.

- The Outlook 2010 features for Exchange Unified Messaging are installed with Outlook 2010. After Outlook 2010 is installed and a user is enabled for Unified Messaging, a Voice Mail tab with voice mail configuration settings is available to the user from the Options menu and they can receive their voice mail in their mailbox.
- When the UM-enabled user receives a voice message, the voice message is sent to the Voice Mail search folder in their Outlook 2010 Search Folders.

Microsoft Exchange Overview

Microsoft Exchange provides businesses with e-mail, calendar, and contacts on the PC, phone and Web, so employees can stay connected and in sync. Exchange features include:

- Multi-layered anti-spam filtering
- Ability to receive MP3s and text previews of voice mail messages in user inbox
- A variety of storage options for configuring user mailboxes
- Support for various Web browsers and devices, including smart phones

- Built-in e-mail archiving
- Available as a server managed on-site or hosted by Microsoft

Integration Overview

By integrating Mitel Communications Director with Microsoft Exchange, employees can retrieve their voice mails from Microsoft Outlook, or Outlook Web Access. This enables access to voice mail from any device with a browser.

In addition to the basic functionality, the Mitel 3300 ICP supports a number of additional capabilities to support enhanced connectivity to Exchange Unified Messaging (UM) Server:

- Multiple interfaces to Exchange UM Servers. The 3300 ICP Automatic Route Selection (ARS) can be used to setup multiple routes facilitating failure scenarios. The pilot number for trunk group can be configured as a Route List with up to six individual routes providing alternate paths for connectivity. The paths in the overall solution can be SIP Trunks connected to different 3300 ICP controllers. Also see “Resiliency configuration” on page 21.

The integrated solution from Mitel and Microsoft includes:

- MCD Release 4.1 (Integrations with MCD 4.2, 5.0, and 6.0 have not yet been tested.)
- Mitel Border Gateway 5.2.9 (minimum) (Mitel Border Gateway is now called MiVoice Border Gateway)
- Microsoft Exchange 2010 Unified Messaging

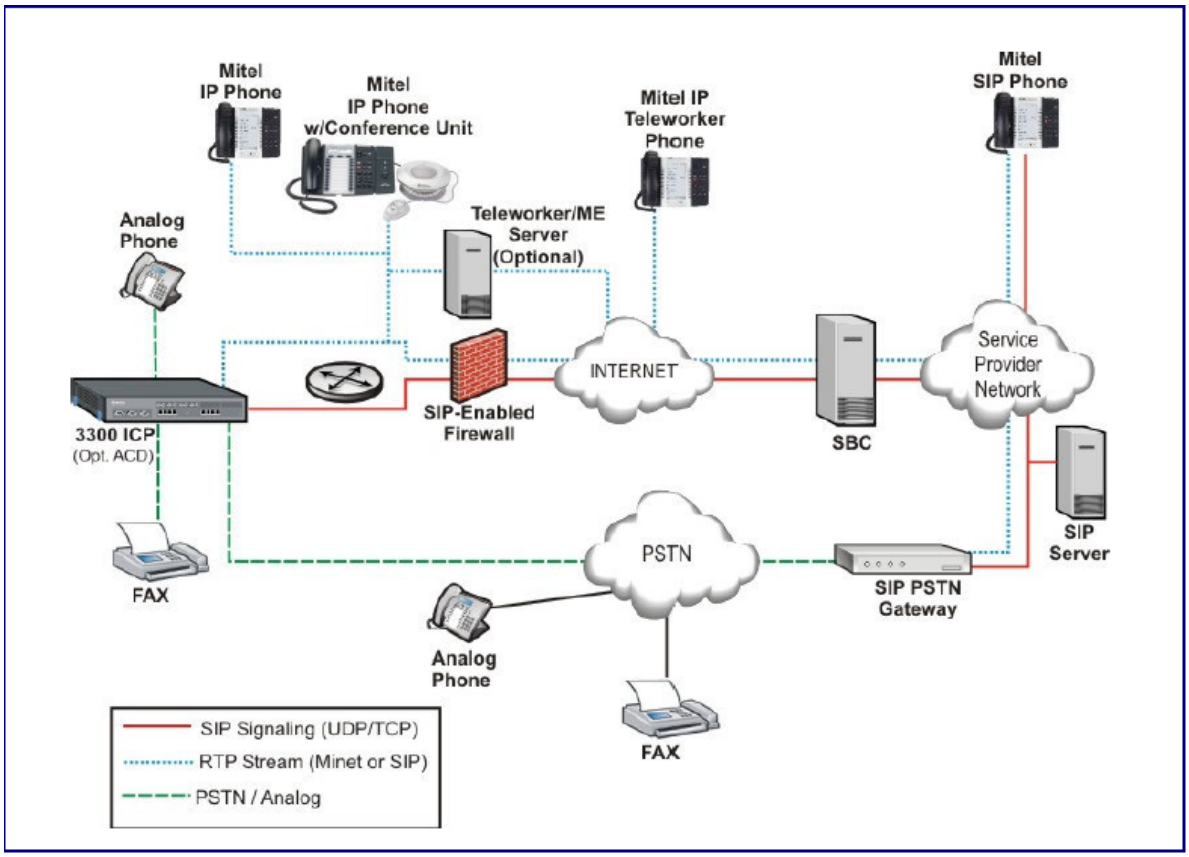

Figure 5: Network topology

For more information, also refer to *Configure MCD 4.1 for use with Microsoft Exchange 2010* - Knowledge Base Article 10-4940-00118 on Mitel OnLine.

Resiliency configuration

The 3300 ICP (acting as a PBX or a gateway) can be configured to support multiple MiCollab Client Servers in the failover scenario. Alternate route selection happens automatically when a loss of connectivity to the Exchange 2010 UM Server is detected.

You can also configure multiple 3300 ICPs to support single or multiple UM Servers. In normal operation, the traffic load will be shared among the 3300 ICPs. If one 3300 ICP fails, traffic can be automatically rerouted through the other 3300 ICPs.

Integration limitations

Although the MiVoice Business-Exchange integration is successful for most of the basic functionality, there are some limitations. For detailed information about limitations of the integration, refer to Knowledge Base Article 10-4940-00117 on Mitel OnLine.

- Table 4 shows an overview of the features tested.
- Table 5 shows a list of the device limitations and known issues.

Table 4: MiVoice Business-Exchange integration test overview

FEATURE	FEATURE DESCRIPTION	ISSUES
Mailbox Access	Accessing mailbox using voice and telephony interfaces	
Voice mail	Ability to forward to voice mail when busy, DND, No answer	
Auto Attendant	Ability to use the Auto Attendant to transfer calls	
Outlook Web Access	Support for the OWA Play-On-Phone feature, Voice mail Preview, Call answering rules **Note:** Play-on-Phone works only if PRACK is disabled. If you enable PRACK, it will prevent Play-on-Phone from working.	
Message Waiting Indicator (MWI)	MWI on IP, analog, SIP, Teleworker phones activates when message is waiting. Also tested Personal Ring Groups with MWI.	
Failover	Using multiple Microsoft Exchange 2010 Servers to ensure resiliency.	Not tested
Fax	Able to leave a T.38 fax in mail box (Microsoft Exchange 2010 does not include this feature.)	Not available
TLS	Using TLS protocol between Microsoft Exchange and Mitel 3300	Not supported

Legend:

No Issues found

Issues found

X

Issues found, cannot recommend for use

Table 5: Device limitations and known issues

FEATURE	PROBLEM DESCRIPTION
Transferring to SIP extensions	When Exchange 2010 does a transfer to a SIP extension, the caller display on the SIP extension shows the incoming caller as “Anonymous”.
Test-UMConnectivity diagnostic	“404 -Not Found” error is returned by the 3300 ICP when running the following cmdlet in Exchange Management Shell: Test-UMConnectivity - UMIPGateway:<gateway> -Phone:<phone> |fl This is caused by Exchange sends the Mitel IP address in the **From** field rather than sending the Exchange IP address. Work-around: Add wild cards in the SIP Peer Profile Assignment by Incoming DID form.
TLS	Mitel 3300 ICP does not support the TLS protocol for use in communications.

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