Microsoft®

Module 5: Deploying Microsoft Office Communicator 2005

Contents

Overview

- Introducing Office Communicator 2005
- Describing Usage Scenarios for Office Communicator 2005
- Integrating with Office 2003
- Integrating with Telephony Technology
- Automating Client Discovery
- Configuring Group Policies for Office Communicator 2005
- Customizing Office Communicator 2005
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Introduction

The advanced communication facilities in Microsoft® Live Communications Server 2005 with SP1 (LCS 2005 with SP1) require suitable client software to enable users to co-operate effectively. Microsoft Office Communicator 2005 is the dedicated client for LCS 2005 with SP1, and this software provides full support for all the facilities in LCS. This module looks at Microsoft Office Communicator in detail, showing how this software integrates with LCS 2005 with SP1.

Objectives

After completing this module, you will be able to:

- Describe the facilities in Microsoft Office Communicator 2005.
- Describe the ways in which Office Communicator 2005 can be used.
- Explain how Office Communicator 2005 integrates with Microsoft Office 2003.
- Explain how Office Communicator 2005 integrates with telephony systems and applications.
- Automate the process of client discovery.
- Configure group policy for Office Communicator 2005.
- Customize Office Communicator 2005 settings.
- Configure Communicator Web Access.

Lesson: Introducing Office Communicator 2005

- Office Communicator Overview
- Office Communicator Web Access Overview
- Comparing Communicator Web Access with Communicator 2005
- Office Communicator Mobile Overview
- Office Communicator Client Deployment Methods

Introduction

This lesson introduces you to Microsoft Office Communicator 2005, a secure enterprise-level messaging client that integrates instant messaging with telephony to create a complete one-stop solution to enterprise messaging.

Office Communicator is the next-generation, personal computer-based, real-time collaboration tool for the information worker. Office Communicator allows you to simultaneously experience multiple modes of communication including instant messaging, video conferencing, telephony, application sharing, and file transfer.

In this lesson, you will also learn about the Office Communicator Web Access client and compare it with Office Communicator 2005. Finally, you will learn about the Office Communicator Mobile client and the different methods for deploying Office Communicator 2005.

Lesson objectives

After completing this lesson, you will be able to:

- Describe the Office Communicator 2005 client.
- Describe the Office Communicator Web Access component.
- Compare the features of the Office Communicator 2005 and Office Communicator Web Access clients.
- Describe the Office Communicator Mobile client.
- Explain the different methods for deploying the Office Communicator 2005 client.

Office Communicator Overview
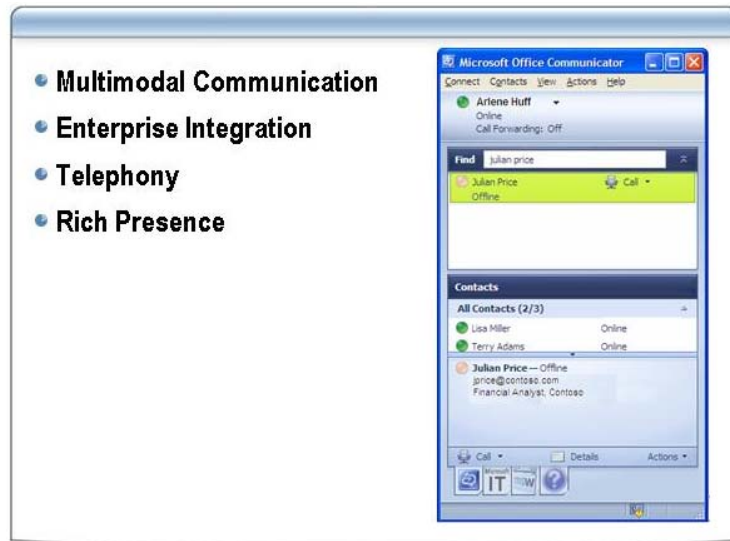
Introduction	Microsoft Office Communicator 2005 is an integrated communications client that enables information workers to collaborate in real time. Office Communicator 2005 is the recommended client for LCS 2005 with SP1, and it provides a wide range of presence-integrated communications modalities, including instant messaging (IM), PC-to-PC voice and video, application sharing, and integration with Microsoft Office Live Meeting. Office Communicator 2005 also integrates with enterprise or public telephony infrastructures to provide features such as control of enterprise telephone systems and integration with audio conferencing call providers.
	Communicator's IM, presence, and peer-to-peer audio and video conferencing capabilities are provided to organizations who already have LCS 2005 with SP1 Client Access Licenses (CALs) at no additional cost. However, for an organization to use the telephony functionality, such as private branch exchange (PBX) integration for remote call control and PSTN audio conferencing,, an appropriate number of LCS 2005 with SP1 Telephony CALs must be purchased. For more information about purchasing Telephony CALs, see How to Buy, at: http://www.microsoft.com/office/livecomm/howtobuy/default.mspx.

Note   Telephony integration requires connection to other systems, such as internal PBXs and external conferencing services, which may require deployment of additional components from third parties.

Office Communicator Features	Office Communicator 2005 can be described as a presence-enabled, unified communications client. In simple terms, you can use a single client to integrate different modes of communication like voice, text, and video while using its capability to constantly update client status. Office Communicator offers the following features and benefits:

- Multimodal communication

  - Instant messages to one or more contacts

  - Application sharing with one or more contacts

- Whiteboard sessions

- File and photo transfer

- Audio communication with one or more contacts using your computer and telephone

- Video communication with one or more contacts using your computer

■ Enterprise Integration

- Integration among three different sources to generate a more complete address book

- Contact search across different address books

- Integration with Office applications

- Remote Assistance

■ Telephony

- Telephone calls using your computer (PC-to-Phone)

- PBX telephone system integration (requires third-party infrastructure)

- Conferences using the PSTN network (requires third-party infrastructure)

■ Rich Presence

Office Communicator Dependencies

Office Communicator 2005 has the following deployment dependencies:

■ Server infrastructure running LCS 2005 with SP1 with its related dependencies

■ Server infrastructure running Microsoft Exchange 2003 (for advanced contact searching and notification in Microsoft Outlook®)

■ A supported client operating system:

- Microsoft Windows® 2000 SP4

- Microsoft Windows XP (SP1 or later) Tablet PC Edition 2005

- Microsoft Windows XP (SP1 or later) Professional and Home Editions

- Microsoft Windows Server® 2003

■ Microsoft Outlook 2003 (for advanced contact searching and e-mail notification features)

■ Windows Messenger 5.1

Office Communicator Web Access Overview
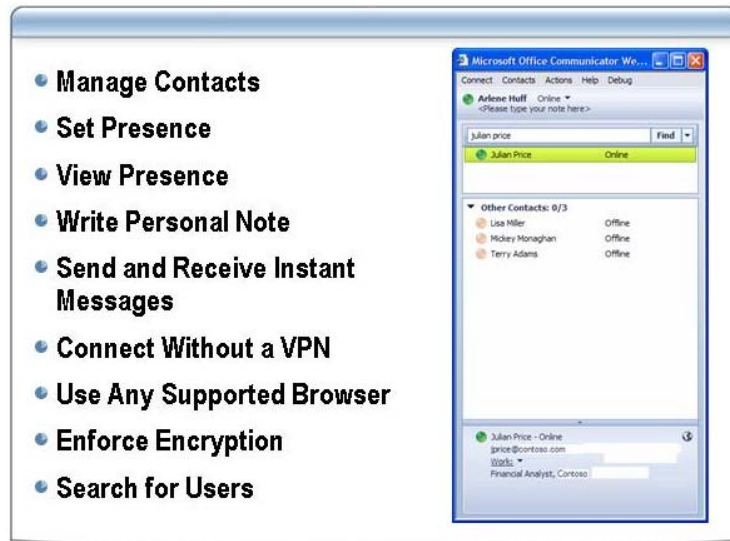
Introduction	Office Communicator Web Access is a Web-based client for LCS 2005 with SP1. With Office Communicator Web Access, you can use any supported browser to send and receive instant messages and view presence information to see whether people whom you want to contact are online and available for instant messaging.
Features	Using Office Communicator Web Access is as easy as typing a URL in a supported browser. There is no need to install additional software on your computer, which makes Office Communicator Web Access particularly useful if you have access to the Internet from home, the road, a public Web kiosk, or a computer running a third-party operating system.

With Office Communicator Web Access, you can:

■ **Manage contacts**. You can select people from your organization that you correspond with frequently and add them to your contacts list. If you already use Office Communicator 2005 on your desktop computer, your existing contacts list will also appear in Office Communicator Web Access. You can add and remove contacts, and set permissions to control who can see your presence information or send you instant messages. You can also organize your contacts into groups so they are easier to find.

■ **Set your presence**. You can control how other people see your presence information, which indicates whether you are available for instant messaging. For example, you can appear to others as Online, Away, or Offline, or you can set your status to Busy, Do Not Disturb, or Be Right Back.

■ **View presence for others**. You can view presence information for your contacts or for anyone else in your organization. The Office Communicator Web Access window displays information that your organization publishes about a person, such as an e-mail address. If they use the calendar in the Microsoft Office Outlook messaging and collaboration client, Office Communicator Web Access can also display information gathered from their Outlook calendar showing when they are free or busy.

■ **Write a personal note**. You can add a personal note that other people can view along with your presence information. For example, if you are on the road, you can add a note that indicates when you will be online and available for instant messaging.

■ **Send and receive instant messages**. You can participate in IM conversations with people in your organization. If there are other organizations with which your organization has established a federation partnership, you can also search for people in those organizations by the sign-in name that they use for instant messaging, and you can participate in IM conversations with them.

■ **Connect without a VPN**. Office Communicator Web Access enables users to access the instant messaging and presence features in LCS through a Web browser, without requiring client-side software or a Virtual Private Network (VPN) connection. Users, who may be connecting to Office Communicator Web Access either within the corporate network or through the Internet, simply enter a Uniform Resource Identifier (URI), for example, imserver.contoso.com, in a supported Web browser.

■ **Use a variety of browsers and operating systems**. Users with Windows-based and non-Windows-based browsers and operating systems can use Office Communicator Web Access, and it does not require the installation of any ActiveX controls.

■ **Use digital certificate security (MTLS/SSL)**. HTTP traffic and traffic between the Office Communicator Web Access server and LCS servers can be secured with SSL.

■ **Search for other users**. The Office Communicator Web Access server connects to the Active Directory® directory service. By using the Find feature of Office Communicator Web Access, users can search for other users who are enabled for Session Initiation Protocol (SIP) communications. The Find feature queries the user's local contacts and Active Directory. Unlike Office Communicator 2005, however, Office Communicator Web Access does not query the LCS Address Book.

Server Requirements

Office Communicator Web Access has the following system requirements for the server:

■ Microsoft Windows Server 2003 SP1, Standard or Enterprise Editions

■ Membership of the same Active Directory forest and domain as the LCS 2005 with SP1 server

■ DNS service

■ Microsoft .NET Framework version 2.0

■ Internet Information Services (IIS) 6.0

■ Windows Installer 3.0

■ Trusted root certification authority (CA) certificate in local trusted root authorities store

Comparing Communicator Web Access with Communicator 2005
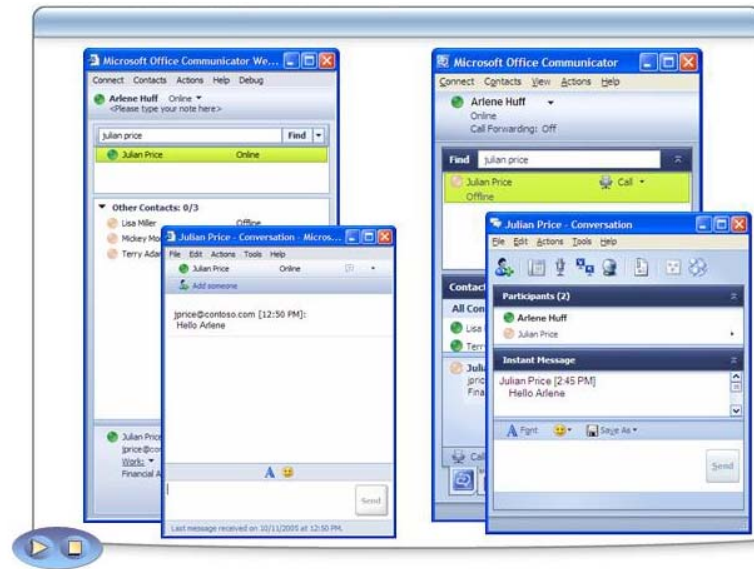
Introduction

Office Communicator Web Access is a client for LCS 2005 with SP1. Office Communicator Web Access provides access to LCS instant messaging and presence features through a Web browser, and beyond the supported Web browser, no additional installation is required on the client.

Office Communicator 2005, another client for LCS 2005 with SP1, is a client-side application that provides access to LCS collaboration features, including instant messaging, video conferencing, telephony, application sharing, and file transfer.

Look and Feel

The main page in both clients is very similar, with the user's status at the top, a search frame, and a contact list. Additional contact information is available in the pane at the bottom of the page. The Communicator Web Access and Communicator main pages are shown on the slide.
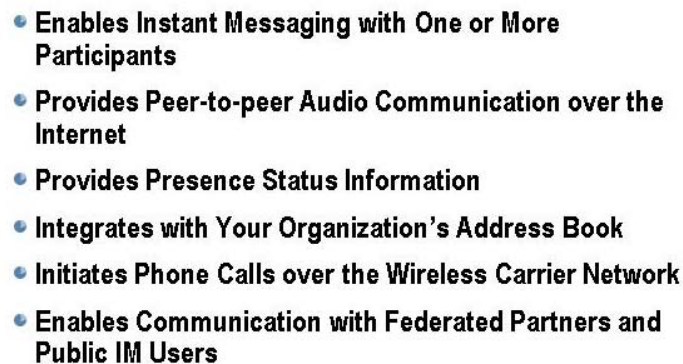
There are also similarities in the Conversation windows of the two clients. The Communicator Web Access and Communicator 2005 conversation windows are also shown on the slide.

Feature Comparison   Although Office Communicator Web Access shares some of the essential features of Office Communicator 2005, there are some fundamental differences between the two. The following table compares the features available in each client.

Feature	Office Communicator 2005	Communicator Web Access
Instant Messaging with one or more contacts	✓	✓
Application sharing	✓	
Whiteboard sessions	✓	
File or photo transfer	✓	
Audio communication	✓	
Video communication	✓	
Communication with MSN®, AOL and Yahoo! users, if supported by your organization's Live Communications Server deployment (separate license required)	✓	✓
Communication with organizations that are federated through Live Communications Server	✓	✓
Free and busy calendar information in status	✓	✓
Incoming IM pop-up notification	✓	✓
Personal notes	✓	✓
Automatic "Away" status after a period of inactivity	✓	✓
Access for users outside of the corporate network without connecting through a VPN	✓	✓
Zero client installation		✓
Support for other operations systems and browsers		✓

Office Communicator Mobile Overview

- **Enables Instant Messaging with One or More Participants**
- **Provides Peer-to-peer Audio Communication over the Internet**
- **Provides Presence Status Information**
- **Integrates with Your Organization's Address Book**
- **Initiates Phone Calls over the Wireless Carrier Network**
- **Enables Communication with Federated Partners and Public IM Users**

Introduction

Office Communicator Mobile is an enterprise messaging client for mobile devices that integrates IM, presence, and telephony. It offers a familiar experience for existing users of Office Communicator 2005 that can be accessed anywhere that information workers can connect their mobile devices to their wireless service provider or network service provider.

Communicator Mobile Features

Communicator Mobile provides information workers who are away from their computers with presence and communication features similar to those in Office Communicator 2005, such as:

- Instant messaging with one or more participants.
- Audio communication peer-to-peer with another person over the Internet.
- Rich presence status information.
- Integration with your organization's address book, including the ability to initiate phone calls that are placed using the wireless carrier telephone network.
- Communication with federated partners and users of public IM service providers such as MSN, Yahoo!, and AOL. Separate licenses are required for public IM connectivity.

Use in Combination with Office Communicator 2005

It is recommended that you also deploy Office Communicator 2005 on your client desktop computers to perform certain functions that Office Communicator Mobile does not support. Office Communicator 2005 is required on an Office Communicator Mobile user's desktop computer for the user to perform the following functions:

- Manage groups in the Contacts list
- Include Outlook calendar information as part of his or her presence status
- View a full list of the users and domains for which he or she has allowed or blocked presence information and IM conversations
- Enable location-based call forwarding

Managing Contacts

By using Office Communicator Mobile, you will have access to information about the people in your organization through Active Directory (by way of LCS) and contacts that you have stored in the Microsoft Office Outlook messaging and collaboration client. You can use Office Communicator Mobile to search these locations and add the people that you find to your contacts list. The contacts list displays the people whose presence status you are monitoring and with whom you frequently communicate.

Your Office Communicator 2005 contacts list and your Office Communicator Mobile contacts list are, in fact, the same list. When you make a change to the contacts list in one program, the contacts list is changed in both programs.

Viewing and Changing Presence Information

Office Communicator Mobile supplements information about presence status by deriving information from the Outlook calendar. By getting information from the server, Office Communicator Mobile can indicate when you are in a meeting, when you are out of the office, and when you will be free. It can show the same information for your contacts that use Office Communicator Mobile or Office Communicator 2005. In addition, you and your contacts can manually change your presence status or create personal status notes that provide more information about your whereabouts.

Viewing Contact Information

You can use Communicator Mobile to view a contact's presence status, calendar information, any personal note that the person has posted, and available modes of communication with the contact.

Changing Your Presence Status

Communicator Mobile can automatically set your presence status by detecting your current activity on the mobile device or by gathering information from your Outlook calendar if you are also signed in to Communicator 2005 on your desktop. For example, if you are in a phone call, Communicator Mobile will automatically set your presence status to In a Call. If you have a meeting scheduled on your calendar, Communicator Mobile will automatically set your presence status to In a Meeting. If the backlight on your mobile device goes off, Communicator Mobile will automatically set your presence status to Away. You can also manually set your presence status.

Preventing Communication from Others

When you add someone to your contacts list, that person is automatically granted permission to view your presence status, see your contact information, and invite you to conversations. Whether or not a person is on your contacts list, you can block that person from doing these things. When you block someone, that person sees your presence status as Offline, and you cannot initiate a conversation with that person.

Note   To view or modify the list of users you have allowed to contact you, or have blocked from contacting you, you must use Office Communicator 2005 on your desktop.

Controlling Voice Communications

You can use Office Communicator Mobile from your mobile phone to place a call to a contact's phone number. If you use Office Communicator Mobile on a Pocket PC that is running Windows Mobile 5.0, you can also place a voice call over your computer network or the Internet, in addition to using your mobile phone service provider. Computer voice conversations are handled within the context of an Office Communicator Mobile conversation window.

Office Communicator Requirements

Client Requirements
- Office Communicator Mobile software
- Mobile Operating System on Pocket PC or Smartphone
  - Microsoft Windows Mobile 2003 Second Edition software
  - Windows Mobile 5.0

Server Requirements
- Microsoft Windows Server™ 2003 operating system, Standard or Enterprise Editions with:
  - Microsoft .NET Framework version 1.1 or later
  - Internet Information Services (IIS) 6.0
  - Microsoft Active Directory® directory services
- Live Communications Server 2005 with SP1

Introduction

Office Communicator Mobile consists of two components, the server and the client. The main server component is LCS 2005 with SP1.

Client Requirements

The client component is the Office Communicator Mobile software. Office Communicator Mobile runs on the following operating systems in either PocketPC or smartphone form factors:

- Microsoft Windows Mobile 2003 Second Edition

- Windows Mobile 5.0

Office Communicator Mobile is available for download from the Microsoft.com Web site, at http://www.microsoft.com/downloads/ details.aspx?familyid=BC89EC5E-5F3B-47D2-955B-B0C1DEAC94D8&displaylang=en.

Server Requirements

Office Communicator Mobile requires a connection to LCS 2005 with SP1. Depending on the type of phone communications you want, you may need additional hardware, or you may have to configure additional settings.

The primary server requirements are:

- Microsoft Windows Server 2003 operating system, Standard or Enterprise Editions, and, as related dependencies:

  - Microsoft .NET Framework version 1.1 or later

  - Internet Information Services (IIS) 6.0

  - Microsoft Active Directory directory services

- Live Communications Server 2005 with SP1

Note   If you plan to only support users that connect over an internal Wi-Fi network or by using Microsoft ActiveSync® technology, you must deploy LCS 2005 with SP1. If you plan to also support users that connect to the server over an external Wi-Fi network or over mobile wireless connections, you must also deploy a LCS 2005 with SP1 Access Proxy.

Simple and Integrated Deployment

Office Communicator Mobile is easily integrated into your existing LCS 2005 with SP1 deployment.

- After deployment to their Windows Mobile powered device, users sign in to Live Communications Server 2005 using the same credentials they use on their desktop.

- If your Live Communications Server 2005 infrastructure is already published on the Internet, no further infrastructure configuration is required to use Communicator Mobile.

- Using the Live Communications Server 2005 Multiple Points of Presence feature, users can remain signed in to both the desktop version of Communicator as well as Communicator Mobile simultaneously—messages will be routed to both clients at the same time.

Note   Office Communicator Mobile is provided at no extra cost to customers who have purchased LCS 2005 with SP1, together with a suitable number of Client Access Licenses (CALs).

Communicator Client Deployment Methods

Introduction

There are a number of ways to distribute the Office Communicator 2005 client so that your users will experience a seamless transition when the servers running LCS 2005 with SP1 are deployed.

Some of the client distribution methods include:

- **Software Distribution Point**. You can use a file server on your network as a software distribution point for the Office Communicator 2005 client. At rollout time, you can send an e-mail to users explaining the pending upgrade, and provide a link to the distribution point.

- **Microsoft IntelliMirror**®. You can use the IntelliMirror management technologies with Windows Installer to deploy Office Communicator 2005.

- **Logon Script**. You can use WSH (Windows Script Host) to create a logon script for deploying Office Communicator 2005.

- **SMS**. For more complex software installation scenarios where scheduling, inventory, reporting, status, and support for an installation across a WAN (wide area network) is required, you are recommended to use Microsoft Systems Management Server (SMS).

- **Group Policy**. You can use Active Directory group policies to deploy Office Communicator 2005.

Note   All of these methods require you to download the Office Communicator 2005 installer files.

- **Compact Disk**. This method may be appropriate for home users who have administrative rights on their computers.

Choosing a Deployment Method

There are several factors to consider when choosing a deployment method for your Office Communicator 2005 clients:

- If you are upgrading from Windows Messenger and some of your users connect to the corporate network from home, you can distribute an Office Communicator 2005 product CD to those users. The setup program will automatically install Office Communicator 2005 and configure it with the user's pre-existing Windows Messenger SIP configuration settings.

- If most users in your enterprise are novice users, you can perform an unattended (or silent) installation using SMS, Group Policy, or logon scripts. In this case, when users log on to their computers, the system will automatically perform a silent install. The Windows Installer informs the user that an installation is in progress but that the user is not required to take any action.

- If users in the enterprise want to install Office Communicator 2005 on their laptops or Tablet PCs, you can set up a network install path. Those users can then use Add New Programs in the Add or Remove Programs applet in Control Panel to install Communicator 2005.
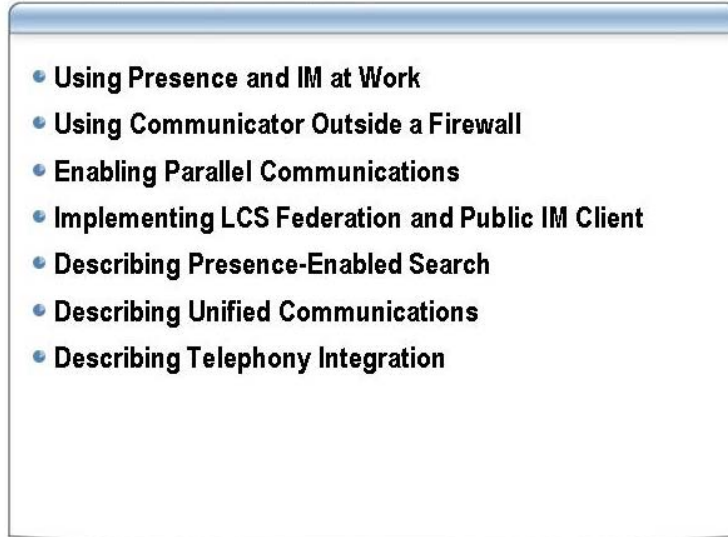
Additional Factors

When planning to deploy Office Communicator into an environment that uses Windows Messenger or Exchange IM, you must also consider the following factors:

- Windows Messenger and Office Communicator 2005 can co-exist on the same computer.

- Installing Office Communicator 2005 disables SIP connectivity on Windows Messenger 5.1.

- If your existing deployment uses Exchange IM, then installing Office Communicator 2005 will prevent you from connecting with Exchange IM users. You need to continue to use Windows Messenger to connect to Exchange IM.

Lesson: Usage Scenarios for Office Communicator 2005

- Using Presence and IM at Work
- Using Communicator Outside a Firewall
- Enabling Parallel Communications
- Implementing LCS Federation and Public IM Client
- Describing Presence-Enabled Search
- Describing Unified Communications
- Describing Telephony Integration

Introduction

This lesson outlines some of the key scenarios for use of Office Communicator 2005, and describes those scenarios in action. The examples of Office Communicator in action in this lesson address the following areas:

- **Integrated Communications**. Office Communicator brings together a range of different communications modalities to users, enabling many different forms of real-time collaboration to take place.

- **Ease of Use**. Ensuring that Office Communicator is intuitive and easy-to-use was a focal point during the product's development cycle to enable information workers to get the most out of the product when in use.

- **Reach**. A key component of a solution delivered by LCS 2005 with SP1 and Office Communicator is the ability to extend the reach of communications beyond the traditional boundary of the enterprise, whether that means making it easier for remote employees to stay connected, or to enable communications between different organizations.

Lesson objectives

After completing this lesson, you will be able to:

- Describe the benefits of presence and IM at work.
- Explain how to use Office Communicator 2005 outside a corporate firewall.
- Describe the benefits of parallel communications.
- List the factors for implementing LCS Federation and Public IM clients.
- Describe presence-enabled search.
- Describe unified communications.
- Describe telephony integration.

Using Presence and IM at Work
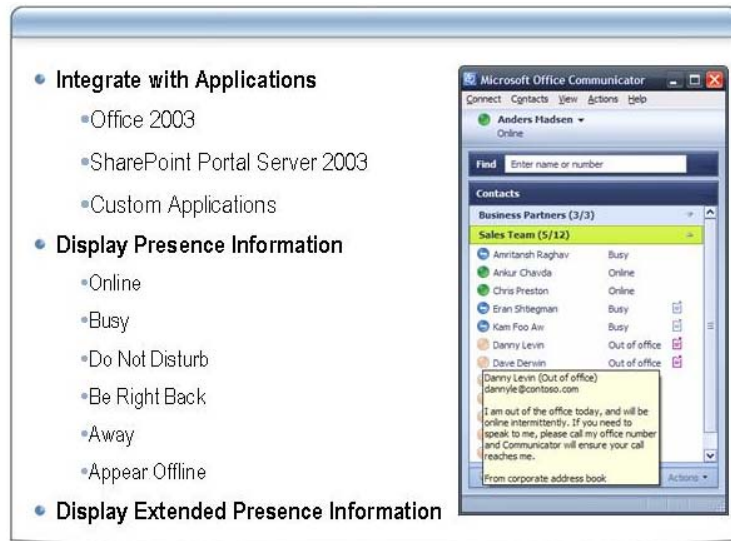
Introduction

Many companies are finding that IM is a widely used tool in their business, but that IM facilities are not controlled by the IT department. Organizations have found that this lack of control creates an IT hygiene issue, providing an entry point for spam and viruses. Additionally, businesses within certain industries are required to log all IM conversations for regulatory reasons. LCS 2005 with SP1 and Office Communicator 2005 provide a good solution for these organizations. Office Communicator is an integrated communications client specifically designed for the enterprise environment.

Office and Application Integration

The shift towards the "real-time enterprise" has not yet fully incorporated people into applications. Displaying presence of other users inside applications is a key step toward integrating users with business processes.

Integrating real-time communications capabilities like presence into other applications (such as enterprise applications like enterprise resource planning (ERP) systems or productivity applications like spreadsheets or word processors) can allow information workers to contact the right people to deal with a specific question from within the application using just a couple of clicks. LCS and Office Communicator 2005 deliver full integration with Microsoft Office applications and can also form the basis of integration with other applications.

Users can see the status of other users in those applications, and immediately initiate communications, without themselves having to launch separate communication application. This integration is not dependent on users having the monitored contacts in their Office Communicator contact lists.

Presence

Presence is a key component of an integrated communications solution. By giving users an indication of whether the person they wish to contact is available or not, users can be more efficient in how they contact people.

Examples of Presence status are:

- **Online**. I am available for contact by using IM
- **Busy**. Please do not disturb unless urgent
- **Do Not Disturb**. I would prefer you not to contact me by using IM
- **Be Right Back**. I will be back shortly.
- **Away**. I have left my desk for a user-configurable interval.

Note   **Appear Offline** enables a user to appear to others as if they are offline, but to view status information for other users. This setting is useful for when people regularly ignore the Do Not Disturb status.

Extended Presence Information

Office Communicator 2005 also enables users to display extended presence information, such as providing the best mechanism for contacting the user. An example might be a message such as "I am working from home this afternoon. Please call 555-1289 if urgent".

Benefits

Presence information can result in fewer voicemails, as people do not call when they see that the person they want to communicate with is not available. Presence information also enables people to be selective about whom they contact, enabling them to ask the person who is present a question rather than sending the question to ten people simultaneously.

As organizations and teams become more geographically dispersed, presence can be the glue that enables them to work together. With Office Communicator, users can tag contacts to see when they become available, and communicate instantly, across the office or around the world.

Work that might have taken an entire working day for a single round of feedback can be completed faster as people use overlapping working hours more effectively. Users can also find that they use their time more effectively as they get questions answered through the working week, rather than waiting for a single weekly status meeting, which in the past has often been the only way for people to be able to speak to each other. With presence information, people can ask and answer questions at any time that is convenient to both parties.

Using Communicator Outside a Firewall
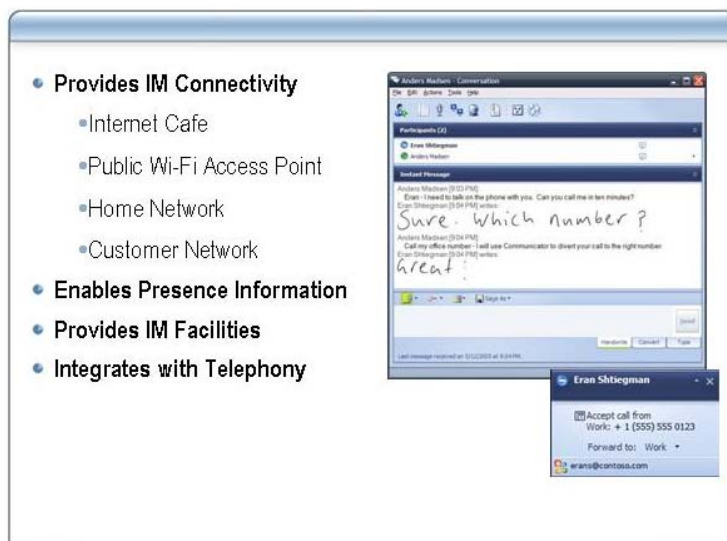
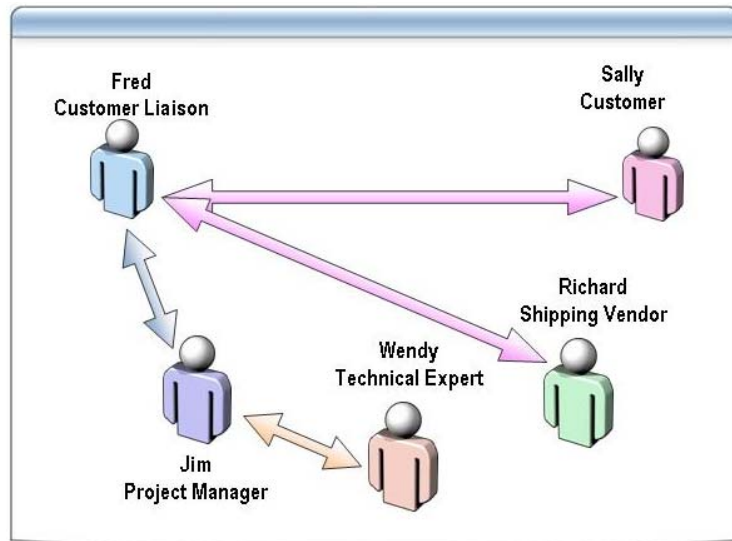| Introduction	Office Communicator 2005 and LCS 2005 with SP1 enable users to connect while outside the organizational firewall. This facility requires that a LCS Access Proxy is deployed in the perimeter network of the enterprise.
Using Communicator without a VPN	The outside user facilities in LCS and Office Communicator 2005 ensure that users do not need to establish a VPN connection into their enterprise networks to sign to LCS. Users might connect through a public Wi-Fi network in a coffee shop, at home on a home network, or from a customer site, where basic Internet access is available even though VPN connections are not possible.
	Regardless of where they are, users are then more reachable, and can be "present" even when not in the office. This is seamless from a user's point of view and does not require any different steps to be taken than when they are in the office. Users are able to sign in, view their colleagues' presence information, and communicate by using text and ink-based IM.
Presence, IM and Telephony Control	In addition, users get many of the same telephony capabilities as they have in the office. Users can see pop-up messages when a call is addressed to their desk phone. This message allows a user to see who is calling (Office Communicator looks up the number provided by caller ID in the corporate address list or in Outlook 2003 personal contacts) and then decide to forward the call to a home phone, or mobile phone. This forwarding is transparent to the calling party, and is a great way to be more responsive to important customers and colleagues.

Note   This scenario would require PBX integration, which requires an LCS 2005 Telephony CAL. In addition, unless an enterprise has deployed media relays from a third party, then PC-based voice and video capabilities will not be available. Voice and video facilities require a VPN connection to work outside a corporate firewall.

Parallel Communications

Introduction

Communicating with one person can make it difficult to obtain input from others to the conversation. Whether at a point of sale, in a customer call, or a conference call, Office Communicator 2005 enables parallel communications to add value and bring additional expertise into a conversation.

Scenarios

There are numerous examples of parallel communications. The following list summarizes the most common business scenarios:

- **Customer information**. At a point of sale or call center, a customer facing representative can view the presence of experts in the rest of the organization and contact them to get the right information for a customer.

- **Separate conversations**. Individuals can be on a conference call and chat simultaneously with other individuals using IM, for coaching or discussions around negotiations that are invisible to the other people on the conference call.

- **Confirmation of availability**. Confirm with a colleague by IM, prior to "conferencing them in" to an existing communications session, that they are there and that they can contribute. This means ad hoc conference calls can be more productive, with fewer false starts or voicemails.

Traditionally, such parallel conversations required interruptions, and had a low probability of success in finding the right person. With Office Communicator managing more and more of an information worker's communications, the presence of co-workers will often be in the application that launched the conference call, and so it is easy and non-intrusive to get the additional people into the discussion.

Example

In the example shown, Sally the customer has contacted Fred to confirm the ship date for a large and heavy order that needs to be shipped to her country. Fred fields the call, and contacts Richard, the shipping vendor's representative, for assistance. Richard starts discussing the pricing, so Fred needs to contact Jim, the Project Manager on a separate channel to ensure that the shipping costs are not going to adversely affect the budget.

Jim then needs to confirm the weight and dimensions of the load, so he contacts Wendy, the technical expert, for more information. In this scenario, each user benefits from a varying input to the conversation, without needlessly having to join in the main conversation that Fred is conducting with Sally and Richard.

Implementing LCS Federation and Public IM Connectivity
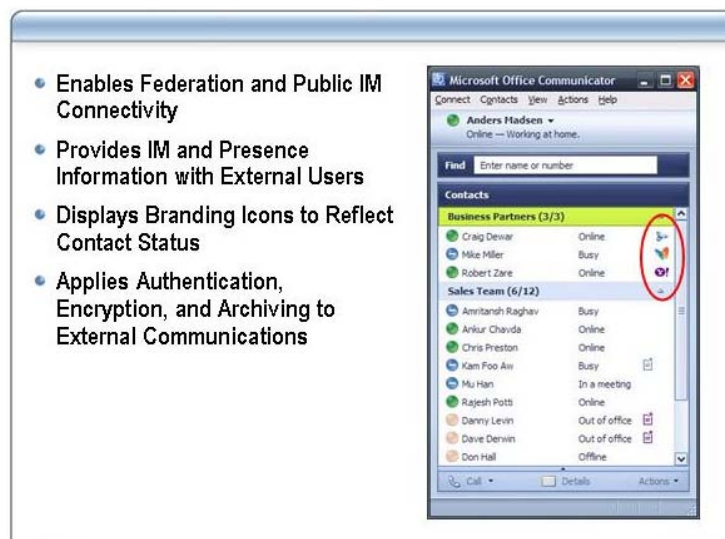
|	
Introduction	Office Communicator 2005 is the recommended client for communicating with contacts in other organizations through LCS-based federation or contacts using public IM services using Public IM Connectivity (PIC).
Improved Connectivity	Adding contacts from another company or business partner improves the communications reach for an information worker. Users see the presence of business partners and communicate with them instantly. Office Communicator can also be used to initiate calls with such contacts, if the phone number is stored in the recipient of the call's local Outlook contact list.
Enhanced Status	Office Communicator indicates when a contact is from outside a user's organization and can display a branding icon from the other organization. In the case of communications with contacts on public IM networks, the icon shown will represent the public IM network.
Authentication, Encryption and Archiving	Office Communicator 2005 and LCS 2005 with SP1 apply enterprise level authentication and encryption to federated and public instant messaging connectivity (PIC) communications. Communications can also be archived by using the LCS Archiving Service.

Note   For most organizations, searching for a contact in another company's directory is not enabled, and there is no facility for searching for PIC contacts. In these cases, users need to know the IM address (typically the email address) of the contact they wish to add. In the federated environment, this is required because many organizations are unwilling to give other organizations the ability to browse their directories.

What Is Presence-Enabled Search?
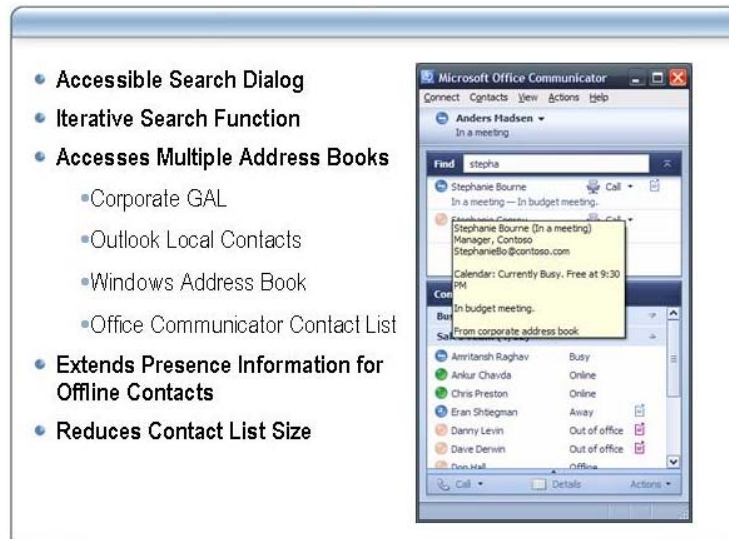
Introduction

You cannot start an IM conversation with someone if you do not know his or her contact details. Office Communicator 2005 has an enhanced search capability that enables users to find the right contact quickly and easily.

Search Input Box

The search input box is accessible from the main Office Communicator window. Searches are iterative, so users do not need to know a complete name to search for someone – Office Communicator will make suggestions as the user types in the name.

Address Sources

The Office Communicator 2005 search facility can extract contact information from the following sources:

- Corporate Global Address List (GAL)
- Outlook local contacts
- Windows Address Book
- Office Communicator contact list

Integration of multiple address books enables users to find people both inside and outside their organization.

Extended Presence

The results from the search iterate down to the desired contact. Even if that person is not on the searcher's contact list, extended presence is available (with schedule and out-of-office information appearing, if published). This facility enables the user to see the best way to contact that person. All of Office Communicator's communications modes are available from that search result, including "send an e-mail," which is useful if the person a user has searched for is offline.

Contact List Size

This search capability, combined with Office integration, reduces the requirement for long contact lists. Users can keep contact lists to core team members, and then use the search capability to find others in their organization with whom they may wish to communicate on an impromptu basis.

What Is Unified Communications?
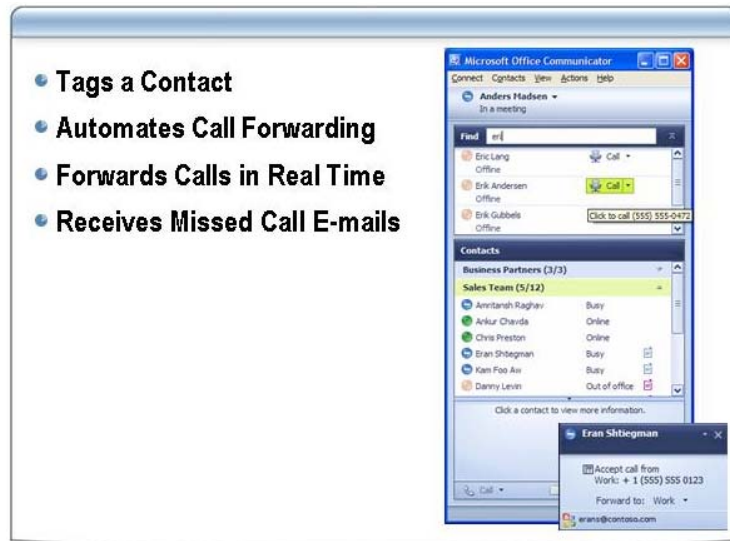
Introduction	One-number, "find me, follow me" unified communications services have grown in popularity over the past few years. Office Communicator 2005 has many of the capabilities of these solutions, delivered in an integrated way so that users do not need to learn additional applications for individual features. Office Communicator 2005 is a single client that can be used for presence, IM, PC based real-time communications, and telephony control.

> **Note**   The telephony integration required for this scenario requires integration with other systems (internal PBXs and external conferencing services), which may require deployment of additional components from third parties (unless the PBX supports Office Communicator directly), and therefore additional cost.

Tag a Contact (Follow)	A user can tag a contact on their contact list and then receive alerts when the tagged person changes status, for example, when a meeting finishes or a phone call ends. This facility is similar to camping on to a PBX extension, but gives the user the choice of communications modes when they are notified that the person they want to speak to is available.

The ability to tag a contact can reduce the amount of notification messages a user receives, rather than being notified when anyone on his or her contact list signs in. Administrators can apply ACLs to control the list of people on which a particular user can view presence information.

Automated Call Forwarding	Automated call forwarding enables users to specify the destination to which calls should be forwarded. Call forwarding options are:

- Always forward calls to another number, which allows users to give out fewer numbers to their contacts.

- Forward calls when the user is not signed into Office Communicator and not active on any of their devices.

- Forward to a specific number when a user is present on a specific device, for example, forward calls from a desk phone to a home phone when a user is logged in to Office Communicator on that computer.

Real-time Call Forwarding

When a call comes in on a user's PBX phone, the user receives an onscreen notification, which uses the supplied caller ID and integrates with the corporate address list and Outlook contacts to display information about the caller. The caller can then forward this call with the click of a mouse to an alternative number. Hence, if a user is working remotely and sees a call coming in from an important customer, they can divert that call to a mobile phone or another phone number.

Missed-Call E-mail

Missed-call e-mail sends a user an e-mail message whenever they miss a phone call. The user can then click the message to dial the call originator.

What Is Telephony Integration?
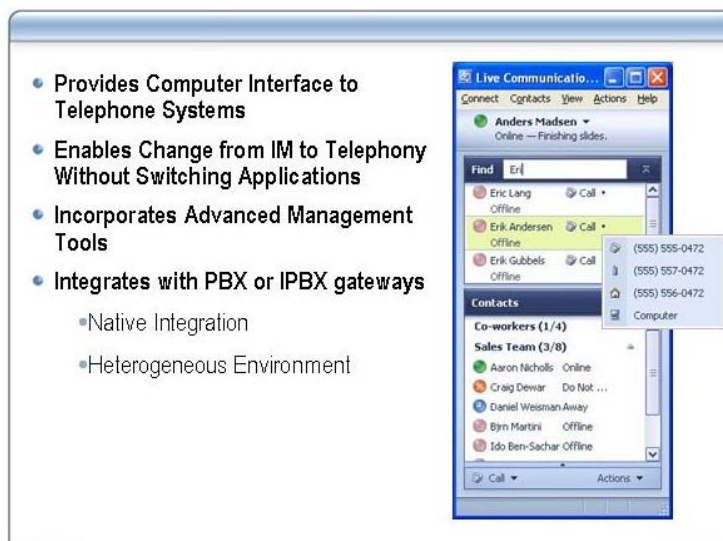
| Introduction	For users, enhanced telephony features have traditionally been challenging to use. The interface for the applications has been the three-by-four keypad on the phone, and applications are typically deployed in silos, with an inconsistent set of commands.
PC Integration	Office Communicator 2005 provides a computer interface that allows users to control their phones from their computers, with tool tips and visual guides for key capabilities. Office Communicator 2005 also integrates a number of different applications in the same client. Users can start to use the IM capabilities and then adopt the call features, without having to switch applications.
Administration	Office Communicator and LCS are designed to work within existing infrastructures. The presence and IM capabilities in LCS are easily managed as part of the Windows Server System™, using standard management tools. Administrators can then extend this core capability to telephony control by deploying a gateway to an existing PBX or IPBX, or through native integration where available from the PBX manufacturer. However, some companies may opt to deploy a gateway for heterogeneous PBX environments, even when some of the PBXs support native integration.

> **Note**   This telephony integration requires integration with other systems (internal PBXs and external conferencing services), which may require deployment of additional components from third parties (unless the PBX supports Office Communicator directly), and therefore additional cost.

Lesson: Integrating with Office 2003

- Integrating with Outlook 2003
- Integrating with Live Meeting
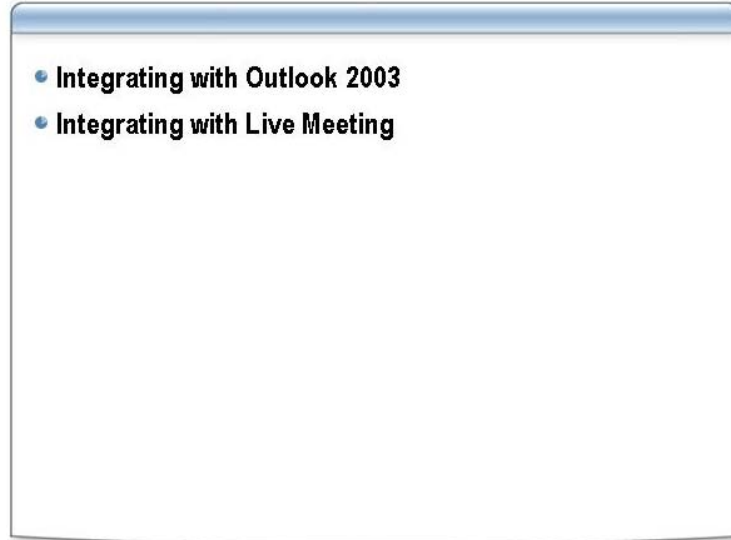
Introduction

Microsoft Office 2003 is the most popular desktop productivity suite, and users in many organizations spend considerable time each day using Office applications. Office Communicator 2005 extends presence information into Office applications, enabling users to view their co-workers' status from within applications like Microsoft Outlook 2003.

Lesson objectives

After completing this lesson, you will be able to:

- Describe the integration of Office Communicator 2005 with Microsoft Outlook 2003.

- Describe the integration of Office Communicator 2005 with Live Meeting.

Integrating with Outlook 2003
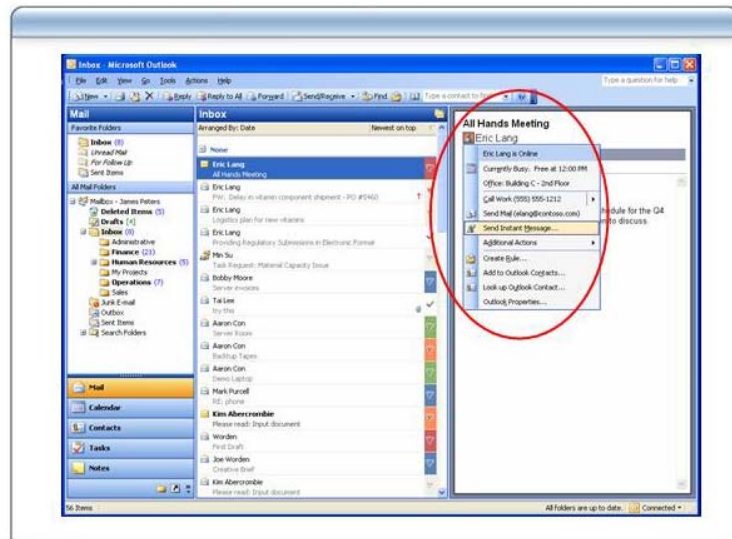
Introduction	Microsoft Outlook 2003 is the premier client for e-mail and collaborative working with Microsoft Exchange Server. Outlook provides messaging, calendaring, contact management, task management, journaling, and note-taking facilities in one application.
Integration Features	Office Communicator 2005 extends Outlook 2003 by adding presence information to several areas of the user interface. For example, you can view presence information for the sender or intended recipient of an e-mail message. You can then select the icon for that user and launch an IM session directly from the e-mail message.
Requirements	Microsoft Office 2003 and Communicator 2005 need Windows Messenger 5.1 to display presence information. Therefore, it is necessary to install Messenger 5.1 on all computers in your organization to provide presence in Microsoft Office applications. If your organization does not need these functions, then Windows Messenger 5.1 is not a requirement.
Multiple Service Support	It is no longer necessary to log in to MSN to see the presence of MSN Network of Internet Services users. Additionally, with the release of Communicator 2005 and Microsoft Office Live Communications Server 2005 with Service Pack 1, it is now possible to view the presence of AOL and Yahoo! users in Microsoft Office applications. Users can now rely on the Microsoft Office Live Communications Server 2005 federation features to communicate with Communicator 2005, MSN, AOL and Yahoo! users. It is no longer necessary to run multiple clients or log on to multiple servers or services.

Important   Windows Messenger 5.1 will automatically shut down during Communicator 2005 installation, and will restart the process on launch. It is not necessary for administrators to control this behavior. To run the Windows Messenger installer in silent mode, type %SERVERPATH%\Messenger.msi /q

Configuration

Office Communicator 2005 automatically modifies the Windows Messenger 5.1 configuration for seamless integration with Microsoft Office 2003 applications. During installation, Office Communicator 2005 will:

- **Disable SIP for Windows Messenger 5.1**. Because Communicator 2005 provides SIP services, Windows Messenger 5.1 SIP is disabled.

- **Disable Windows Messenger 5.1 autorun**. To prevent users from seeing two presence icons in the System Tray, Windows Messenger 5.1 autorun is turned off. When Office Communicator 2005 starts, it starts Windows Messenger 5.1 without a user interface.

Integrating with Live Meeting
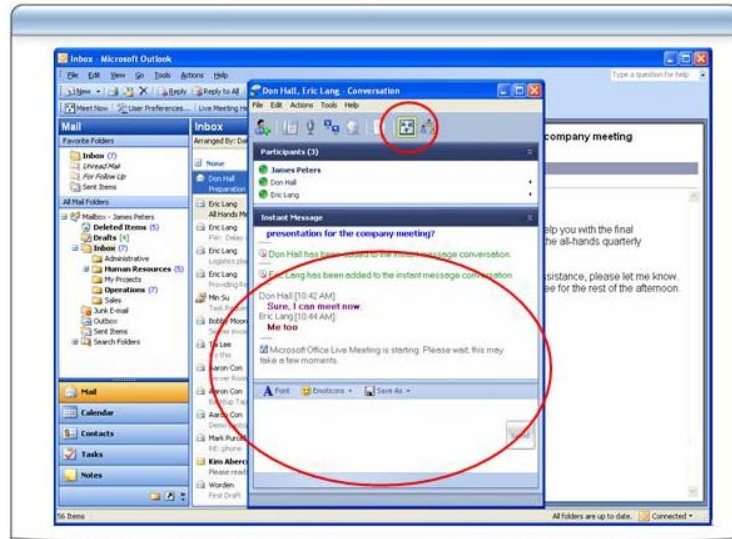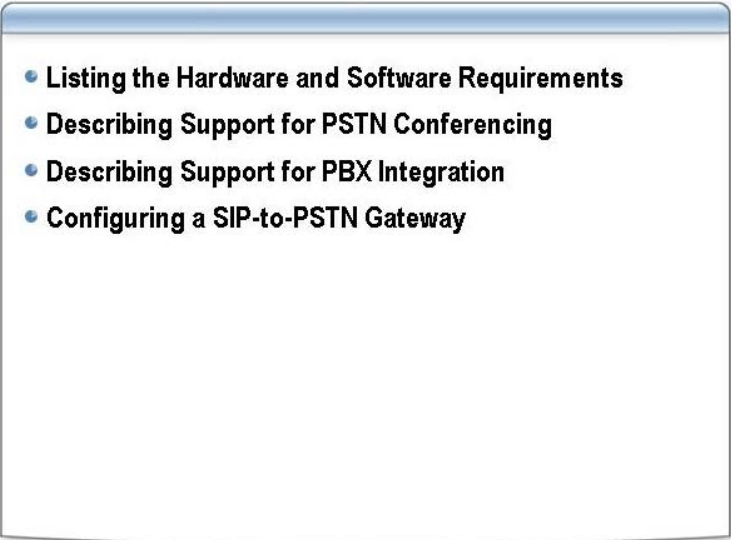

Introduction	Office Communicator 2005 can integrate with Live Meeting 2005, the communication and collaboration tool from the Microsoft Real Time Collaboration Group. Live Meeting 2005 provides an interactive, integrated, and easy-to-use environment that enables organizations to stage small, collaborative meetings or large training events for thousands of users in a virtual meeting room.
Requirements	To switch to Live Meeting from Office Communicator 2005, all users must have the Live Meeting Console installed on their computers. After this component is installed, users see a new Live Meeting button on the Office Communicator 2005 toolbar.
	To start a live meeting with another user that has the Live Meeting console installed, a user only needs to initiate an IM conversation with that user, and then click the Live Meeting button. The Live Meeting console then appears for all participants, enabling users to share applications, draw on the whiteboard, collaborate on documents, and so on.

Lesson: Integrating with Telephony Technology

- **Listing the Hardware and Software Requirements**
- **Describing Support for PSTN Conferencing**
- **Describing Support for PBX Integration**
- **Configuring a SIP-to-PSTN Gateway**

Introduction

One of the primary features of Communicator 2005 is the enhancement of voice capabilities over IP (Internet Protocol). Even today, voice communication is primarily achieved through the traditional telephone handset or mobile phone. Communicator 2005 enhances the traditional telephone handset experience by enabling remote control of the telephone handset through the desktop computer. This allows you to use your computers to make or receive calls.

The terminology used in this lesson includes:

- **PC-to-PC**. An end-to-end VoIP call between two computers, or between a computer and a physical SIP-enabled phone.

- **PC-to-Phone**. A call initiated from a computer connected to a SIP network and ending on a phone on the PSTN network.

- **PSTN Audio Conferencing**. Multi-party conferences over PSTN telephone connections.

Lesson objectives

After completing this lesson, you will be able to:

- List the hardware and software requirements for telephony support.

- Describe how Office Communicator 2005 supports PSTN conferencing.

- Describe how Office Communicator 2005 supports PBX integration.

- Explain how to configure a SIP to PSTN Gateway for Office Communicator 2005.

What Are the Requirements for Telephony?
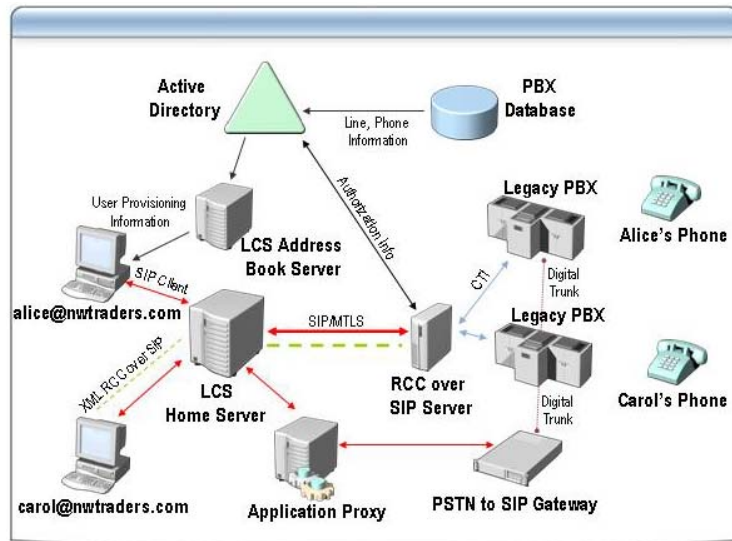
Introduction	Providing telephony support for Office Communicator 2005 requires additional architectural, hardware, and software components. This topic outlines these requirements.
Architectural Elements	Architectural components can include:

- Client computers running Office Communicator 2005
- Servers running LCS 2005 with SP1, Enterprise or Standard Editions
- Address Book Server
- Active Directory
- User Replicator
- Microsoft Exchange
- PBX
- Remote Call Control (RCC) Gateway
- SIP to PSTN Gateway

Infrastructure   Infrastructure requirements are similar to those for LCS 2005 with SP1.

- DNS must be deployed and configured correctly.
- Active Directory must be deployed.
- Domain controllers must be running Microsoft Windows 2000 SP4 or Windows Server 2003.
- Global catalog servers must be running Windows 2000 SP4 or Windows Server 2003, and at least one global catalog server in the forest root.
- PKI must be deployed and configured, either using PKI from Microsoft or a third-party CA infrastructure. If you plan to use TLS for client connectivity, consider installing a CA.

- Servers must be running Windows Server 2003, Standard Edition; Windows Server 2003, Enterprise Edition; or Windows Server 2003, Datacenter Edition.

- SQL Server™ 2000 or MSDE instance must be installed on the server that will host Enterprise Edition Server or Standard Edition Server, respectively.

- Exchange Server(s) for Outlook support must be running.

- Microsoft Office Live Communications Server 2005 Service Pack 1, Address Book Server (ABS) must be running.

RCC Scenarios

Remote Call Control (RCC) scenarios may require the following additional equipment:

- PBX Equipment (CTI Link)

- Phone equipment

- PBX SIP/ECMA Front End (for PBX remote call control)

VoIP Scenarios

Support for VoIP requires the following additional equipment:

- SIP/PSTN Gateway (for PC2Phone and Phone2PC)

- Live Communications Server (Director) Front End SIP/PSTN Gateway

- Telephony server (optional)

Conferencing Scenarios

Microsoft Outlook 2003 is required for scheduling conferences.

Telephony Client Hardware

The requirements for client computers are:

- Hardware as specified by the operating system running on the client

- Sound card

- Microphone

- Speakers or headphones

- Video capture device (for video features)

PBX Hardware Requirements

If your PBX does not natively support CSTA over the SIP Remote Call Control protocol, a gateway is required to convert the standard protocol used by Live Communications Client to the specific CTI protocol supported by your PBX.

- **CTI Link.** Hardware requirements for the CTI Link are dependant upon the manufacturer and model of the PBX and the type of CTI Link. Refer to the documentation provided by the manufacturer.

- **SIP/ECMA FE Server.** Hardware requirements for the SIP/ECMA FE Server are dependant upon the manufacturer and model of the SIP/ECMA FE Server. Refer to the documentation provided by the manufacturer.

How Does Communicator Support PSTN Conferencing?
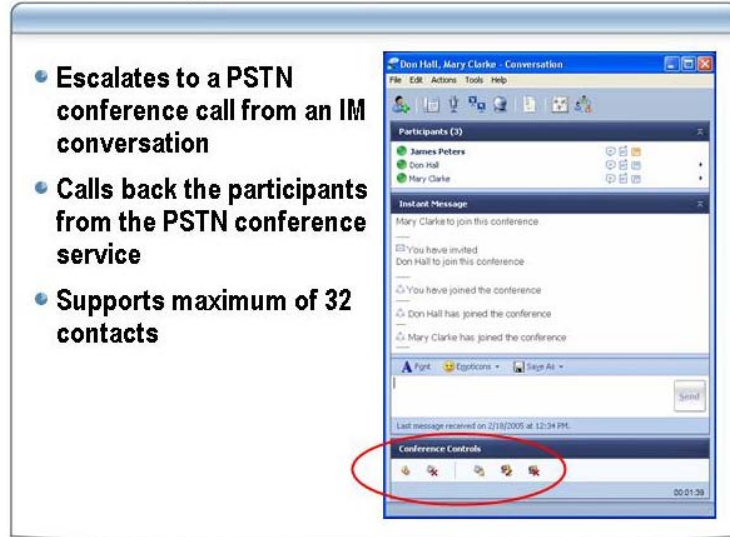
Introduction

With Communicator 2005, users can escalate a multi-user IM conversation to a multi-party PSTN conference. This operation is simple to implement from the Communicator user interface.

PSTN Callback

Users can transition easily from a multi-user IM session to a multi-party conference call. After a user sets up a conference call, the PSTN conferencing service calls back all the participants on Office Communicator 2005.

Note   Office Communicator 2005 supports up to 32 participants (including the originator) on a conference. For more simultaneous users, consider using the integration of Office Communicator 2005 with Office Live Meeting.

How Does Communicator Integrate with a PBX?
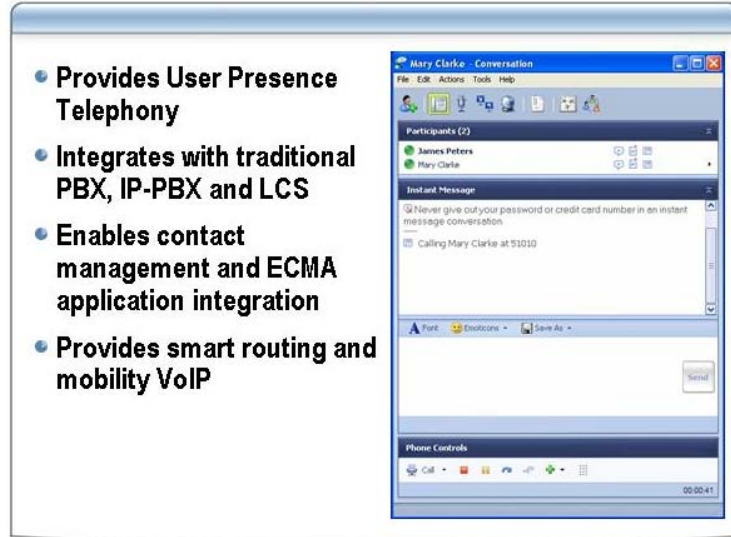
Introduction

A private branch exchange (PBX) is an enterprise-wide, private telephone network that enables multiple users to share a certain number of outside lines for making telephone calls that are external to their enterprise PBX. Office Communicator 2005 is a soft phone application that can monitor and control a PBX phone.

Communicator 2005 relies on the PBX system that serves the enterprise's telephony needs. This system could be either a digital PBX or an IP PBX. Often configuration details related to lines, ports, numbers, and users are stored in the PBX directory.

Features

Office Communicator 2005 provides:

- User-Presence Telephony.

  - Specific presence states for telephony activities.

  - Do-not-disturb presence state integrates with PBX.

  - Manual or automatic, presence-based forwarding.

  - Call waiting/divert.

- Integration with traditional PBX, IP-PBX and LCS 2005 with SP1.

- Extensive contact management and ECMA application integration.

- Smart routing and mobility VoIP.

Standards

Communicator 2005 uses a standards-based CTI protocol (Computer Supported Telecommunications Application or CSTA as defined in ECMA 269 and ECMA 323). If your PBX does not natively support CSTA over the SIP Remote Call Control protocol, a gateway is needed to convert the standard protocol used by Communicator 2005 to the specific CTI protocol supported by your PBX.

Protocols

The signaling protocol between Communicator and the LCS 2005 with SP1 home servers and ECMA servers is SIP. ECMA-323 XML messages are tunneled in SIP messages. Communicator is a SIP user agent (UA).The SIP traffic terminates at the ECMA server, which acts as a translating gateway between the SIP and the ECMA domain.

Operation

Communicator is also the computing application, and the switching system is the PBX entity. Once the remote call control channel is established, Communicator initiates and receives SIP INFO messages containing ECMA-323 XML messages tunneled in SIP for services, events, or operations as defined by the ECMA-269 specification. Authentication and authorization is shared by the LCS 2005 with SP1 home server, and by the ECMA server.

How to Configure a SIP to PSTN Gateway
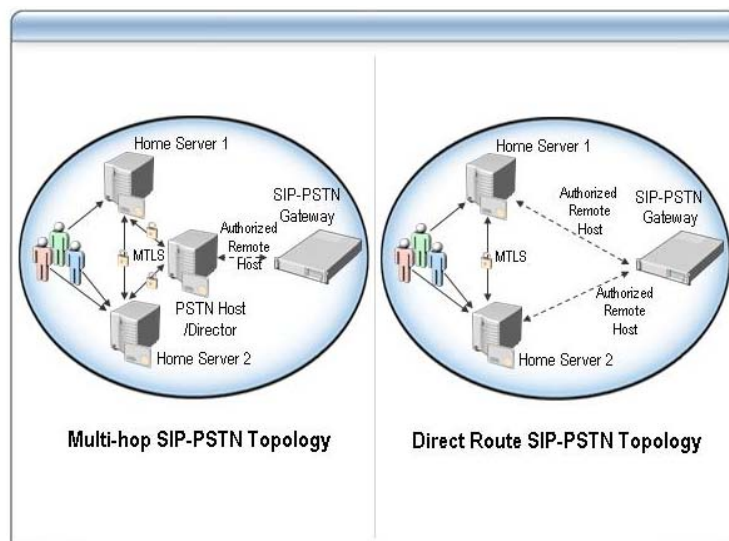
Introduction	Office Communicator 2005 and Microsoft Office Live Communications Server 2005 with SP1 support PC-to-phone calling when you connect your Live Communications Server 2005 infrastructure to a SIP to IP-PSTN gateway.
SIP-to-PSTN Gateway	The SIP-to-PSTN gateway allows users to call enterprise-wide PBX extensions or external PSTN phone numbers using Communicator 2005. This requires a gateway that can perform the following:

- Convert VoIP (Voice over IP) calls to digital telephone calls, thereby allowing you to call a phone through your computer using Communicator 2005.

- Convert digital telephone calls to VoIP calls, thereby allowing you to answer an incoming digital call from your computer using Communicator 2005.

Supported Topologies   You have a choice between two supported topologies:

- **Designate a Live Communications Server as a PSTN host**. In this topology, you designate a Live Communications Server as a host for the PSTN gateway. All other Live Communications Servers in your topology route PC-to-phone calls through this PSTN host to the SIP-PSTN gateway.

- **Use a direct route to the SIP-PSTN Gateway**. All Live Communications Servers that require PC-to-phone calls contain a direct route to the SIP-PSTN gateway.

Designated LCS Server   If you dedicate one server as a host for the gateway, configure a static route to the SIP-PSTN gateway and add the SIP-PSTN gateway as an authorized host on the PSTN host server. On all other Live Communication Servers requiring access to this gateway for PC-to-phone calls, configure a static route and add an authorized host entry for the PSTN host server.

Designating a dedicated PSTN host server to connect to a SIP-PSTN gateway involves the following steps:

1. Configuring a Live Communications Server as the PSTN host.

   a. Configuring a static route on the Live Communications Server that acts as the PSTN host to route PC-to-phone calls to the SIP-PSTN gateway.

   b. Adding the SIP-PSTN gateway as an authorized host on the PSTN host.

2. Configuring all other Live Communications Servers that need to route to the PSTN gateway.

   a. Configuring a static route to the PSTN host on all other Live Communications Servers that must send PC-to-phone call requests to the SIP-PSTN gateway through the PSTN host server.

   b. Adding the PSTN host as an authorized host on all these Live Communications Servers.

Important   To help protect the network properly, configure the Live Communications Server PSTN host server as a Director, a server that contains no users. Do not use a Live Communications Server 2005 Proxy.

Direct-Route Topology

If you use a direct-route topology, all Live Communications Servers are configured to route traffic directly to the SIP-PSTN gateway server. Configuring a direct route to the PSTN Gateway is essentially the same as configuring all Live Communications Servers as a PSTN host server, and it involves two steps:

1. Configuring a static route on each Live Communications Server that routes PC-to-phone calls to the SIP-PSTN gateway.

2. Adding the SIP-PSTN gateway as an authorized host on each of these servers.

Lesson: Automating Client Discovery

- **Explaining Automatic Client Discovery**
- **Listing DNS settings for Automatic Discovery**
- **Configuring Automatic Discovery DNS Settings**
- **Configuring Automatic Discovery Client Settings**

Introduction

Automatic client discovery or automatic configuration (autoconfig) is the process by which Office Communicator 2005 discovers a LCS 2005 with SP1 server. This process is different from the auto-configuration process in Windows Messenger, as Windows Messenger and Communicator use different DNS records.
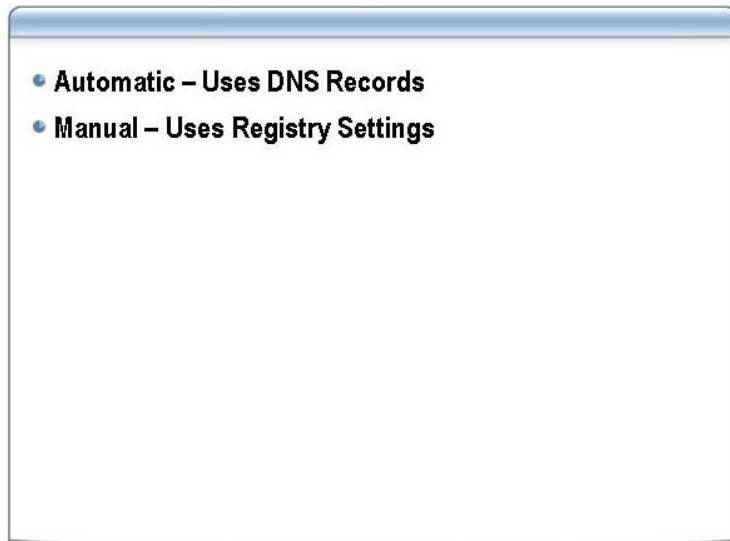
Lesson objectives

After completing this lesson, you will be able to:

■ Explain automatic client configuration.

■ List the DNS settings for automatic client configuration.

■ Create automatic configuration DNS settings.

■ Set automatic configuration on the client.

How Can Communicator Discover LCS Servers?

Introduction

To communicate within the Live Communications service running on LCS 2005 with SP1, Office Communicator 2005 must have information on the network location of that server or enterprise pool.

Connection Methodologies

There are two methodologies for provisioning the client to connect:

- **Automatic Configuration: Creating a DNS Record and Enabling Auto Configuration**. Client will automatically query for DNS Service (SRV) resource record and will either directly connect or be redirected to the correct Live Communications Server. This method requires you to create a DNS SRV resource record and an address (A) record for your Live Communications Server deployment.

- **Manual Configuration: Modifying the Host File or Registry and Manually Connecting**. Client can be preconfigured to connect to the fully qualified domain name (FQDN) of a specific server. This can be achieved by configuring the relevant registry key by using Group Policy settings. Alternatively, this can also be achieved by providing the FQDN of the server manually.

The Office Communicator 2005 provides the option to select either automatic or manual configuration in the user interface. The default is automatic.

Automatic Configuration Process

With automatic configuration enabled, the client relies on DNS SRV records to locate an LCS 2005 with SP1 server. The client queries DNS using the domain portion of the user's SIP sign-on name, for example, Fabrikam.com.

Based on the data provided in the SRV record, the DNS response directs the client's sign-on request to the LCS 2005 with SP1 server in the fabrikam.com domain. The LCS Service then attempts to locate the specific user's home server by reading the User "Server or Pool" Attribute, which is an attribute of the user object in Active Directory.

Listing DNS Settings for Automatic Configuration

- **Windows Messenger**
  1. _sip._tls.<domain> - TLS
  2. _sip._tcp.<domain> - TCP
  3. _sip._udp.<domain> - UDP to third party SIP services
- **Office Communicator**
  1. _sipInternalTLS._tcp.<domain> - TLS on internal networks
  2. _sipInternal._tcp.<domain> - TCP on internal networks
  3. _sip._tls.<domain> - TLS on external networks
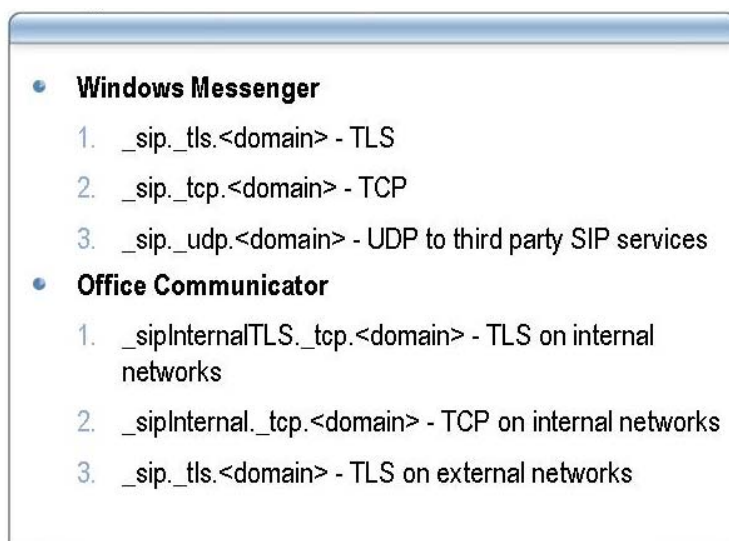
Introduction

Office Communicator 2005 and Windows Messenger use different DNS records for locating servers that run LCS 2005 with SP1. The Office Communicator records also differ, depending on whether a client is on an internal or an external network.

Windows Messenger

When set for automatic configuration, Windows Messenger queries DNS SRV in the following order:

1. **_sip._tls.<domain>**. This SRV record provides automatic configuration over TLS.

2. **_sip._tcp.<domain>**. This SRV record provides automatic configuration over TCP.

3. **_sip._udp.<domain>**. This SRV record provides automatic configuration over UPD for connecting to third-party SIP servers.

Note   This order is important, because it progresses from the most secure protocol to the least secure.

Office Communicator

Office Communicator 2005 uses different DNS records for automatic configuration, and queries these records in the following order:

1. **_sipInternalTLS._tcp.<domain>**. This SRV record is only for automatic configuration on internal networks over TLS.

2. **_sipInternal._tcp.<domain>**. This SRV record is only for automatic configuration on internal networks over TCP (or over VPN connections).

3. **_sip._tls.<domain>**. This SRV record is for automatic configuration on external networks over TLS, when connecting through an access proxy.

Changes to DNS Records

Office Communicator 2005 no longer queries for **sip._udp.<domain>**. This change reflects the fact that Office Communicator no longer connects to third-party SIP servers over UDP.

DNS Separation

The DNS-based automatic configuration in Office Communicator 2005 implements separation of the _sipInternalTLS._tcp.<domain> and _sip.tls.<domain> records. This separation prevents DNS conflicts with VPN users.If a VPN user attempted to sign in to LCS with Windows Messenger, Messenger would query for _sip._tls.<domain>, resulting in the user signing in as an outside user through the Access Proxy instead of directly to the LCS Server.
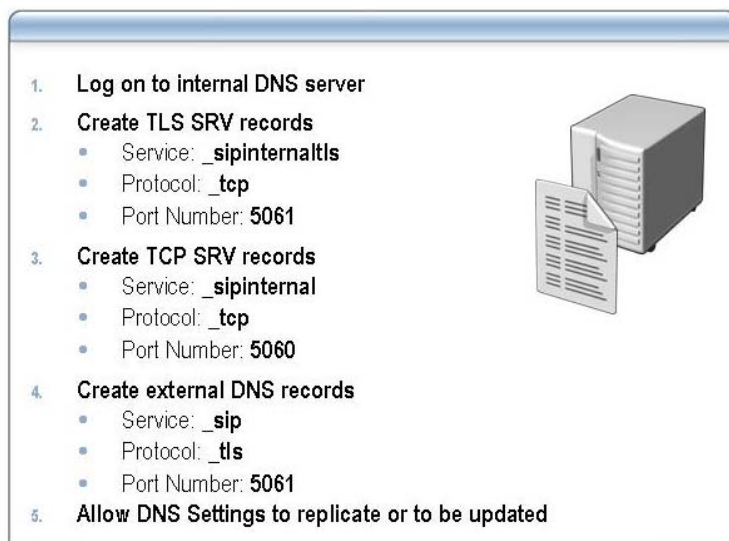
To reinforce DNS separation, the _sipInternalTLS and _sipInternal SRV records should only exist on internal DNS servers, and _sip._tls should only exist on external DNS servers.

Note   If multiple A records exist, the client only uses the first A record returned as a response to the DNS query. If this server is unavailable, the client does not try any other of the records until the query result is flushed from the DNS cache and replaced with a DNS response with a different record ordering.

Creating the DNS Records

1. Log on to internal DNS server
2. Create TLS SRV records
   - Service: _sipinternaltls
   - Protocol: _tcp
   - Port Number: 5061
3. Create TCP SRV records
   - Service: _sipinternal
   - Protocol: _tcp
   - Port Number: 5060
4. Create external DNS records
   - Service: _sip
   - Protocol: _tls
   - Port Number: 5061
5. Allow DNS Settings to replicate or to be updated

Introduction

Because automatic configuration depends on DNS settings, you must create the DNS records for your environment. How you create these records depends on whether you are configuring internal or external DNS records.

Internal DNS

To create the internal DNS SRV record perform the following steps:

1. To open the DNS console, log on to your server(s) that provide DNS services for your internal network.

2. Click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and then double-click **DNS**.

3. In the console tree for your domain, expand **Forward Lookup Zones**, and right-click the domain.

4. Click **Other New Records**.

5. In **Select a resource record type**, select **Service location (SRV)**.

6. Click **Create Record**.

7. Select one of the following:

   - *If your organization uses only Communicator clients:*

     - If you are using TLS, type **_sipinternaltls** for the **Service,** type **_tcp** in **Protocol**, and then type **5061** in **Port Number**.

     - If you are using TCP, type **_sipinternal** for the **Service,** type **_tcp** in **Protocol**, and then type **5060** in **Port Number**.

   - *If your organization uses only Windows Messenger clients:*

     - If you are using TLS, type **_sip** for the **Service,** type **_tls** in **Protocol**, and then type **5061** in **Port Number**.

     - If you are using TCP, type **_sip** for the **Service,** type **_tcp** in **Protocol**, and then type **5060** in **Port Number**

- *If your organization uses a mix of clients, publish one of each SRV record, and point both SRV records to the internal FQDN of your Enterprise pool used by your clients.*

8. In **Host offering this service**, type the FQDN of the server or enterprise pool, and type the IP address assigned to the Standard Edition Server or enterprise pool to which the client connects.

Remote User Access

To enable remote user access for your deployment, you must publish the following DNS records on the appropriate DNS server for your organization:

- A DNS A record for your Access Proxy.

- A DNS SRV (service location) record for **_sip._tls.<*domain*>**, where <*domain*> is the name of your organization's SIP domain. This SRV record must point to the A record of the Access Proxy. This SRV record supports branch office scenarios, remote access by means of direct connection to the Access Proxy, and internal Windows Messenger 5.1 clients.

- If you want to support remote user access by VPN, you must also publish an internal DNS SRV record for **_sipinternaltls._tcp.<*domain*>**, where <*domain*> is the name of your organization's SIP domain. This SRV record must point to the internal A record of a Live Communications Server Director, Standard Edition home server, or Enterprise Edition pool.

- Where IM over VPN is either required or permissible, external Microsoft Office Communicator clients can use the internal **_sipinternaltls._tcp.<*domain*>** DNS record to detect the internal SIP server when connected over VPN. External Windows Messenger 5.1 clients will continue to connect directly to the Access Proxy, using the eternal **_sip._tls.<*domain*>** record.

Setting Automatic Configuration
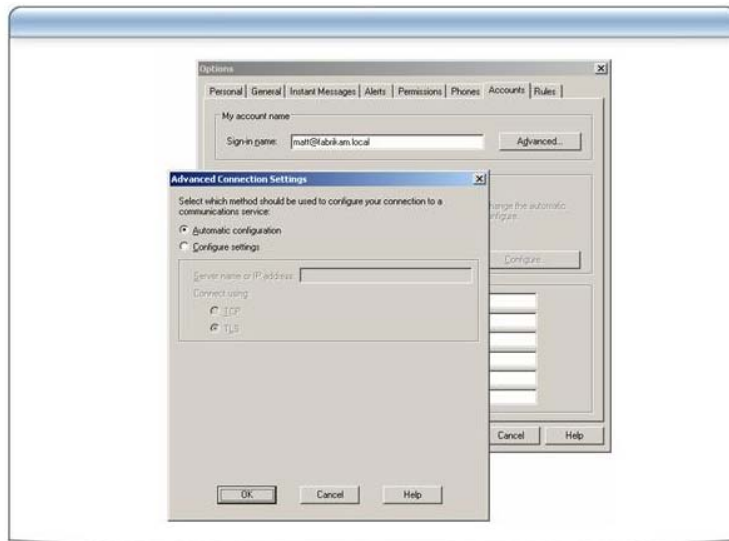
Introduction

After configuring the DNS settings, you can now set Office Communicator 2005 and Windows Messenger for automatic configuration.

Office Communicator 2005

To enable automatic configuration for Communicator clients, perform the following steps:

1. With Communicator open, click the **Actions** menu, and then click **Options**.

2. Click the **Accounts** tab, and click **Advanced**.

3. In the **Advanced Connection Settings** dialog, click **Automatic Configuration.**

4. Click **OK** to close the Advanced Configuration Settings dialog box.

5. Click OK to close the **Options** dialog box.

Windows Messenger

To enable automatic configuration for Windows Messenger clients, perform the following steps:

1. With Windows Messenger open, click **Tools**, and then click **Options**.

2. Click the **Accounts** tab.

3. If necessary, click the **My contacts include users of a SIP Communications Service** check box and type your **sip:<Username>@<SIP namespace>**. For example, enter sip:tedb@contoso.com.

4. Under the **SIP Communications Service Account**, click **Advanced**.

5. In the **SIP Communications Service Connection Configuration** dialog box, click the **Automatic configuration** option, and then click **OK**.

6. Click **OK** to close the **Options** dialog box.

Lesson: Configuring Group Policy for Office Communicator

- **Installing Office Communicator Group Policy Templates**
- **Explaining the Office Communicator Group Policy Settings**
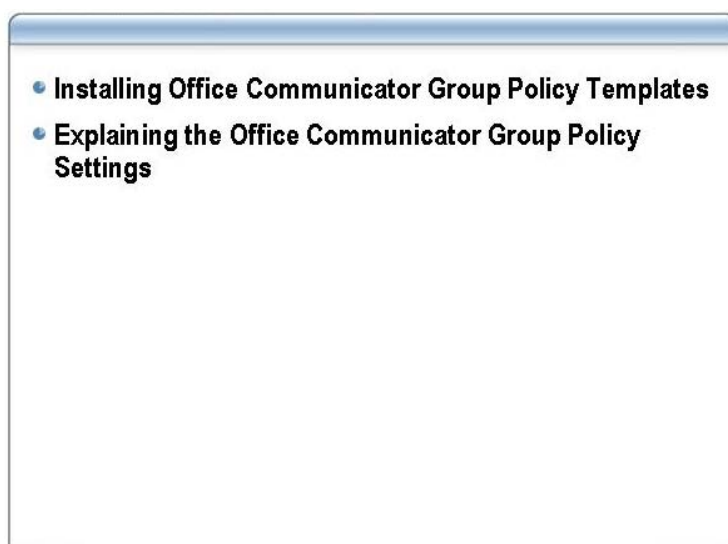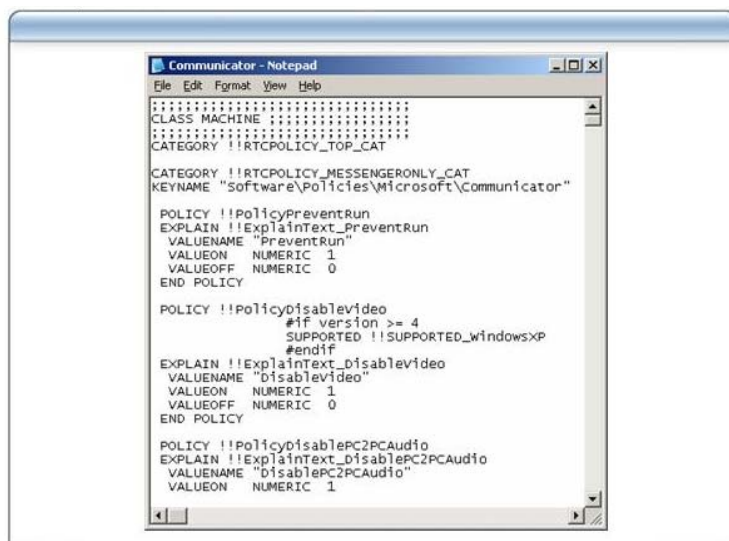
Introduction

Office Communicator 2005 was designed for deployment in a managed enterprise environment, so the application also provides suitable facilities for management control. This management control consists of group policy templates that allow for configuration during and after deployment through Active Directory group policies.

Lesson objectives

After completing this lesson, you will be able to:

- Install the Office Communicator 2005 Group Policy templates.
- Explain the settings that the Office Communicator 2005 Group Policy templates control.

Installing Office Communicator Administrative Templates

Introduction

Active Directory group polices enable administrators to configure software and security settings for users or computers at a site, domain, or organizational unit level. These group policy settings then apply to computers that are members of the site, domain or organizational unit.

Administrative Templates

Administrative template (ADM) files extend the list of settings that can be controlled through group policies. Administrative templates contain application-specific information about which group policies the application implements, where policies are stored, and how to configure policies. ADM files are loaded into the Group Policy Object Editor, which allows administrators to enable, disable, or not configure specific policy settings.

Office Communicator Group Policies

The Office Communicator 2005 administrative template file (Communicator.adm) can extend group policy to control Office Communicator client installations on multiple computers. When loaded into Group Policy Object Editor (gpedit.dll), this administrative template adds Communicator 2005 Policy Settings nodes under the **Computer Configuration \Administrative Templates** and **User Configuration\Administrative Templates** nodes.

Adding the Group Policy Template

Administrative template files are usually copied into the %windir%\inf folder. You must then load the administrative template into the Group Policy Object Editor manually. To load Communicator.adm into the Group Policy Object Editor, perform the following steps:

1. Open a new Microsoft Management Console (MMC) shell.

2. Add the **Group Policy Object Editor** as a standalone snap-in.

3. Set the focus of the snap-in to the group policy you want to edit. In most cases, this will be the Default Domain Policy.

4. When you have loaded the policy into the console, click **User Configuration**, and then right-click **Administrative Templates**.

5. Click **Add/Remove Templates**.

6. On the **Add/Remove Templates** dialog box, click **Add**.

7. Navigate to **%windir%\inf**.

8. Select **Communicator.adm**, click **Open**, and then click **Close**.

The next topic covers the Group Policy settings that this template adds.

Note   Although you add the template to the User Configuration node, Office Communicator 2005 settings also appear in the Computer Configuration node.

Policy Descriptions

After you have loaded the ADM file into the Group Policy Editor console, you can browse the list of policy settings. If you browse this list by using the **Extended** tab in MMC, then on the left side of the right pane you can view a description of the policy, the default setting, and the effects of enabling or disabling the policy setting.

Windows Messenger Group Policies

RTCClient.adm is the group policy template file for Windows Messenger. RTCclient.adm installs with the LCS 2005 with SP1 administrative tools. You cannot use RTCCLient.adm to configure Office Communicator 2005.

Configuring Office Communicator Group Policy Settings
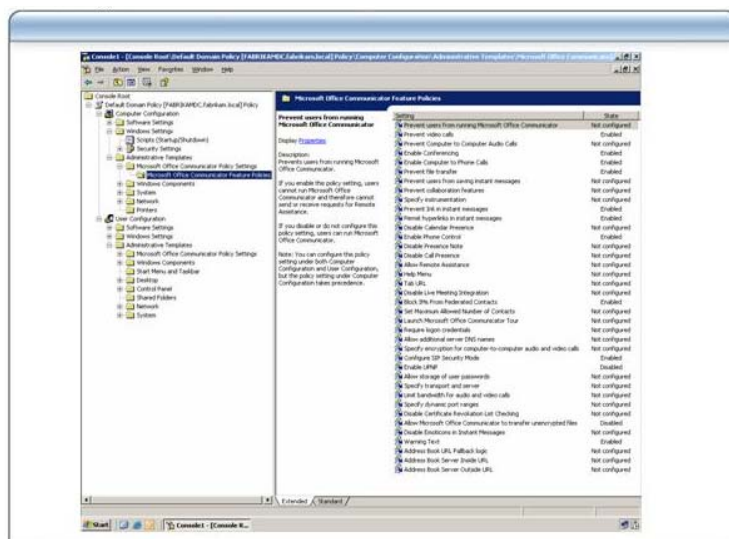
|	
Introduction	After you have loaded the Office Communicator 2005 group policy template, you can configure settings for clients that run Office Communicator. The template contains several policy settings that control how Office Communicator 2005 behaves in an enterprise environment.
Recommended Policy Settings	The following table shows the most commonly configured policy settings, together with the recommended values.

Group Policy Name	Function	Recommended Setting
Specify Transport and Server	Specifies how Communicator identifies the transport and server. Provides an alternative to DNS and automatic configuration.	If not using DNS autoconfiguration, enable and enter FQDN of LCS server and TLS as transport. If using DNS autoconfiguration, disable this setting.
Permit hyperlinks in instant messages	Sets whether clickable hyperlinks can appear in messages.	Disable.
Address Book Server Inside URL	Provides information on how to connect to the Address Book server for clients on the internal network as an alternative to configuring this setting on the LCS server.	Enable, and enter URL of address book server.

Group Policy Name	Function	Recommended Setting
Warning Text	Enables a warning message to appear each time users start an IM session. Particularly useful in a regulatory environment to warn users that messages are archived.	Enable and include a suitable message for the organization.
Enable Phone Control	Allows the user to control a desk phone from Communicator.	Enable. Note that this policy is disabled by default.
Launch Microsoft Office Communicator Tour	Lauches a tour of Communicator facilities the first time users run this software.	Disable.

Lesson: Customizing Office Communicator
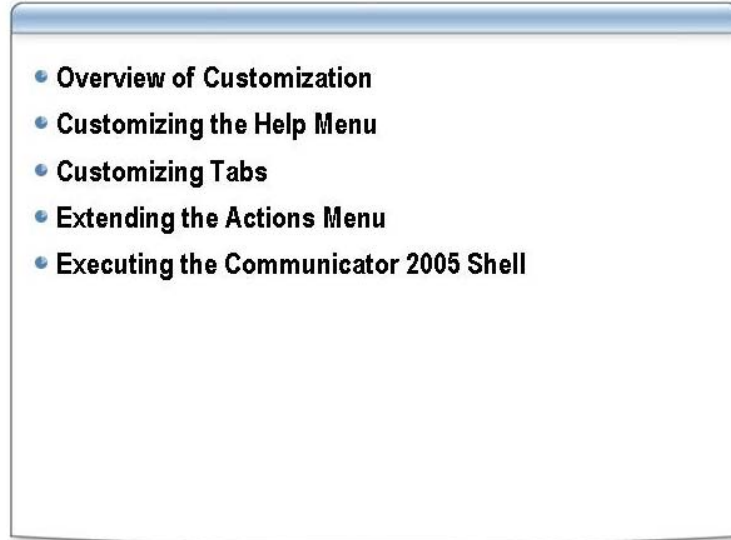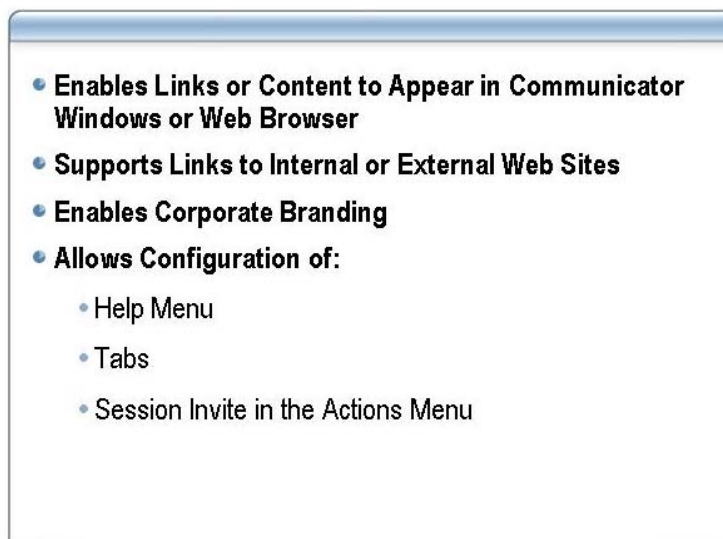

Introduction

This lesson provides information about how to customize Office Communicator 2005. This customization includes how to implement custom tabs, Help menu items, and graphics in Office Communicator 2005.

Lesson objectives

After completing this lesson, you will be able to:

- Explain the customization options in Office Communicator 2005.
- Customize the Help menu.
- Customize tabs.
- Extend the Actions menu.
- Execute the Office Communicator shell.

Overview of Customization

- **Enables Links or Content to Appear in Communicator Windows or Web Browser**
- **Supports Links to Internal or External Web Sites**
- **Enables Corporate Branding**
- **Allows Configuration of:**
  - Help Menu
  - Tabs
  - Session Invite in the Actions Menu

Introduction

With Microsoft Office Live Communications Server 2005 with Service Pack 1, administrators can customize Office Communicator 2005. Customization allows a company or organization deploying a Live Communications Server to provide links or actual content in an Office Communicator 2005 window. Typically, these links or content can include internal Web sites or information about the company. Users cannot configure branding, but they can choose whether to display the tabs where branding is displayed.
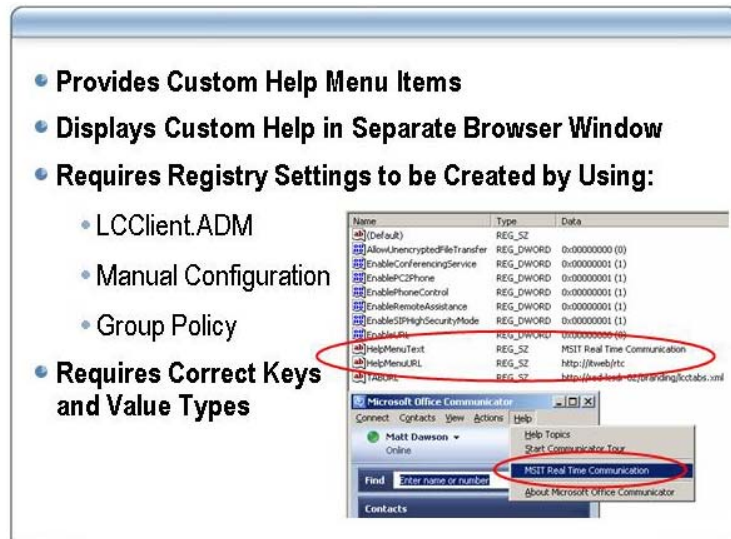
Areas for Customization

You can customize the following three areas:

- Help menu
- Tabs
- Session invite options in the Actions Menu

By using customization, administrators can expand the feature set of Communicator 2005 and differentiate the software for individual organizational needs.

Customizing the Help Menu

Introduction

You can place a custom entry in the Office Communicator 2005 Help menu, containing customized support for company employees. When the user clicks the menu command, a Web page appears in a separate browser window.

Application

For example, a sales organization may post department-specific sales objectives and targets for multiple regions on an intranet site. Any sales representative can locate a listing on the Help menu specifically for sales objectives. When he or she clicks the Help menu item, the sales Web page appears in a separate browser window.

Configuration

An administrator configures this feature by creating two entries in the HKEY_LOCAL_MACHINE portion of the registry hive. This configuration is accomplished by modifying the Registry, updating the Communicator.adm file, or by configuring Registry keys manually in Active Directory group policy. The following table lists the Registry Key entries.

Table 1: Help Menu Registry Keys

Key Name	Type	Value	Description
HelpMenu	REG_DWORD	0=No extra Help Menu, 1=Include Extra Help Menu	Specifies whether the HelpMenuURL and HelpMenuText policy keys should be used to create an extensible Help menu item in Communicator 2005. Both keys are required for the menu item to appear.
HelpMenuURL	REG_SZ (String)	URL	Descriptive text for the URL of the site to be displayed when clicked.

Key Name	Type	Value	Description
HelpMenuText	REG_SZ (String)	Text	The display text in the Help menu. Can be a maximum of 32 Unicode characters long.

Key Location

The Help Menu registry keys should be placed in the following locations:

- **HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\ Communicator**

- **HKEY_CURRENT_USER\Software\Policies\Microsoft\Communicator**

Note   Both keys should be of type REG_SZ (String). If they are the incorrect type or missing data, Communicator 2005 cannot recognize them.

Key Precedence

The registry keys in the **HKEY_LOCAL_MACHINE\SOFTWARE** hive take precedence over the user settings. This precedence allows system adminstrators to configure the extensibility infrastructure easily.

Important   If you do not provide a **HelpMenuText** in the registry, the Help menu will not display the custom Help URI entry. You must provide both the **HelpMenuText** and **HelpMenuURL** for an entry to appear in the Help menu. Additionally, Communicator 2005 does not support the Windows Messenger registry entries **Provider Name** and **HelpURL**.

Customizing Tabs
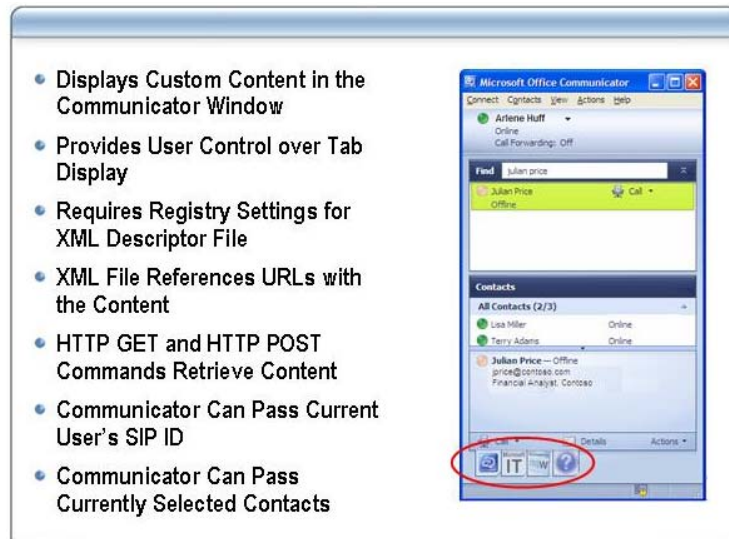
Introduction

Office Communicator 2005 also allows administrators to create and customize the tabs that appear in the client. This feature enables you to create organizational specific tabs that link to static or dynamic pages on an organization's intranet or on the Internet.

> **Important**   With tabs, the Web page displays in the Communicator 2005 Contacts window, not in a separate browser.

User Control

Users can control whether a tab appears in Communicator. They can accomplish this by using the Tab control at the bottom left corner of the main Messenger window or by clicking Tools and Show Tabs from Communicator 2005. The Tab control is not visible until at least one tab is enabled.

Configuration

To create and extend tabs, you should create a registry key of type REG_SZ with a name of TABURL in either of the following locations:

- **HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\ Communicator**

- **HKEY_CURRENT_USER\Software\Policies\Microsoft\Communicator**

As with Help menu items, keys in the **HKEY_LOCAL_MACHINE\ SOFTWARE** hive take precedence.

XML Descriptor Files

The **TABURL** data value provides the location of an XML descriptor file containing the information for all the configured tabs. A typical data value would be *http://webserver.fabrikam.local/branding/lcctabs.xml*.

Office Communicator uses these XML descriptor files to identify which tabs it should display, the user interface (UI) elements for each tab, and the URL of the HTML content that displays when the tab has focus. An example of the contents of the XML descriptor file is provided below:

```
<?xml version="1.0" ?>
<tabdata>
<tab>
  <image>http://site/image.png</image>
  <name>Tab title</name>
  <tooltip>Tooltip text</tooltip>
  <contenturl> http://site/content</contenturl>
  <tabid>1</tabid>
  <userid>true</userid>
  <contactid>true</contactid>
  <method>post</method>
</tab>
</tabdata>
```

Important   The XML file can be used to configure up to 32 tabs on the client. Exercise some caution, however, because a long list of tabs on a client computer using a low-resolution screen setting can become difficult for the user to manage.

After the administrator configures the settings in the XML tabs, Communicator reads the **TABURL** entry in the **HKEY_LOCAL_MACHINE** and the **HKEY_CURRENT_USER** hives. The XML descriptor file is read into memory and customizes Communicator according to the file settings.

Icons

Each tab entry can have a custom icon, which must be a portable network graphics (PNG) file. This icon file must be hosted on either a local machine, intranet, or trusted site.

Content Display

When a user hovers his or her mouse pointer over a displayed tab, a ToolTip appears (if one has been configured in the XML file). When the user clicks a tab, Communicator displays the HTML page contained in the **<contenturl>** entry in the XML file for the tab the user clicked.

Communicator 2005 uses the information in the XML data file to retrieve tab content. Depending on the method element associated with the tab, Communicator 2005 will use either an HTTP GET or HTTP POST. The response to this HTTP request will be displayed to the user as the tab content.

SIP Information

If the **<userid>** element is set to true, Communicator 2005 will pass through the HTTP request the current user's SIP account ID, which is url-encoded as "userid". If the **<contacted>** element is true, Communicator 2005 will also pass a URL-encoded, semicolon separated list of contacts the user has currently selected in the Contact List window.

Cookies

Tabs can write cookies. However, users might disable cookies. Tabs should provide fallback implementations for cases where the cookies are not accessible. Tab implementers who write cookies should also be aware that Microsoft Internet Explorer® 6.0 (the display engine for Messenger tabs) introduced new restrictions on third-party use and re-use of cookies according to the Platform for Privacy Preferences (P3P) standards. Consult Internet Explorer 6.0 developer documentation for more details about P3P.

Extending the Actions Menu
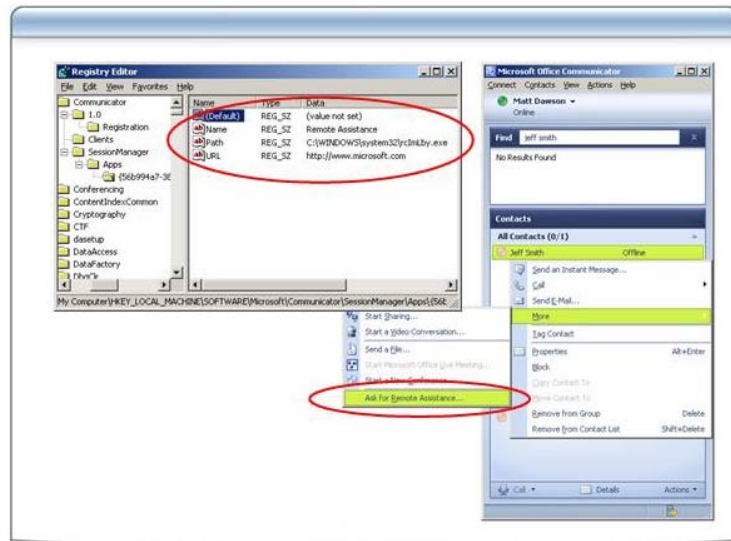
Introduction

Office Communicator 2005 includes a customizable Actions menu. You can extend the Actions menu to create custom actions for a particular contact. For example, you could create a menu item that invites a user to start a Live Meeting session.

Access

You can access the Actions Menu from the following places:

- Actions menu in Contact list window
- Right-click a contact in the Contact List or in the Search results
- Actions menu in the Conversation Window
- Click a contact's arrow button in the Conversation Window

Settings

To extend the Action menu, add registry settings to the following location:

```
HKLM\Software\Microsoft\Communicator
2005\SessionManager\Apps\[GUID of Application]
```

The following table lists the registry keys and data that you need to add.

Table: Actions Menu Registry Keys

Name	Type	Data
Name	REG_SZ	Name of the application displayed in the Menu
URL	REG_SZ	Location for downloading the executable
Path	REG_SZ	Path to the executable and filename

Note   By default, Office Communicator 2005 includes an Action Menu extension item for Remote Assistance. This entry adds an **Ask for Remote Assistance** entry under **More** in the **Actions** menu.

Executing the Communicator 2005 Shell

Instance	Results
Tel:+14255554057	Open phone-only view with +14255554057
Callto:tel:+14255554057	Open phone-only view with +14255554057
Callto:sip:user@nwtraders.com	Open phone-only view with user@nwtraders.com
sip:user1@nwtraders.com	Bring up Contact Window with user1@nwtraders.com
Conf:sip:1800555123 4#101@bridge.nwtraders.com	Open phone-only view with conference number 18005551234 at the bridge called bridge.nwtraders.com with the pass code: 101
im:sip:user1:password@nwtraders.com:80	Bring up IM-only contact window with user1:password@nwtraders.com:80

Introduction

The Communicator 2005 shell feature enables a user to launch Communicator from within other applications. When the shell extension is executed, it provides a quick-launch for conversations using a command line parameter. For example, if a user clicks a phone number, the shell can launch an instance of Communicator 2005 and connect to that phone number.

Automatic Sign In

If Communicator 2005 is configured to sign in automatically at launch, then the shell execution launches the Contact window. If Communicator is not configured to sign in automatically at launch, then the sign-in window displays.

Important   If Communicator 2005 is already running, then the Contact window will become the active window. A separate instance of Communicator 2005 will not be launched.

Available Extensions

The following table lists the available extensions:

Extension	Format of data	Action
tel:	tel URI	Displays phone only, but does not dial the tel URI.
callto:	tel:, sip:, or typeable tel URI	Displays phone-only view, but does not dial the appropriate number.
sip:	sip URI	Displays roster-only view with SIP URI in the roster. If the user is offline or an invalid contact, open up an e-mail to the user's SIP address.
sips:	sip URI	If in TLS mode, bring up roster-only view with SIP URI in the roster. Otherwise, display a dialog box stating high security is required. If the user is self, open an e-mail to the user's SIP address.
conf:	sip URI of conference	If URI is self, then instantiate the focus and

	to join	bring up roster-only view. Otherwise, bring up roster view, but do not send INVITE.
im:	sip URI	Displays IM-only window with the Sip URI. If the user is self, open an e-mail to the user's SIP address.

Example Extensions

The following table gives examples of extensions that Communicator can use to start phone conversations, bring up a contact window, or join a conference call.

Instance	Results
Tel:+14255554057	Open phone-only view with +14255554057.
Callto:tel:+14255554057	Open phone-only view with +14255554057.
Callto:sip:user@nwtraders.com	Open phone-only view with user@nwtraders.com.
sip:user1@nwtraders.com	Bring up Contact Window with user1@nwtraders.com.
Conf:sip:18005551234#101@bridge.nwtraders.com	Open phone-only view with conference number 18005551234 at the bridge called bridge.nwtraders.com with the pass code: 101.
im:sip:user1:password@nwtraders.com:80	Bring up IM-only contact window with user1:password@nwtraders.com:80.

Important   If the URI provided through the shell execute is malformed, an error message will appear. However, if the URI is formatted correctly, but is not a valid phone or SIP address, then Communicator 2005 Contact window will behave as it would for any message. For example, sending a message to an invalid SIP address should result in a message delivery failure notification

Lesson: Configuring Communicator Web Access

- Deploying Communicator Web Access
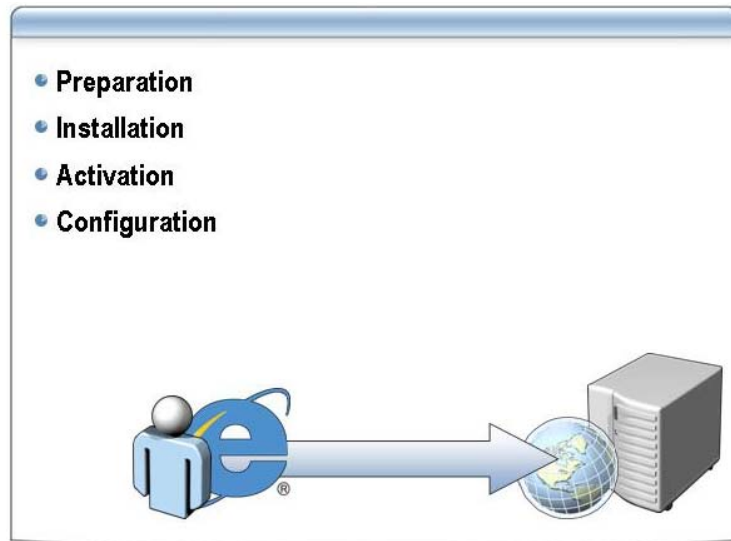- Connecting to Communicator Web Access

Introduction

Communicator Web Access provides the facility for users to connect to LCS 2005 with SP1 by using any supported browser. This facility supports and enhances the Office Communicator 2005 client by providing additional flexibility over connection methods, computer platform, and messaging location.

Lesson objectives

After completing this lesson, you will be able to:

- Deploy Communicator Web Access.
- Connect to Communicator Web Access.

Deploying Communicator Web Access

Introduction

You can deploy Communicator Web Access into your existing infrastructure if your infrastructure meets the requirements described in the topic "Communicator Web Access Server" in Module 1, "Introducing Live Communications Server 2005 SP1".

Process

Deploying Communicator Web Access on a server involves preparation, installation and activation, and configuration phases. The following steps provide an overview of this process:

Preparation

1. Install Windows Server 2003 and apply the latest service pack and updates.

2. Add the server to an Active Directory domain.

3. Install IIS 6.0.

4. Install .NET Framework 2.0.

5. Secure the server in accordance with best practice guidelines.

6. Request and install the following certificates in the certificate store for the local computer:

   a. A computer certificate for MTLS that specifies the FQDN of the Communicator Web Access server as the common name.

   b. A Web Server certificate for HTTPS.

   c. If necessary, install the CA certificate chain in the Trusted Root Certification Authorities node in the certificate store for the local computer.

   **Note**   Certificate FQDN values may differ, depending on the LCS topology.

Installation and Activation

7. Log on to the server with an account that is a member of the Administrators, DomainAdmins, and RTCDomainServerAdmins groups.

8. Open the Microsoft Office Communicator Web Access Deployment tool, and then perform the following steps:

a. Install Communicator Web Access.

b. Activate Communicator Web Access. In the wizard, select the MTLS computer certificate that you installed above.

c. Create a Virtual Server. In the wizard, select the Web server HTTPS certificate that you installed during preparation.

d. Create additional virtual servers, as necessary.

Configuration

9. In Active Directory, configure user accounts by enabling them for Live Communications, entering SIP names, and enabling remote user access.

10. Sign in to Communicator Web Access using the URI https://<server_ FQDN>

Connecting to Communicator Web Access
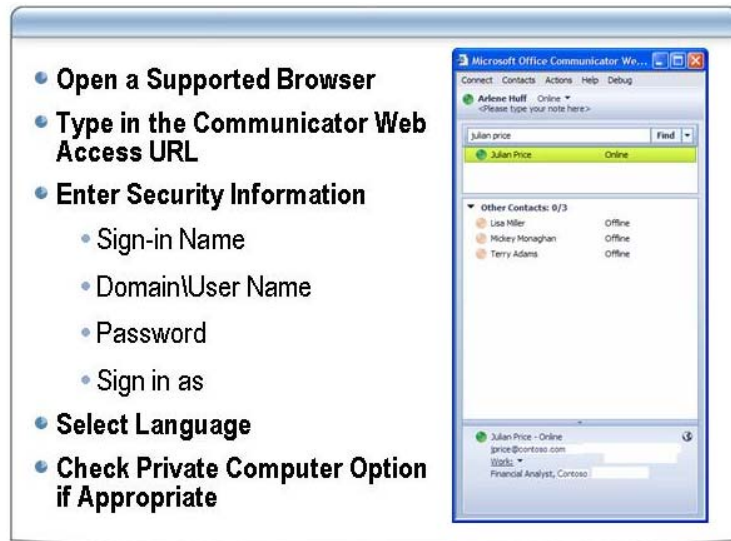
Introduction

To connect to Communicator Web Access, users only need access to an Internet connection and a browser. These minimal requirements make it easy for users to access their IM profile from anywhere in the world.

Browser Types

For the best experience, users should connect by using use one of the following browsers:

- Microsoft Internet Explorer 6.0 Service Pack 1 Internet browser or later
- Firefox 1.0
- Safari 1.2.4 or later on Mac OS X Update 10.3.7
- Netscape Browser 7.2 or later

Users must know the URL to connect to Communicator Web Access. They also need to know their SIP address, which is typically the same as their e-mail address.

Important   Pop-up blockers prevent Communicator Web Access from functioning correctly. If a pop-up blocker is installed in your browser, disable it for the Communicator Web Access Web site. For details about the pop-up blocker, see your toolbar documentation.

Connection Steps

To connect to Communicator Web Access, perform the following steps:

1. On the computer, open a browser window.

2. In the address field of your browser, type the URL that your system administrator provided, for example, https://im.contoso.com.

3. If a **Security Alert** dialog box appears, click **Yes**.

4. In the sign-in page that appears, type the required information.

Note   If you are signing in from inside your organization's network and you are using Internet Explorer, you will not be required to enter Domain\user or Password.

   a.   **Sign-in name**. Type the sign-in name (the SIP address) that was assigned to you by your system administrator to use for instant messaging. Your sign-in name is usually in the form someone@contoso.com.

   b.   **Domain\user**. Type the domain and user names that you use to log on to the network. This box appears only if you are signing in from outside your organization's network.

   c.   **Password**. Type the password that you use to log on to the network. This box appears only if you are signing in from outside your organization's network.

   d.   **Sign in as**. Either leave this box blank or select the status that you want to others to see when you sign in to Communicator Web Access. If you leave the box blank, Communicator Web Access determines your status and set it to either Online or the status you have already set in another IM client.

5.   In the Language box, click the arrow, and then click your preferred language, if necessary.

6.   If you are signing in from outside your organization's network and you are using a private computer and not a public Web kiosk, you can select the **I'm using a private computer** check box. This setting allows you a longer period of inactivity before you are automatically signed out.

Note   If you are using a public computer, such as a Web kiosk, leave the **I'm using a private computer** check box cleared. On a public computer, after you are inactive for a period of time, you are automatically signed out so that people using the computer after you will not have access to your instant messaging session and sign-in information.

Lab 5: Installing and Configuring Office Communicator Web Access Server

Objectives

After completing this lab, you will be able to:

- Prepare a server for installing Office Communicator Web Access.

- Install and activate Office Communicator Web Access.

- Connect to Office Communicator Web Access from a supported browser and use the features of Office Communicator Web Access.

Estimated time to complete this lab: **30 minutes**

Important: At the end of this lab, close down the VPC images and delete changes.

Introduction

Fabrikam wants to extend the provision of IM and presence information to employees at locations such as public Wi-Fi networks and at client premises, where access from Office Communicator 2005 is not possible. To implement this access, Matt Dawson, the Fabrikam network administrator, has decided to set up Office Communicator Web Access on a Web server in the Fabrikam network.

In this lab, you install Office Communicator Web Access onto a member server in a domain. Because you are installing Office Communicator Web Access into the LCS 2005 with SP1, Enterprise Edition environment, you must issue another certificate for the FQDN of the member server.

Network Topology

The labs in this course use virtual machines. In order to configure the virtual machines to be usable in a lab environment, the network topology has been substantially modified from a typical network configuration. The lab configuration combines many server roles in non-standard ways that are not recommended and are generally not viable in a production network. The network topology used in these labs is shown in the following figure.
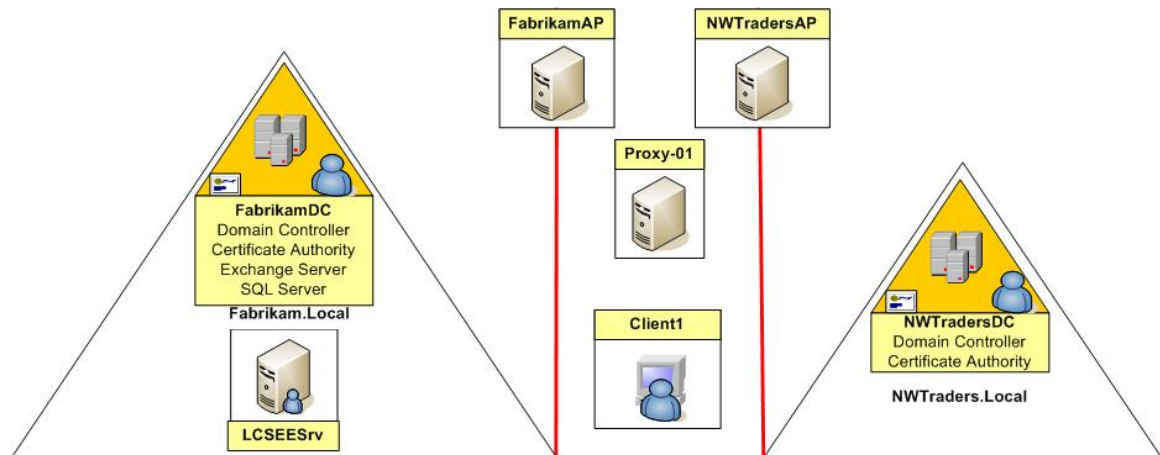
Physical Network Topology
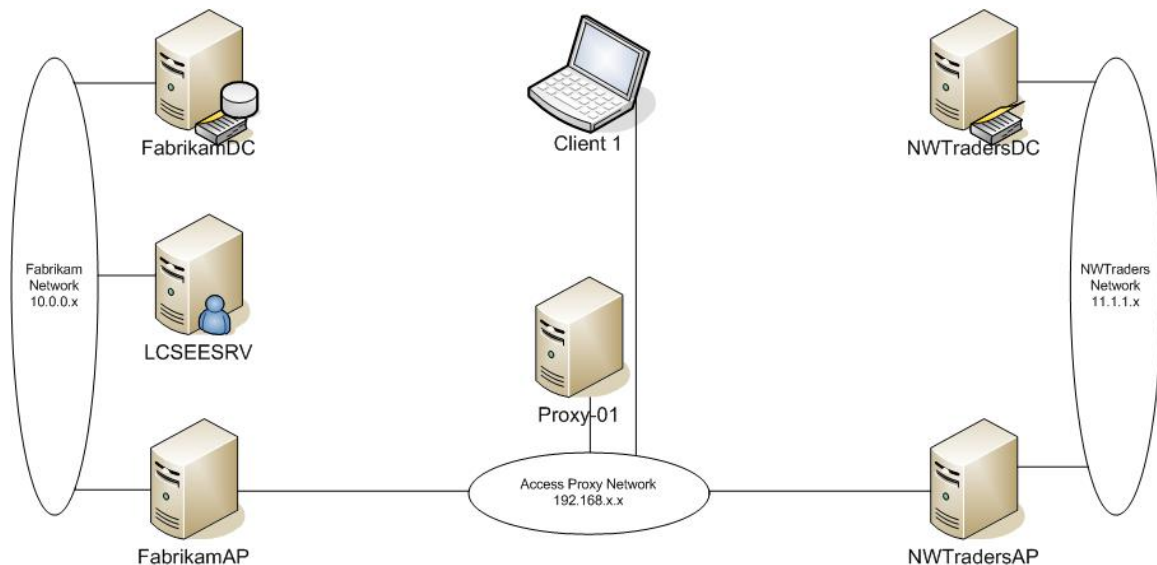
Virtual PC Image to Computer NetBIOS Name Mappings

The following table shows the mapping between the VPC images and the computer NetBIOS names for this lab. Please ensure you use the correct VPC image from the VPC console to start the lab.

VPC Configuration Name	Computer NetBIOS Name
7034A-FabrikamDC-B	FabrikamDC
7034A-FabrikamAP-B	FabrikamAP
7034A-LCSEESRV-B	LCSEESRV

Important: You should start these virtual PC images prior to commencing the lab exercises.

On 7034A-FabrikamDC-B, a Service Control Manager message box may appear, with the following message: At least one service or driver failed during system startup. Use Event Viewer to examine the event log for details. If this message appears, click OK, and continue. The message refers to the Kerberos Key Distribution Center service. However, this service starts properly.

On 7034A-LCSEESRV-B, the Live Communications Server service may fail to start if FabrikamDC has not completely booted before starting LCSEESRV. Before you start the lab, check that the Live Communications Server service on LCSEESRV is running.

At the end of the lab, ensure that you shut down the virtual computers without saving changes.

Exercise 1
Preparing to Install Office Communicator Web Access

Scenario

Because Office Communicator Web Access is on a Web server, the Administrator must request another certificate from the Fabrikam CA. This certificate enables encrypted communications with the Office Communicator Web Access Web server.

Description

In this exercise, you will prepare the LCS server for deployment of the Office Communicator Web Access service. This preparation includes installing IIS 6.0 and the .NET Framework 2.0. You also need to request a certificate with a subject that matches the FQDN of the Web server. You cannot use the Enterprise Edition Pool certificate that you issued in Lab 2b, because that certificate has the FQDN of eepool1.fabrikam.local.

Tasks	Detailed Steps
⚠ Important: Perform this exercise on the 7034A-LCSEESRV-B virtual machine. You must install IIS before installing Microsoft .NET Framework 2.0, or else the Live Communications Server Web Service installation will fail.	
1. Install IIS 6.0.	**a.** Log on to **7034A-LCSEESRV-B** as **Administrator** with a password of **pass@word1**.
	b. Click **Start**, point to **Control Panel**, and then click **Add or Remove Programs**.
	c. In the **Add or Remove Programs** window, click **Add/Remove Windows Components**.
	d. In the **Windows Component Wizard** wizard, on the **Windows Components** page, select the box next to **Application Server**. Note that the box remains grey, as not all components are selected by default. Click **Next** to continue.
	e. On the **Completing the Windows Components Wizard** page, click **Finish**.
	f. Close the Add or Remove Programs window.
2. Install Microsoft .NET Framework 2.0.	**a.** On **7034A-LCSEESRV-B**, click **Start**, and then click **My Computer**.
	b. Navigate to **E:\Demo Files\Microsoft .NET Framework 2.0**, and then double-click **dotnetfx.exe**.
	c. On the **Welcome** page, click **Next**.
	d. On the **End-User License Agreement** page, click **I accept the terms of the License Agreement**, and then click **Install**.
	e. On the **Setup Complete** page, click **Finish**.

3.	Request a certificate for the Web server.	**a.** Click **Start**, click **Run**, and in the **Open** box type **http://FabrikamDC/certsrv/**, and click **OK**.
		b. On the **Welcome** page, click **Request a certificate**.
		c. On the **Request a Certificate** page, click **advanced certificate request**.
		d. Click **Create and submit a request to this CA**.
		e. In **Certificate Template**, click **Web Server**.
		f. In the **Name** box, type **lcseesrv.fabrikam.local**.
		g. In **Key Options**, select the **Store certificate in the local computer certificate store** check box.
		h. Click **Submit**.
		i. In the **Potential Scripting Violation** message box, click **Yes**.
		j. Click **Install this certificate**. In the **Potential Scripting Violation** dialog box, click **Yes**.
		k. Close Internet Explorer.
4.	Install the certificate on the server.	**a.** Click **Start**, and then click **Run**. In the **Open** box, type **mmc**, and then click **OK**.
		b. In the management console, on the **File** menu, click **Add/Remove Snap-in**.
		c. In the **Add/Remove Snap-in** dialog box, click **Add**.
		d. In the **Add Standalone Snap-in** dialog box, in the list of **Available Standalone Snap-ins**, select **Certificates**.
		e. Click **Add**.
		f. In the **Certificate snap-in** dialog box, select **Computer account**, and then click **Next**.
		g. In the **Select Computer** dialog box, ensure that **Local computer (the computer this console is running on)** is selected, and then click **Finish**.
		h. In the **Add Standalone Snap-in** dialog box, click **Close**.
		i. In the **Add/Remove Snap-in** dialog box, click **OK**.
		j. In the left pane of the **Certificates** console, expand **Certificates (Local Computer)**, expand **Trusted Root Certification Authorities**, and then click **Certificates**.
		k. Confirm that the certificate that you requested for the Communicator Web Access server with its FQDN is listed. If not, copy it from the **Personal\Certificates** folder to the **Trusted Root Certification Authorities\Certificates** folder.
		l. Close the management console and do not save changes.

Exercise 2
Installing Office Communicator Web Access

Scenario
Matt has now completed the process of preparing the Web server for Office Communicator Web Access. He can proceed to run the Office Communicator Web Access Setup program on the server.

Description
In this exercise, you run the Setup program from the Office Communicator Web Access download. For your convenience, the downloadable file has already been extracted into the CommunicatorWebAccessInstaller folder. You then activate the LCS server, and create a virtual server for client connections.

Tasks	Detailed Steps
⚠ **Important:** Perform this exercise on the 7034A-LCSEESRV-B virtual machine.	
1. Run Office Communicator Web Access Setup.	a. Log on to **7034A-LCSEESRV-B** as **Administrator** with a password of **pass@word1**. b. Click **Start**, and then click **My Computer**. c. Navigate to **E:\Demo Files\CommunicatorWebAccessInstaller**, and then double-click **setup.exe**. The **Deploy Microsoft Office Communicator Web Access** window appears.
2. Install Office Communicator Web Access.	a. Under **Step 1: Install Communicator Web Access**, click **Install**. b. On the **Welcome** page, click **Next**. c. On the **License Agreement** page, click **I accept the terms in the license agreement**, and then click **Next**. d. On the **Customer Information** page, accept the default entries, and then click **Next**. e. On the **Ready to install** page, accept the default installation location, and then click **Next**. f. On the second **Ready to install** page, check the settings, and then click **Install**. g. On the **Setup complete** page, click **Finish**.
3. Activate Office Communicator Web Access.	a. In the **Deploy Microsoft Office Communicator Web Access** window, next to **Step 2: Activate Communicator Web Access**, click **Activate**. b. On the **Welcome** page, click **Next**. c. On the **Select domain service account** page, accept the default Account name of **FABRIKAM\CWAService**, and in the **Password** and **Confirm password** boxes, type **pass@word1**. d. Click **Next** to continue and create the service account.

	e.	On the **Select Server Certificate** page, click **Select Certificate**.
	f.	In the **Select Certificate** dialog box, under **Issued to**, select the **lcseesrv.fabrikam.local** certificate, and then click **OK**.
Note Because the Live Communications Server uses this certificate to authenticate the Communicator Web Access server, the FQDN on this certificate must be the FQDN of the Communicator Web Access server.		
3. Activate Office Communicator Web Access. (*continued*)	**g.**	On the **Select Server Certificate** page, verify that the correct certificate has been selected, and then click **Next**.
	h.	On the **Ready to activate Communicator Web Access** page, verify that the **Use Server Certificate: Issued to:** box contains the FQDN of the Communicator Web Access server. If it does, click **Next**.
	i.	On the **Success** page, click **View Log**. The **CWA_Activation.txt** file opens in Notepad.
	j.	Scroll down the file until you see the line "Activated Successfully". Close Notepad.
	k.	On the **Success** page, click **Finish**.
4. Create the Office Communicator Web Access IIS Virtual Server.	**a.**	In the **Deploy Microsoft Office Communicator Web Access** window, next to **Step 3: Create a Virtual Server**, click **Create**.
	b.	On the **Welcome** page, click **Next**.
	c.	On the **Select Virtual Server Type** page, click **External**, and then click **Next**.
	d.	On the **Select authentication method** page, the **Forms-Based password authentication** check box is selected by default. **Integrated (NTLM/Kerberos) password authentication** is not available for external sites, then click **Next**.
	e.	On the **Select Browser Connection Type** page, click **HTTPS (recommended)**.
	f.	Click **Select Certificate**. On the **Select Certificate** page, click the **lcseesrv.fabrikam.local** certificate, and then click **OK**.
	g.	On the **Select Browser Connection Type** page, verify that the correct certificate has been selected. Click **Next**.
	h.	On the **Select IP address and port setting** page, leave the setting at the default setting **(All Unassigned)** and the **Port** set to **443**, then click **Next**.
	i.	On the **Name the Virtual Server** page, accept the default of Communicator Web Access, and then click **Next**.
	j.	On the **Automatically Start Virtual Server** page, select **Start this virtual server after the Create Virtual Server Wizard finishes**, and then click **Next**.
	k.	On the **Review virtual server settings** page, review the settings. The **Certificate:** setting should be **lcseesrv.fabrikam.local**. Click **Next**.
	l.	On the **wizard has successfully created a virtual server** page,

	on the **Success** page, click **View Log**. The **CWA_CreateVirtualServer.txt** file opens in Notepad.
	m. Scroll down the file until you see the line "Web site W3SVC/xxxxxxxxx has been started.", where xxxxxxxxx is a number. Close Notepad.
	n. On the **Success** page, click **Finish**.
	o. On the **Deploy Microsoft Office Communicator Web Access** page, click **Exit**.

Exercise 3
Connecting to Office Communicator Web Access

Scenario

Matt now wants to check that users can access the Office Communicator Web Access service and can talk to someone on the network. This check requires a user to connect to the URL for the Web server, to log on successfully, and then to start an IM conversation with another user.

Description

In this exercise, you start a browser, connect to the Office Communicator Web Access server, and log on as Jeff Smith. As Jeff Smith, you then search for Matt Dawson, the network administrator, and start an IM conversation with him.

Tasks	Detailed Steps
⚠ **Important:** Perform this exercise on the 7034A-FabrikamAP-B and 7034A-FabrikamDC-B virtual machines.	
1. Connect to the Communicator Web Access Client.	**a.** Log on to the **7034A-FabrikamAP-B** virtual computer as **Administrator** with a password of **pass@word1**.
	b. Click **Start**, point to **All Programs**, and then click **Internet Explorer**.
	c. If a **Security Alert** message box appears, click **OK**.
	d. Type **https://lcseesrv.fabrikam.local** in the browser address field. The URI to the Communicator Web Access server must match the common name in the HTTPS certificate.
	e. In the **Security Alert** dialog box indicating a problem with the site's certificate, click **Yes**.
ℹ **Note:** If the client computer is configured to trust the same CA that Communicator Web Access trusts, you can install a certificate on the client so that users do not have to respond to the security alert. This procedure may not work in all situations.	
1. Connect to the Communicator Web Access Client (*continued*)	**f.** If an **Information Bar** message box appears, check **Do not show this message again**, and then click **OK**. Then click the yellow bar at the top of the Web page, and click **Always Allow Pop-ups from This Site**. Click **Yes** on the **Allow pop-ups from this site** message box.
	g. On the sign-in page that appears, in the **Sign-in name** box, type **jeff@fabrikam.local**.
	h. In the **Domain\User** box, type **FABRIKAM\Jeff**.
	i. In the **Password** box, type **pass@word1**.
	j. In the **Sign in as** list, click **Online**. If you leave the box blank, Communicator Web Access will determine your

			status and set it to either Online or the status you have already set in another IM client.
		k.	In the **Language** box, ensure that **English** is selected.
		l.	Select the **I'm using a private computer** check box.
		m.	Click **Sign In** to sign on to Office Communicator Web Access.
		n.	Click **Yes** to any security warning dialog boxes that appear.
		a.	A **Microsoft Office Communicator Web Access** page will appear showing **Jeff Smith** signed in as **Online**.
2.	Test the Features of Office Communicator Web Access	a.	In the box next to **Find**, type in **Matt Dawson**, and click **Find**. Matt Dawson will appear in the list underneath the **Find** box.
		b.	If Matt Dawson is currently offline, switch to **7034A-FabrikamDC-B**, click **Start**, point to **All Programs**, and then click **Windows Messenger**. Log in as **matt@fabrikam.local** with a password of **pass@word1**.
		c.	Switch back to **7034A-FabrikamAP-B**, and notice that the status of Matt Dawson has changed to **Online**.
		d.	Right-click **Matt Dawson**, and select **Send an Instant Message**. A **Matt Dawson - Conversation** window appears.
		e.	In the box at the bottom of the conversation window, type in "Office Communicator Web Access works!" and click **Send**.
		f.	Switch back to **7034A-FabrikamDC-B**, and notice the **jeff@fabrikam.local** conversation window appears in the Task Bar.
		g.	Click the **jeff@fabrikam.local** conversation window, and reply to the message.
		h.	At the top of the Microsoft Office Communicator Web Access window, click **<Please type your note here>**, type **I am at a client site today**, and then click somewhere else in the window. Your personalized message is now set to **I am at a client site today**.
		i.	Click the **Actions** menu, and click **Options** to review the settings such as **Phones**, **General**, **Messages**, **Alerts**, and **Permissions**.
		j.	Try out the other features of Office Communicator Web Access, including Groups and Tagging.
		k.	Finally, close the Office Communicator Web Access window.
3.	Close down the Virtual PCs	a.	In the virtual PC window for **7034A-FabrikamDC-B**, click the **Action** menu, and then click **Close**.

| | **b.** In the **Close** dialog box, select **Turn off and delete changes**, then click **OK**. |
| | **c.** Repeat these steps on the remaining Virtual PCs. |

Review

- **Introducing Office Communicator 2005**
- **Describing Usage Scenarios for Office Communicator 2005**
- **Integrating with Office 2003**
- **Integrating with Telephony Technology**
- **Automating Client Discovery**
- **Configuring Group Policies for Office Communicator 2005**
- **Configuring Communicator Web Access**
- **Customizing Office Communicator 2005**

In this module, you looked at the features of the Office Communicator 2005 client for LCS 2005 with SP1. You reviewed the usage scenarios for Communicator, saw how it integrates with Office 2003 and telephony technology, investigated the process of automatic client discovery, and configured group policies to control how Communicator operates. You also looked at the Communicator Web Access client, and compared that client to Office Communicator 2005. Finally, you saw how to configure Office Communicator 2005 through the Help menu, tabs and Action menu items.

In the next module, you will look at how you can extend LCS 2005 with SP1 with an Access Proxy, enabling LCS to work with other organizations and with users of public messaging services.