



# **Lync for Mac 2011 Deployment Guide**

Information in this document, including URL and other Internet Web site references, is subject to change without notice. Content in this document represents the current view of Microsoft Corporation on the issues discussed as of the date of publication. Because Microsoft must respond to changing market conditions, it should not be interpreted to be a commitment on the part of Microsoft, and Microsoft cannot guarantee the accuracy of any information presented after the date of publication.

Complying with all applicable copyright laws is the responsibility of the user. Without limiting the rights under copyright, no part of this document may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without the express written permission of Microsoft Corporation.

Microsoft may have patents, patent applications, trademarks, copyrights, or other intellectual property rights covering subject matter in this document. Except as expressly provided in any written license agreement from Microsoft, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property.

© 2011 Microsoft Corporation. All rights reserved.

The names of actual companies and products mentioned herein may be the trademarks of their respective owners.

Microsoft Terms of Use - <http://www.microsoft.com/info/cpyright.mspix>

Microsoft Trademarks - <http://www.microsoft.com/library/toolbar/3.0/trademarks/en-us.mspix>

Microsoft Privacy Statement - <http://privacy.microsoft.com/en-us/default.aspx>

## Table of contents

Getting Started .....	1
Overview.....	1
Features in Lync for Mac 2011.....	2
System Requirements for Lync for Mac 2011.....	5
Installing and Configuring Lync for Mac 2011 on a Corporate Network .....	6
Deploying Lync for Mac 2011 .....	6
Removing Lync for Mac 2011.....	6
Deploying Lync for Mac 2011 Preferences.....	7
Technical Reference.....	8
Lync for Mac 2011 and Office for Mac 2011.....	8
Lync for Mac 2011 Integration Requirements .....	9
Lync for Mac 2011 - Managed Preferences.....	10
Lync for Mac 2011 and Public Instant Messaging Clients.....	16
Compare Lync for Mac 2011 with Communicator for Mac and Lync 2010 for Windows.....	17

# Getting Started

## Overview

Lync for Mac 2011 works with Microsoft Lync Server 2010 to provide real-time collaboration between people in different locations. People can collaborate in real time by using several methods of communication, including instant messaging (IM), presence, Web conferencing, desktop sharing, and audio/video (A/V) conferencing. Contacts that a user adds to his or her Lync account can include coworkers in the same company and, if authorized, associates on *federated* networks.

## Intended audience

The Lync for Mac 2011 Deployment Guide is for system implementers, IT managers, system administrators, or other people who plan for, implement, and maintain Lync in their organizations.

Lync is available as a standalone edition for volume licensing customers.

## Documentation roadmap

This document guides you through planning and deploying Lync in a corporate environment. The following table describes the chapter content.

Chapter	Description
<a href="#">Getting Started</a>	Details about the new features in Lync and information about what you should consider when you upgrade to the new version
<a href="#">Installing and Configuring Lync for Mac 2011 on a corporate network</a>	How to install and deploy Lync in a corporate environment
<a href="#">Technical Reference</a>	Additional resources for planning, deploying, and maintaining Lync

## Features in Lync for Mac 2011

Lync for Mac is a collaboration tool that helps organizations increase productivity by providing tools users can use to communicate with their colleagues in the most efficient ways. For example, users can convert an instant message conversation into an audio or video call. While on a call users can share their desktops, invite multiple users to the call, send file attachments to everyone who joined the call. Lync offers users several collaboration features to increase efficiency and productivity.

### Improved, unified, and an easier to use user interface

- Get easy access to presence, instant messaging, voice, and audio, video, and online meeting.
- You can now join, accept, decline, or redirect the meeting invites, audio/video calls and instant messages right from the invite alerts.
- You can see and monitor the meeting roster for participants who are having difficulty with audio, video, or sharing connections during online meetings.
- The Contacts list is enhanced with additional customization and search features. See the Contacts enhancements section below.
- The Phone view contains a dial pad for making calls.

### Contacts enhancements

- You can now see the corporate or custom pictures of the people in your organization for quick identification.
- Lync allows you to search for a contact by name or email address and add them to the Contacts list.
- You can view the contacts in your contact list by Display Name or by groups.
- While you are working, you can click over a status icon to see the contact card for your contact. The contact card shows the presence status for the contact in more detail, and gives you several communication options, such as sending an instant message, or starting an audio or video call.
- You can add contacts to the Pinned Contacts group to quickly access the contacts you most frequently converse with.

## Improved Call Controls

- Lync offers call forwarding settings that can be easily configured by users. Users can set up call forwarding settings to do the following:
  - **Forward calls** Incoming calls can be forwarded to another number such as a mobile phone, to a new phone number specified by the user, to another contact or voice mail.
  - **Simultaneously ring this additional number** If users are mobile or between phones during their work day, they can configure call forwarding settings to ring an additional number at the same time that their default phone number rings. They can also use the Simultaneously ring feature to ensure that they receive phone calls on their mobile phone, even if they are not logged on to Lync on their computer.
  - **Redirect unanswered calls** Users can configure call forwarding settings to specify that if a call is not accepted within a specified time interval, the call is redirected to another number, contact, or voice mail.
- Use the dial pad on the Phone tab or the search field in the Contacts tab to place a call to a number.
- You can add outside phone numbers to your Contact List so that you can conveniently call people, such as friends and family members, who do not have Lync. You can type a phone number in the Search box and then add it to your Contact List.
- You can now make audio and video calls to your Windows Live Messenger contacts.

## Improved online meeting experience

- With Lync you can now use a single program for instant messages and online meetings. Meeting organizers now control who gets directly into a meeting and who waits in the lobby. Any presenter can admit or decline people who are waiting in the lobby.

## Improved scheduling and joining online meeting experience


- Now, scheduling a meeting and inviting others is quicker and more streamlined. The Meet Now command lets you start an impromptu online meeting, with the click of a mouse. Or, you can use Microsoft Outlook to schedule a new online meeting, invite others, and join a meeting. You can also join a meeting from an instant-messaging (IM) conversation.

- Also, users without access to a computer who want to join an audio conference can now call into the conference using a regular mobile, desk, or home phone. When you schedule an audio conference by using Outlook, you can add a conference call number to the conference. The Outlook invitation contains the dial-in information. Participants can use any phone to dial into the conference and enter the conference ID and PIN when prompted. After the participant joins the audio conference, he or she appears in the conference roster.

### Improved sharing experience


- You can start a desktop-sharing session at any time during a conversation. For example, if you have a document, slide deck, or application that you want to present to others in the conversation, you can start a desktop sharing session. When you start the session, all participants can see the tasks that you perform on your desktop.
- You can request control to a desktop-sharing session initiated by Windows Lync.
- You can add audio and video to the desktop session and see participants from around the world at their desks.
- Share files during a group conversation or desktop sharing session by either dragging or attaching the file into the conversation window.
- You can join a PowerPoint presentation initiated from a Windows desktop. You can take control of this presentation and make it available to either just the presenters or to everyone who joins the group conversation.

### Lync for Mac support in Office 365

- Office 365 now supports Lync for Mac. For more information, see [Microsoft Office 365](#) .

## System Requirements for Lync for Mac 2011

The following table lists the minimum hardware and software that you must have to install Lync for Mac 2011.

Component	Minimum requirement
Display resolution	Super VGA 1280 x 800
Processor	Intel only
Operating system	Mac OS X v10.5.8 (Leopard) or a later version including Mac OS X v10.6 (Snow Leopard) and Mac OS X v10.7 (Lion)
Other requirements	Safari 5 or Firefox 5 for a new Lync for Mac feature, Meeting Join Office for Mac 2011 for new integration features   <b>Note</b> Lync for Mac does not work with Microsoft Office Communications Server 2007 R2 or earlier versions.

The following table lists the recommended minimum hardware and software for audio/video and desktop sharing.

Component	Recommended for audio/video
Memory	1 GB of RAM or more
Voice	Compatible microphone and speakers, headset with microphone, or equivalent device  Sample devices include a built-in Apple iSight webcam and other external devices that are compatible with Mac OS X.
Video	Compatible webcam  Sample devices include a built-in Apple iSight webcam and other external webcams that are compatible with Mac OS X.
Internet connection	Broadband



# Installing and Configuring Lync for Mac 2011 on a Corporate Network

## Deploying Lync for Mac 2011

To deploy Lync for Mac, use one of the following options:

- **Install by using Apple Remote Desktop** Lync uses the Apple Installer for installation. The Apple Installer makes the installation process more efficient because the data that Lync installs is in the .pkg format. Lync Installer is compatible with Apple Remote Desktop and the installation applications are AppleScript ready.
- **Install from a software distribution point** You can download the installation image to a central location, such as the network file server. Then users can drag the installation image to their computers and install Lync.


To establish a standard set of preferences for users, you can customize the preferences for Lync. For example, you can customize the preferences for setting a range of ports for audio/video sessions in the preference file and deploy the file to your client computers. For more information about managed preferences in Lync, see [Lync for Mac 2011 - Managed Preferences](#).

## Removing Lync for Mac 2011

Follow these steps to remove Lync.

1. Log in to your computer with administrative credentials.
2. Quit Lync if it is running.
3. Drag the Lync application to the Trash.
4. To remove your existing Lync preferences, delete the following files:
  - `/Users/username/Library/Preferences/com.microsoft.Lync.plist`
  - `/Users/username/Library/Preferences/ByHost/MicrosoftLyncRegistrationDB.xxxx.plist`
  - `/Users/username/Library/Logs/Microsoft-Lync-x.log` (this file is present only if you turned on Lync Logging)
  - `/Users/username/Library/Logs/Microsoft-Lync.log`

5. To remove all Lync files from your computer, delete the following folders in `/Users/username/Documents/Microsoft User Data`:
  - Microsoft Lync Data
  - Microsoft Lync History

 **Note** If you remove the Microsoft Lync History folder, you will delete all conversations that are saved in the Conversation History.

6. Open **Keychain Access** from the `/Applications/Utilities` folder.
  - Delete any keychains on the left that look like: `OC__KeyContainer__<e-mail>`
  - In your Login keychain, delete `<your e-mail address>` certificate
7. In `/Users/username/Library/Keychains`, delete all the files that look like `OC__KeyContainer__<e-mail>`.

## Deploying Lync for Mac 2011 Preferences


If you customize Lync for Mac preferences, you can choose one of the methods that is described below to deploy the preferences to users on the network. For more information about the preferences that you can manage, see [Lync for Mac 2011 - Managed Preferences](#).

Before you deploy the preferences, users must quit Lync. The preference setting changes are applied when users reopen Lync.

### ▶ Deploying preferences by using Workgroup Manager

You can use [Workgroup](#) to deploy preferences and define privileges by user, by group, or by computer. You can also use it to perform a broad range of other workgroup management functions. It can deploy preferences either before or after users begin to work with Lync because you can manage individual preferences in a .plist file without disrupting other settings in the same file. Workgroup Manager does not deploy whole .plist files; instead, it updates .plist files on users' computers by writing individual [key/value](#).

When you customize preferences, the customized .plist files are stored in the home folder of the administrator account that you used to log in for that session. When you are ready to deploy these customized preferences, you must log in with that same administrator account because Workgroup Manager deploys the preference settings of the administrator who is currently logged in.

For detailed information about managing preferences with Workgroup Manager, see the [Mac OS X Server User Management](#)  documentation available for download from the Apple Web site ([www.apple.com/server/documentation](http://www.apple.com/server/documentation)).

### ▶ **Deploying preferences by using Apple Remote Desktop**

You can create a special .pkg file specifically to deploy preferences. You can use Apple Remote Desktop to deploy this .pkg file to the home folders on users' computers. Or, you can make the file available for users to copy from a file server.

For information about Apple Remote Desktop, see [Apple Remote Desktop Administrator's Guide](#)  on the Apple Web site at <http://www.apple.com/remotedesktop>.

## Technical Reference

### Lync for Mac 2011 and Office for Mac 2011

Lync for Mac is tightly integrated into Outlook, and works seamlessly with other Office for Mac 2011 applications, such as Word and PowerPoint — the familiar applications that users employ daily.

Here is a list of Lync features that are supported by Office for Mac 2011:

- See the presence status in the Outlook From, To, and Cc fields
- See the presence status in Outlook Contact Search panel
- Reply with IM or use audio or video calling features from Outlook Contact card
- Schedule a Lync online meeting right from Outlook
- Use the Instant Message option on the Review tab in Word to send a document in an instant message

## Lync for Mac 2011 Integration Requirements

Review the following configuration issues to ensure that you have everything required for integration between Lync and other Office programs:

- Review integration features between Lync for Mac and Exchange Server. For details, see the "Lync for Mac and Exchange Server" section below.
- Review the integration features that can be configured during Lync deployment by using managed preferences. For details, see the "Controlling Outlook and Exchange Integration" section below.
- Review the list of suggestions for preventing common integration errors in the [Common Lync 2010 and Outlook Integration Issues](#) section later in this topic.
- For integration with Office to work correctly, you need to install and update to Office for Mac 2011.

### Lync for Mac and Exchange Server

To support Lync integration, both Lync and Outlook read and write information directly to Exchange Server. This section discusses the Exchange Server interfaces used by Lync and Outlook.

In Lync, the integration features that use Exchange Web Services (EWS) to make calls directly to the Exchange Server are as follows:

- Display free/busy information and working hours
- Display meeting subject, time, and location
- Display Out of Office status and note
- Exchange contact sync

### Controlling Outlook and Exchange Integration

The Outlook 2011 integration features are enabled by default but can be controlled individually from within Lync. The following table lists the managed preferences you can use to enable or disable individual integration features either during deployment or later, as part of a maintenance or upgrade cycle.

<b>Policy</b>	<b>Integration</b>
DisableCalendarPresence	Disables the loading of free or busy data from Outlook.
DisableFreeBusyInfo	Prevents Lync from displaying Outlook information about free/busy states to other contacts.

## Common Lync and Outlook Integration Issues

This section lists some common configuration issues that might prevent Lync integration with Outlook from working as expected.

- In organizations that have Office for Mac 2011 installed, verify that you have deployed the current update of Word, PowerPoint, and Outlook.
- In Lync -> Preferences -> Account, verify that **Microsoft Exchange and Outlook Settings** is selected as the user's personal information manager.

## Lync for Mac 2011 - Managed Preferences


Certain features and behaviors that are available to Lync Server 2010 clients are determined by preference settings on the client. You can standardize the settings for Lync for Mac in your organization by configuring preferences for the application and then deploying these preferences to users on the network.

The Lync Server 2010 preferences are stored in the `/Library/Preferences/MicrosoftLyncRegistrationDB.plist` or the `User/username/Library/Preferences/ByHost/MicrosoftLyncRegistrationDB-xxxx.plist`. The `/Library/Preferences/MicrosoftLyncRegistrationDB.plist` corresponds to the `HKEY_LOCAL_MACHINE` keys on a Windows-based computer. This means every user on the computer shares the same set of settings. You need Administrator privileges on the computer to modify the file in this folder.

The `User/username/Library/Preferences/ByHost/MicrosoftLyncRegistrationDB-xxxx.plist` corresponds to the `HKEY_CURRENT_USER` keys on a Windows-based computer. This means that users who are using the same computer can have different Lync settings. The keys documented below are supported in either of these .plist files. However, the `/Library/Preferences/MicrosoftLyncRegistrationDB.plist` key will override the `~/Library/Preferences/ByHost/MicrosoftLyncRegistrationDB-xxxx.plist` file, if available.

To add a new preference, in the /Library/Preferences/MicrosoftLyncRegistrationDB.plist file, use the following syntax: `hkey_local_machine\software\policies\microsoft\lync\<preferencename>`. Use all lowercase letters for the preference entry. Before you add a new preference in the file, you must create the following default preference entries with the specified values in this .plist file:

Preference	Value
Backward-Compatible_Version	1
Current_Version	1
hkey_local_machine\software\policies\microsoft\lync\	<<MacRegNoValue>>

 **Note** To edit a .plist file, you can use a property list (plist) editor. A plist editor is available as part of the Apple XCode tool set. The default location for the plist editor on the hard disk is /Developer/Applications/Utilities/Property List Editor. Various third-party plist editors are also available.

The following table lists the Lync Server 2010 preferences available for Lync for Mac.

## Lync Server 2010 policies for Lync for Mac 2011

### absusage

**Value:** 0,1,20 = WebSearchAndFileDownload

1 = WebSearchOnly

2 = FileDownloadOnly

**Description:** Can be set to download the Address Book only, use Address Book web search only, or use both.

### ConfigurationMode

**Value:** 0 = automatic server detection (default)

1 = manual server configuration

**Description:** Specify how Lync identifies the transport and server to use during sign-in. If you enable this policy setting, you must specify ServerAddressInternal,

ServerAddressExternal, and Transport.

#### **ConfigurationMode\ServerAddressInternal**

**Value:** 0 = automatic server detection (default)

1 = manual server configuration

**Description:** If you enable ConfigurationMode, you must configure this setting, which specifies the server name or IP address used when clients connect from inside the organization's firewall.

#### **ConfigurationMode\ServerAddressExternal**

**Value:** 0 = automatic server detection (default)

1 = manual server configuration

**Description:** If you enable ConfigurationMode, you must configure this setting, which specifies the server name or IP address used by clients and federated contacts when connecting from outside the external firewall.

#### **ConfigurationMode\Transport**

**Value:** 0 = automatic server detection (default)

1 = manual server configuration

**Description:** If you enable ConfigurationMode, you must specify either Transmission Control Protocol (TCP) or Transport Layer Security (TLS).

#### **DisableAVConferencing**

**Value:** 0 = enabled (default)

1 = disabled

**Description:** Disables audio and video conferencing

**DisableCalendarPresence**

**Value:** 0 (or not set) = Calendar data is published as per the option set in the Personal Tab (Update my status based on calendar data). The user will switch to "In a meeting" based on calendar data. (default)

1 = Feature is disabled and Calendar data is not published; UI is disabled. The user will not switch to "In a meeting" based on calendar data.

**Description:** Disables calendar presence.

**DisableEmoticons**

**Value:** 0 (or not present) = enabled (default)

1 = disabled

**Description:** Disables emoticons in instant messages.

**DisableFreeBusyInfo**

**Value:** 0 = Enabled (default)

1 = Disabled

**Description:** Enables or disables publishing free/busy information.

**DisablePC2PCVideo**

**Value:** 0 (or not present) = Enabled (default)

1 = Disabled

**Description:** Disable video functionalities

**DisablePhonePresence**

**Value:** 0 = Phone call (3PCC, VOIP, and Conference) states are published

1 = Phone call states are not published to presence (default)

**Description:** Disables call presence



### EnableAppearOffline

**Value:** 0 = Not set (default)

1 = User can publish an **Appear Offline** state when they are still active on an endpoint.

**Description:** Enables the state Appear Offline

### EnableURL

**Value:** 0 = Disabled

1= Enables (default)

**Description:** Enables or disables hyperlinks in instant messages

### MaximumNumberOfContacts

**Value:** MIN 0

MAX 1000 (default)

**Description:** Indicates the maximum number of contacts a user is allowed to have. The maximum contacts can be set to any integer value between 0 and 1000, inclusive. When set to 0, that prevents the user from having any contacts.

### ucEnableSIPSecurityMode

**Value:** 0 = Security is low

1 = Security is high (default)

2 = Security is medium

**Description:** In high security mode: TCP transport mode is disabled, and only NTLM / Kerberos / certificate authentication is enabled.

In medium security mode: Under TLS, all authentication modes are enabled (above ones + basic & digest). Under TCP, only NTLM / Kerberos / certificate authentication is enabled.

In low security mode: All authentication modes are enabled under both TCP and TLS.

**ucMaxAppSharingPort**

Value: 1024-65535

Default is 65000

Description: Maximum port range used by application sharing

**ucMaxAudioPort**

Value: 1024-65535

Description: Maximum port range used by audio

**ucMaxVideoPort**

Value: 1024-65535

Description: Maximum port used by video

**ucMinAppSharingPort**

Value: 1024-65535

Description: Minimum port used by application sharing

**ucMinAudioPort**

Value: 1024-65535

Description: Minimum port range used by audio

**ucMinVideoPort**

Value: 1024-65535



Description: Minimum port range used by video

**VideoBitrate****Value:** 0-2000 (0 to 2 Mbps)**Description:** Limit bandwidth used by video to this bit rate

## Lync for Mac 2011 and Public Instant Messaging Clients

If you have configured your server for public IM connectivity, Lync supports the following capabilities with public IM networks. Presence status is filtered to those presence states supported by the public IM client.































<b>Client</b>	<b>Supported Capabilities</b>
Windows Live Messenger	IM, basic presence, audio/video (A/V)
AOL	IM and basic presence
Yahoo!	IM and basic presence











































 **Note** Audio/Video (A/V) is supported with the latest version of Windows Live Messenger. If you are implementing A/V federation with Windows Live Messenger, you must also modify the Lync Server encryption level. By default, the encryption level is Required. You must change this setting to Supported by using the Lync Server Management Shell. For details, see [Prepare for Support of Public IM Connectivity](#)  documentation.

## Compare Lync for Mac 2011 with Communicator for Mac and Lync 2010 for Windows

The following table compares the features that are available in Lync for Mac with Communicator for Mac and Lync for Windows.

 Feature is supported     
  Feature is partially supported     
  Feature is not supported

<b>Unified user interface</b>	<b>Lync for Mac</b>	<b>Communicator for Mac</b>	<b>Lync for Windows</b>
See photos of contacts for quick identification.			
Get easy access to presence, instant messaging, voice, audio, video, and online meeting.			
See and monitor the meeting roster for participants who are having difficulty with audio, video, or sharing connections during online meetings.			
Join, accept, decline, or redirect the meeting invites, audio/video calls and instant messages right from the invite alerts.			
Communicate from within Outlook, Word, or PowerPoint.			
Communicate from within SharePoint.			
<b>Rich presence and instant messaging</b>	<b>Lync for Mac</b>	<b>Communicator for Mac</b>	<b>Lync for Windows</b>
Send instant messages.			
Display published phone numbers, job titles, and office information all on contact cards.			
Set presence status manually or automatically based on calendar, login status, and more.			
Specify access levels for sharing information with different contacts.			

<b>Rich presence and instant messaging</b>	<b>Lync for Mac</b>	<b>Communicator for Mac</b>	<b>Lync for Windows</b>
Connect with people outside the organization with public instant-messaging connectivity (PIC), such as AOL Instant Messenger (AIM), Yahoo!, and Windows Live Messenger.			
<b>Enterprise Voice</b>	<b>Lync for Mac</b>	<b>Communicator for Mac</b>	<b>Lync for Windows</b>
Place a call from the Lync/Communicator contact card.			
Receive call notifications on the computer.			
Configure call forwarding in Lync/Communicator.			
Access voice mail from Lync/ Communicator.			
Use the Lync/Communicator dial pad to call external numbers.			
Add outside phone numbers to your Contact List.			
<b>Audio, video, and web conferencing</b>	<b>Lync for Mac</b>	<b>Communicator for Mac</b>	<b>Lync for Windows</b>
Connect using audio calls.			
Connect using video calls.			
Make audio and video calls to your Windows Live Messenger contacts.			
Schedule conferences in Outlook.			
Start an impromptu online meeting, with the click of a mouse.			
Join conferences scheduled from Outlook.			
Join an audio conference call using a regular mobile, desk, or home phone.			

<b>Desktop and file sharing</b>	<b>Lync for Mac</b>	<b>Communicator for Mac</b>	<b>Lync for Windows</b>
Share your desktop with other contacts.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Add audio and video to the desktop sharing session and see participants from around the world at their desks.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Join and control a PowerPoint presentation initiated from a Windows desktop.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Initiate a PowerPoint sharing session from Lync/Communicator.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Collaborate with rich white boarding, including the ability to copy and paste images and other content, annotations, and polling.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Conduct polling.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Upload files to share with meeting participants.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>