

Enterprise Unified Communication and Collaboration (EUCC) Instant Messaging

Service Description Version 2.00

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Purpose

This Enterprise Service Description is applicable to **Enterprise Unified Communication and Collaboration (EUCC) Instant Messaging** services offered by MN.IT Services (MN.IT) and described in the MN.IT Service Catalog. This document describes the services and features that are included with the **Enterprise Unified Communication and Collaboration (EUCC) Instant Messaging** offering.

Overview

EUCC Instant Messaging is a hosted, enterprise-class communications solution based on Microsoft® Lync Server 2010. This service provides your organization with real-time communications services, including instant messaging (IM), desktop sharing and audio/video communication. This service includes a “presence” feature—that means you can see at a glance whether someone is “available” for communication, and contact them with a click using IM or PC-to-PC audio and video communication.

Delivered from two data centers, the EUCC Instant Messaging service relies on the same network architecture and components that are used for EUCC Email and EUCC SharePoint.

The service is configured in an Active/Active datacenter topology where each of two geographically diverse sites hosts approximately one-half of the customer's total user population. Because each site has capacity to host 100

percent of a customer's users, the Active/Active topology enables each site to fail over to the other in service continuity and disaster recovery scenarios.

Benefits

EUCC Instant Messaging improves business efficiencies, increases productivity, and provides cost savings. With standard protocols, advanced deployment and management tools, and innovative client features, EUCC Instant Messaging is a powerful communication solution for organizations.

These are the top benefits of using EUCC Instant Messaging:

- **Know whether others are available to communicate with presence.** Making repeated attempts to reach others by phone or email is an all-too-common communication problem in today's business world. Often the problem stems from workers who are physically separated by geography and time zones, and who lack visibility into other people's availability or *presence*. Presence information is especially important when there is a need for a critical business discussion or a time-sensitive decision has to be made. EUCC Instant Messaging helps organizations increase individual productivity by combining presence with instant messaging and other real-time communication capabilities, such as audio and video.
- **Add real-time collaboration capabilities to Microsoft Outlook®.** Collaborating with others can be challenging for workers whose jobs require constant use of business productivity applications during the work day. EUCC Instant Messaging adds real-time collaboration capabilities and presence to the Microsoft Outlook messaging and collaboration client, enabling higher productivity through greater worker collaboration using familiar programs.
- **Collaborate within SharePoint® sites.** EUCC Instant Messaging serves as the presence engine for EUCC SharePoint team sites and portals, providing presence and Instant Messaging access from within Windows® SharePoint Services and Microsoft SharePoint Server 2010 sites. Now an end user can enable the Members Web Part to see the presence of anyone associated with a EUCC SharePoint site, allowing information workers to spend more time in their business productivity applications.
- **Communicate with non-State of Minnesota organizations.** The Federation feature of EUCC Instant Messaging establishes trusted relationships between an organization and one or more external organizations. This allows users to initiate and share instant messaging sessions and subscribe to user presence across network boundaries. This functionality is especially useful for organizations with multiple partner contacts.
- **Communicate with public IM service providers.** Public IM connectivity (PIC) enables an organization to securely connect its existing base of enterprise-enabled IM users to trusted contacts using public IM services that can be provided by Windows Live® Messenger and MSN® Messenger. Using this enterprise-ready solution reduces the possibility of having security incidents introduced through public IM providers.
- **Cost effective.** Using EUCC Instant Messaging enhances person-to-person communication across an organization without expensive business travel or costly phone bills. The EUCC Instant Messaging service allows organizations to focus IT resources on developing value—instead of running IT infrastructure—and MN.IT manages the complexity of the operational systems.
- **Get timely platform upgrades.** The EUCC Instant Messaging service includes upgrades to new software release versions at no additional charge. This shifts the burden away from customer IT, allowing MN.IT to focus on upgrades and ensures that customers are using the latest software versions.

Standard Features

This section describes the standard features of the EUCC Instant Messaging service. Where applicable, customer options are noted along with feature limits and the responsibilities of MN.IT. For a consolidated list of EUCC Instant Messaging service specifications, see Table 2 in the [Service Specification Summary](#) found later in this document.

Lync 2010 Client

Lync 2010 is the desktop client supported by EUCC Instant Messaging. Lync 2010 provides access to presence, instant messaging, and other real-time communications capabilities. For more information on Lync system requirements, refer to [Appendix A](#) of this document.

Customer IT Responsibility

- Deploying the most recent Lync 2010 client hotfix package (version 4.0.7577.275 or higher). Lync client hotfixes are available in [32-bit](#) or [64-bit](#) versions.

Limit

- No third-party clients are supported.

Instant Messaging

Instant messaging (IM) is the ability to transfer text messages in real time over an Internet Protocol (IP) network such as the Internet or an organization's corporate network. IM text is encrypted for enhanced security.

Limit

- A maximum of 250 users are allowed in any multiparty IM session
- A maximum of 250 contacts are allowed in a user's contact list.

MN.IT Responsibility

- Configure, manage and maintain Instant Messaging infrastructure.

Presence

Presence is the ability to detect another user's availability. Using a EUCC Instant Messaging client application, users can display their presence status—for example, **Available**, **Away**, **Do Not Disturb**, or **Offline**—to let others know their availability for consultation.

To easily monitor the presence information of another user, users can add other users to their contact list, and can organize and group these contacts in different ways (by department, for example). Users can also search their company's address book to find other users—which means it is not necessary to add someone to the contact list in order to detect their presence or send an instant message.

Limits

- Individual users can have a maximum of 250 presence subscribers or contacts in their contact list. A presence subscriber is a user who can see the published availability of another user, and receives updates as this availability changes. Presence subscribers that are added after the 250-contact limit is reached can still send and receive instant messages to the user and add the user to a contact list, but they cannot see any presence information (presence is shown as **Presence Unknown**).

Presence Integration with Outlook

EUCC Instant Messaging can integrate presence with several combinations of Windows operating system, and Microsoft Outlook, as shown in Table 1.

Table 1: Supported Presence Combinations in EUCC Instant Messaging

Operating System	Outlook Version
Windows 7	Outlook 2010 SP1 Outlook 2010 Office Outlook 2007 SP1 Office Outlook 2003 SP2
Windows Vista®	Office Outlook 2007 SP1 Office Outlook 2003 SP2
Windows XP SP3*	Office Outlook 2007 SP1 Office Outlook 2003 SP2

* Windows Installer 3.1 and Microsoft Core XML services (MSXML) 6.0 SP1 must be installed before deploying Lync 2010.

Users can instantly find and communicate with people from within Outlook. This integration occurs wherever the user sees a colored presence indicator that represents a person’s presence status.

When Outlook calendar integration is enabled, the user can check another user’s schedule and get up-to-date availability information directly from that person’s calendar. This makes it easy to determine when someone will be available.

Limit

- Outlook integration is available only for those Outlook users who have the Lync desktop client installed and properly configured.

Presence Integration with SharePoint Server

EUCC Instant Messaging integrates presence with SharePoint Server using the same presence indicator that is displayed in the Lync client. EUCC SharePoint users can initiate many useful Lync functions (send an instant message, send an email message, or check calendar status) directly from a SharePoint site, making collaboration easy and intuitive.

Limit

- EUCC SharePoint presence integration is available only for those EUCC SharePoint users who have the Lync desktop client installed and properly configured.

Remote Access

The EUCC Instant Messaging service gives desktop client users the ability to connect directly to the EUCC Instant Messaging service over the Internet. This feature is available without the user connecting to the customer’s corporate network through a remote access service (RAS) or virtual private connection (VPN).

Limit

- File transfer is not available on remote access connections.

PC-to-PC Audio and Video Communication

EUCC Instant Messaging delivers consistent and supportable PC-to-PC audio and video conversations for users that are equipped with a headset device and web camera. Conversation quality may vary depending on customer network performance. For the best experience, use a device that is optimized for Lync 2010.

EUCC Instant Messaging features such as IM can be added seamlessly to active PC-to-PC audio and video conversations. Similarly, an active instant messaging session can easily have PC-to-PC audio and video added to support a broader communication scenario.

Limits

- PC-to-PC audio and video conversations are subject to the network policies that the organization applies to its corporate, VPN, and wireless networks.
- MN.IT does not accept client escalations for audio and video device support.

Customer IT Responsibility

- Provide and support any of the audio and video devices listed on the [Phones and Devices Qualified for Microsoft Lync](#) website.

File Transfer

The EUCC Instant Messaging service provides PC-to-PC file transfer capability so users can transfer files as part of an IM conversation without using email. There are no file size limitations.

Limits

- File transfer is subject to the network policies that the organization applies to its corporate, VPN, and wireless networks.
- File transfer is not supported on remote access connections.
- Not all file types are allowed for file transfer. See “Securing IM” later in this document for more details.

Address Book and Distribution Lists

The EUCC Instant Messaging service enables users to add email addresses and distribution lists to their contact lists, and to expand them to see the individual members of such lists. Instant messages can be sent to individual members of a distribution list or the entire distribution list.

Distribution lists can be expanded to see the individual member of such lists.

Customer IT Responsibility

- The Microsoft Lync client uses Secure Socket Layer (SSL) for address book file download and distribution list expansion. Customers must add the URLs used for the book file download and distribution list expansion features to the trusted sites list in Windows Internet Explorer®.

Limits

- Each distribution list can have a maximum of 250 members.
- Distribution list expansion is allowed only for distribution lists with 100 or fewer individual members (regardless of the members’ presence or sign-in status).
- Distribution lists with more than 100 members are allowed but these distribution lists cannot be expanded to display individual members of the list.
- An individual distribution list counts as a single contact against the 250-contact limit per user, regardless of the number of individual members within the distribution list.
- Any changes made affecting the address book or distribution lists may take up to 24 hours for replication.

Communicator for Mac 2011

Microsoft Communicator for Mac 2011 works with EUCC Instant Messaging 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, and PC-to-PC audio/video.

The system requirements for the Communicator for Mac 2011 are:

- Mac OS 10.5.8 or higher (Intel-based)
- Super VGA 1280 x 800
- Safari 5.x or higher

Customer IT Responsibility

- Obtain and install Communicator for Mac 2011.

Multiple SIP Domains

This EUCC Instant Messaging feature enables multiple domain namespaces for customers with numerous subsidiaries and domains. Support for multiple Session Initiation Protocol (SIP) domains enables a customer to use the same domain names as SMTP domains. It improves the user experience by allowing the user and the remote participants to discover each other based on the email domain name they are accustomed to using.

MN.IT Responsibility

- Configure, manage and SIP domains.

Securing IM

The Intelligent IM Filter helps increase security by providing enhanced URL filtering and enhanced file filter control. In addition, client antivirus protection is a best practice that customers should use to increase security.

By default, the EUCC Instant Messaging service blocks files and URL links that use the extensions listed here:

```
.ade .adp .app .asp .bas .bat .cer .chm .cmd .com .cpl .crt .csh .exe .fxp .grp .hlp .hta  
.inf .ins .isp .its .js .jse .ksh .lnk .mad .maf .mag .mam .maq .mar .mas .mat .mau .mav  
.maw .mda .mdb .mde .mdt .mdw .mdz .msc .msi .msp .mst .ocx .ops .pcd .php .pif .pl  
.pnp .prf .prg .pst .reg .scf .scr .sct .shb .shs .tmp .url .vb .vbe .vbs .vsd .vsmacros .vss  
.vst .vsw .ws .wsc .wsf .wsh
```

User Account Provisioning

The EUCC Instant Messaging service is provisioned on a per-account basis. This enables customers to identify and precisely control which accounts are entitled to access and use the service by configuring an attribute in the customer's Active Directory® service.

Customer IT Responsibility

- Manage user accounts in MN.IT's Enterprise Active Directory (EAD) environment.

Service Continuity Management

EUCC Instant Messaging is hosted in enterprise-level data centers that are designed to deliver highly available, highly resilient Online Services. Because of this, the EUCC Instant Messaging services are available at 99.9 percent uptime.

Service availability can be affected, however, by hardware failures, natural disasters, and human error. To address this, EUCC Instant Messaging offers service continuity management, with a process for managing risks to ensure that an organization's IT infrastructure is capable of providing continuing services if normal availability solutions fail.

Service continuity management for EUCC Instant Messaging includes provisions to quickly recover from unexpected events.

Two metrics that are commonly used in service continuity management to evaluate disaster recovery solutions are:

- **Recovery Time Objective (RTO):** Measures the time between a system disaster and the time when the system is again operational.
- **Recovery Point Objective (RPO):** Measures the time between the latest backup and the system disaster, representing the nearest historical point in time to which a system can recover.

EUCC Instant Messaging has set an RPO and RTO in case of a disaster:

- **2-hour RTO:** Customers can resume service within 2 hours of a service disruption if a disaster incapacitates the primary data center.
- **2-hour RPO:** In case of a failover to a secondary data center, EUCC Instant Messaging restores a copy of the customer's contact list and access control list (ACL) data that is equal to or less than 2 hours old at the time of failure.

MN.IT conducts service continuity testing once every 12 months.

The following services (which may vary by customer configuration decisions) are available within the RTO:

- Instant messaging and presence
- Remote access via the Internet
- PC-to-PC audio/video communication
- File transfer
- Federation with Microsoft
- User account provisioning

The following services are *not* available within the RTO:

- Federation with third parties other than Microsoft (optional feature). Restoration of this service might not occur within 2 hours.
- Public IM Connectivity (optional feature). Restoration of this service might not occur within 2 hours.

In case of a failover, federation and public IM connectivity (PIC) require configuration updates that are not controlled by MN.IT. These update requests are initiated as soon as feasible after a failover, but no specific restoration time is offered.

Instant Messaging Business Partner Federation

Instant Messaging federation enables a EUCC Instant Messaging user to connect with users in other organizations that host their own Lync 2010 Server. Federated contacts can see presence, communicate using IM and make Lync-to-Lync audio and video calls and content sharing.

All federated communications are encrypted between the IM systems using access proxy servers. MN.IT does not control encryption after messages are passed to the federated partner's network. To enable Instant Messaging federation for an end-user, a custom attribute in the Enterprise Active Directory (EAD) must be configured.

Customer IT Responsibility

- Manage user permissions to allow or disallow Instant Messaging federation communication, in the Enterprise Active Directory (EAD).
- Provide necessary information, using the change management process, so that MN.IT can configure the federation.
- Federation requires DNS configurations by the customer and each connected partner organization.
- Partner organizations are solely responsible for proper configuration of their environments to support federation.
- Direct the federated business partner to properly configure the access edge and the audio and video edge.

MN.IT Responsibility

- Configure, manage and maintain federation connections between MN.IT and the federated organization.
- Provide required configuration parameters for the federated organization.

Limits

- Text-based chat is the default communication type allowed across federated connections. Audio and video may be possible if the federated partner's environment is properly configured with Lync 2010 Server, which permits these types of communication. Federated connections are not offered in service availability targets.
- Federated connections are excluded from the service continuity management RTO and RPO objectives.
- File transfer is not available with federated connections.
- The service only supports federation traffic routed via the Internet.

Public IM Connectivity (PIC)

MN.IT can enable Public IM connectivity (PIC) "federation" with Windows Live Messenger. This feature allows text-based IM conversations, presence and audio/video between users of the EUCC Instant Messaging service and Windows Live Messenger. To enable PIC functionality for an end-user, a custom attribute in the Enterprise Active Directory (EAD) must be configured.

Customer IT Responsibility

- Manage user permissions to allow or disallow Public IM Connectivity (PIC) communication, in the Enterprise Active Directory (EAD).

MN.IT Responsibility

- Configure, manage and maintain PIC.

Limits

- End-to-end encryption cannot be guaranteed for federation with Windows Live Messenger.
- PIC is not offered in service availability targets.
- PIC is excluded from the service continuity management RTO and RPO objectives.

Online Meetings (Audio and Video Content Sharing)

EUCC Instant Messaging meetings enable users to connect from virtually anywhere through PC-based audio and video content sharing—both as scheduled meetings and as ad-hoc collaboration sessions. With EUCC Instant Messaging, users can collaborate, share information, and coordinate their efforts in real time, all within context.

Customer Business Responsibility

- Provide the audio and video devices as found in the lists of phones, headsets and other USB devices. For more information refer to [Phones and Devices Qualified for Microsoft Lync](#).

MN.IT Responsibility

- Scheduled meeting data is supported under the EUCC Instant Messaging RPO as part of existing user data exports and Service Continuity for meeting directories.

Limits

- Audio and video conversations are subject to the network policies that the organization applies to its corporate, VPN and wireless networks.

Lync Audio

Lync Online provides Lync-based, multiparty audio conferencing capabilities. Lync Online users enjoy audio quality, visual call and roster controls, network quality indicator and powerful user management features (for example, drag and drop a participant name to add them to a meeting).

Lync Video

Lync Online enables users to connect via high quality video sessions. Both person-to-person and multiparty sessions are supported. With Lync Online, users can easily schedule an online meeting with video or seamlessly escalate an IM session to a video call.

Limits

- EUCC Instant Messaging currently does not support interoperability with third-party, room-based conferencing systems.

Content Sharing

EUCC Instant Messaging provides powerful PC-to-PC and multiparty data sharing capabilities including desktop sharing, application sharing, PowerPoint presentation (via uploading for more control), virtual whiteboard, annotations, and polling.

Limits

- This capability is subject to the network policies that the customer applies to its corporate, VPN, and wireless networks.
- There can be a maximum of 250 simultaneous users in a single content sharing session.
- The content sharing feature is available for the Windows operating systems that are supported by EUCC Instant Messaging (listed in Table 1).
- Some applications cannot be shared including the following:
 - Lync 2010 or any of its components (e.g., Lync Recording Manager, Lync Attendee)
 - Windows Explorer
 - Sticky Notes
 - Window Sidebar
 - Programs you are running with user privileges that are higher than the privileges for Lync 2010.

Scheduled Online Meetings

The Lync 2010 client includes an Outlook plug-in that provides users with single-click scheduling of Online Meetings in Outlook. Participants can join with a single click from the Outlook reminder, or via the Outlook meeting itself. Organizers can easily set up meetings using predefined conference properties or can set meeting types and admission policies for specific needs. Details (such as meeting time, location, and attendees) follow the familiar Outlook template.

Limit

- Dial-in via PSTN is not supported at this time.

Ad-Hoc Online Meetings

Users can start or join an ad-hoc Lync meeting easily with just a few clicks in the Lync 2010 client or Office 2010. EUCC Instant Messaging enables users to escalate simple instant messaging conversations or email conversations to PC-based, multiparty audio and video meetings with shared desktops, applications, and documents.

Limits

- Multiparty Lync audio and video capabilities may not be available in certain countries due to regulatory restrictions.
- Dial-in via PSTN is not supported at this time.

Service Specification Summary

Table 2 summarizes the major service specifications for the EUCC Instant Messaging service that apply to both the standard and optional features.

Table 1: EUCC Instant Messaging Service Specification Summary

Feature	Description
Contact Lists	Maximum of 250 contacts per user. A distribution list counts as a single contact toward the 250-contact maximum.
Desktop Client Version	Lync 2010 version 4.0.7577.0 or higher (English language version). Hotfix version 4.0.7577.275 or higher.
Address Book and Distribution Lists	Distribution list expansion is only allowed for distribution lists with 100 or less members. Each distribution list member, regardless of online or offline status, counts toward the 250-member maximum. Distribution lists with over 100 members cannot be expanded to display individual members.
Blocked File Name Extensions	.ade .adp .app .asp .bas .bat .cer .chm .cmd .com .cpl .crt .csh .exe .fxp .grp .hlp .hta .inf .ins .isp .its .js .jse .ksh .lnk .mad .maf .mag .mam .maq .mar .mas .mat .mau .mav .maw .mda .mdb .mde .mdt .mdw .mdz .msc .msi .msp .mst .ocx .ops .pcd .php .pif .pl .pnp .prf .prg .pst .reg .scf .scr .sct .shb .shs .tmp .url .vb .vbe .vbs .vsd .vsmacros .vss .vst .vsw .ws .wsc .wsf .wsh
File Transfer Size	No limit on file transfer size. Customer environments may have set limitations.
Presence Integration (Office Outlook and SharePoint)	Available for Outlook or SharePoint users with the desktop Lync client installed and properly configured.
Presence Subscribers	Maximum of 250 subscribers per user. A presence subscriber must be actively logged in to count toward the 250 maximum.
Service Continuity Recovery Point Objective (RPO)	2 hours: User contacts and access control lists (ACL's) are replicated every 2 hours. If a service continuity event occurs, Microsoft restores user contacts and ACL data at the alternate data center; restored user contacts and ACL data will be no older than 2 hours.
Service Continuity Recovery Time Objective (RTO)	2 hours. If a service continuity event occurs, Microsoft restores full service, user contacts, and ACL data at the alternate data center within 2 hours.
SIP Domain	Multiple SMTP domains may be associated with a single SIP domain.

Client Feature Summary

Table 3 summarizes the EUCC Instant Messaging standard, optional and enterprise features.

Table 3: Client Feature Matrix

Feature	Description	Desktop Client	Web Client	Comments
IM (PC-to-PC)	Instant Messaging (IM) between two users	Yes	Yes	
IM (multiparty)	IM between three or more users	Yes	Yes	Maximum of 250 participants
Presence	Presence changes in one client and updates all other clients	Yes	Yes	Can be based on Outlook calendar for Exchange Server users
Presence Integration with Outlook	Easy and intuitive collaboration and the ability to see presence indicators in Outlook and Exchange Server	Yes	No	Available for Office Outlook users with Lync client installed and properly configured on the desktop.
Presence Integration with SharePoint	Easy and intuitive collaboration and the ability to see presence indicators in SharePoint Online	Yes	No	Available for EUCC SharePoint users with Lync client installed and properly configured on the desktop.
PC-to-PC Audio and Video	Audio and Video between two Lync users	Yes	No	Audio requires a user headset. Video requires a user webcam Note: Video function is dependent upon audio connectivity
Communicator for Mac 2011	Allows for IM (1:1 or multiparty), presence, and PC-to-PC audio and video	Yes	N/A	Lync Server supports this client on computers running Macintosh operating systems.
File Transfer	File transfer allowed from one client to another	Yes	No	Subject to customer network settings. No limit on file transfer size. Customer environments may have set limitations.
Add Contact	Add a contact to the contacts list	Yes	Yes	
Contact Groups	Contacts organized into groups properly	Yes	Yes	
Clickable Links	URL link in an IM is clickable	Yes	No	Default setting is Clickable Links disabled.
User-Account Provisioning	Allows for per-user account settings	Yes	Yes	Requires attribute configuration in the Enterprise Active Directory.
Instant Messaging Business Partner Federation	Allows IM, presence, content sharing, audio/video with partner federated contacts	Yes	Yes	PC-to-PC connectivity only Customer IT coordination with MN.IT and Business Partner is required for setup. Available for customers who add the optional federation service.
Public IM Connectivity (PIC)	Allows presence, IM, and audio/video connectivity with Windows Live Messenger contacts	Yes	Yes	Available for customers who add the optional PIC service.
Online Meetings	One-to-one or multiparty scheduled and/or ad-hoc meetings with the ability to add audio, video and content sharing	Yes	No	Subject to customer network topologies. Meet audio and video device requirements.

Lync Server Functionality

Table 4 describes the major capabilities and features of Lync Server 2010 and identifies the features offered in the EUCC Instant Messaging service.

Table 4: EUCC Instant Messaging Feature Capabilities

Capabilities	Feature	Lync Client Availability
Instant Messaging and Presence	Text-based chat; Presence/presence integration	Yes
	Remote access (via the Internet)	Yes
	File transfer	Yes
	PC-to-PC audio and video	Yes
	Distribution lists; distribution list expansion	Yes
	Per-user account provisioning	Yes
	Business partner federation	Yes
	Public IM connectivity (PIC)	Yes
	Integration with third-party platforms or applications	No
Conferencing	Audio	Yes
	Video	Yes
	Interoperability with third-party dial-in audio conference services	No
	Lync Web App for participating in online meetings	Yes
	Content Sharing	Yes

USB Devices Optimized for Lync

For a list of phones, headsets, and other USB devices that are supported by Microsoft for use with EUCC Instant Messaging, see [Phones and Devices Qualified for Microsoft Lync](#).

Appendix A: Lync 2010 System Requirements

Table 5 contains the minimum hardware and software requirements for Lync 2010.

Table 5: Hardware and Software Requirements for Lync 2010

System Component	Minimum Requirement
Operating System	Windows® 7 Windows Vista® Service Pack 2 Windows XP Service Pack 3 Mac OS X 10.5 (Leopard), 10.6 (Snow Leopard) Windows Server 2008
System Software	Microsoft .NET Framework 3.0 (for Windows XP) Java client 1.4.2 (for Macintosh OS X)
Office Clients	Microsoft Office 2010 or Office 2007 Service Pack 2 Office 2008 for Mac and Microsoft Entourage® 2008 Web Services Edition Office 2011 for Mac and Outlook 2011 for Mac .NET Framework 2.0 or later Microsoft Lync Client 2010
Browser Software	Internet Explorer 7 or later Mozilla Firefox 3.x Apple Safari 3.x
Computer/Processor	Data and voice: 1 gigahertz (GHz) or higher processor; 2 GHz 32-bit or 64-bit processor recommended. For video: Dual Core 1.9 GHz or higher for VGA; Quad Core 2.0 GHz or higher for High Definition. For the Microsoft RoundTable™ conferencing device: 2 GHz or higher.
Display Resolution	1024x768 required
Graphics Hardware	Support for Microsoft DirectX 9 application programming interface 128 MB of graphics memory (minimum) Microsoft Windows Display Driver Model driver Pixel Shader 2.0 in hardware 32 bits per pixel
Memory	1 GB of RAM (2 GB recommended)..
Telephony	Microphone and speakers, headset with microphone or equivalent device.
Video Source	USB 2.0 video camera or RoundTable device.
Bandwidth Requirements	Data: 56 kbps (minimum); 56 kbps (high-quality). Voice: 50 kbps (minimum); 80 kbps (high-quality). Video: 50 kbps (minimum); 250 kbps for CIF, 600 kbps for VGA, 1.5 Mbps for High Definition (high-quality). RoundTable device: 50 kbps (minimum); 250 kbps (high-quality). The required and recommended bandwidth speeds are cumulative. For example, to use voice, webcam, and the RoundTable device, the minimum bandwidth would be 50+50+50=150 kbps.
Installation and Updates	Administrator privileges or, in Standard User mode, administrator credentials.
Automatic Installations	Microsoft Silverlight™ 4.0 is installed automatically during setup.

Related Information

Optional: References to applicable documents such as:

- Minnesota Statutes 207 Chapter 16E (MN.IT Services, formerly known as The Office of Enterprise Technology)
- Enterprise Technology Fund 970 Rate Schedule
- Operational documents and information on MN.IT websites
- Enterprise Unified Communication and Collaboration (EUCC) Service Level Agreement

Learn About other EUCC Service Offerings

The documents described here provide more information about other EUCC Service from MN.IT Services. These documents are available on the [MN.IT Service Catalog](#).

Enterprise Unified Communication and Collaboration (EUCC) Email Service Description

EUCC Email is a remotely hosted enterprise messaging solution that is based on Microsoft Exchange Server. This provides a reliable messaging environment that includes email, shared calendar, Microsoft Outlook® Web App, and Exchange ActiveSync® mobile device connectivity.