Avaya one-X® Communicator Overview and Planning

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Chapter 1: Introduction

About this guide

This guide describes the Avaya one-X® Communicator offer and its deployment options. It is written for anyone who is considering purchasing or using this offer.

This guide refers to other Avaya products in the context of how they integrate with Avaya one-X® Communicator. You can get detailed information about these products from the Avaya Web site at http://www.avaya.com/support.

Release numbers associated with the products that support Avaya one-X® Communicator are available in Enterprise requirements on page 60.

Avaya one-X® Communicator overview

Avaya one-X® Communicator helps users manage their communication tasks by providing enterprise users with simple, intuitive access to all of their everyday communications tools. Enterprises can offer Avaya one-X® Communicator to their users in one of the following ways:

- A standalone client that provides basic and advanced telephony features and Instant Messaging and Presence support when integrated with Avaya Aura® Presence Services.
- A Unified Communications client that is integrated with Avaya one-X® Client Enablement Services for 24*7 call logs, with Conferencing Enterprise to provide live audio conference services, and with Avaya Aura® Messaging or Avaya Modular Messaging with the Message Storage Server (MSS) to provide voice message services. This client is integrated with Avaya Aura® Presence Services server and Microsoft Office Communication Server (OCS) to provide Instant Messaging and Presence support across Avaya one-X® Communicator and Microsoft Office Communicator.
- A communications client that connects to the Avaya Communication Server 1000 (CS 1000) and provides basic telephony and video capability through SIP protocol. This client supports instant messaging and presence capability with the use of Extensible Messaging and Presence Protocol (XMPP) with Presence server.

Avaya one-X® Communicator benefits

Avaya one-X® Communicator allows users to increase their productivity with tools that:

- Enhance collaboration with assurance of security
- Improve responsiveness
- Allow them to work anywhere, yet never miss important calls
- Allow them to exchange instant messages
- Allow them to know when a contact is available, on a call, busy, or away
- Make high definition video calls
- Lower costs for IT and end-user support

Avaya one-X® Communicator feature sets

Depending on the communication requirements of your organization, you can select a feature set for Avaya one-X® Communicator. The Avaya one-X® Communicator offer is available with the following feature sets:

- Basic
- Basic with video
- Unified Communications
- Unified Communications with video

Key features

Basic features

- Desktop access to all your communication tools from a single, intuitive user interface
- Telephony features similar to Avaya one-X Desktop Edition and Avaya IP Softphone
- Usage modes control
- Multiple levels of security
- High-definition video calling
- Viewing and sharing of presence states
- Scalable Instant messaging capability to send messages without requiring any third-party messaging application
- Presence to determine the best way to reach a colleague quickly
- Groups for associating users with particular telephone settings
- Centralized control and administration
- Desktop video for softphones for face-to-face communications to streamline decision making and reduce travel expenses

- Click-to-Dial capability from Microsoft Internet Explorer and Mozilla Firefox
- Click-to-Dial capability from Microsoft Outlook Contacts
- Wipe-to-dial (clipboard dialing) capability from any application
- Contact lookup of Microsoft Outlook or IBM Lotus Notes contact from the Avaya one-X® Communicator user interface
- Contact management tools that help you find contact information quickly
- Telephone share control that provides telephony functionality from a server to your desktop
- Enhanced login preferences: Automatic login and Autostart
- Expanded video options: Full screen option, Always on top feature, and Screen Saver and Monitor Power Saving feature
- Customization of the Avaya one-X logo, and the title on the Login window

Unified Communications features

Unified Communications features require integration with Avaya one-X® Client Enablement Services. These features include:

- All of the Basic feature set
- Visual Voice Mail that allows you to filter and sort voice messages so you can respond to the most important messages quickly
- Visual Audio Bridge Conferencing that is easy to start, join, and manage for improved collaboration and conference call effectiveness
- Communication History logs that help you trace the history of your enterprise calls and voice messages
- Contact management tools that help you find contact information quickly and view the presence information of corporate contacts
- Presence access requests control

Some functionalities also require integration with additional products.

Usage modes

Enterprise users conduct business from several locations. They may be in the office, at a client location, at home, or traveling. When enterprise users log into Avaya one-X® Communicator, they can select the usage mode that optimizes the voice endpoints and network connectivity requirements of their current location.

You can select from the following usage modes:

- **This Computer**. Use this mode when you are traveling and need to manage your communication tasks using your computer instead of a phone. This mode is configured for Voice over IP (VOIP).
- **Desk Phone**. Use this mode when you are in office. This mode is configured for shared control through a server. You can access audio components from your office telephone and visual components from your computer.
- **Other Phone**. Use this mode when you are telecommuting. This mode is configured for toll-quality audio and optimizes audio through another phone. Select this mode to access audio components from your home office phone or from your cell phone.

Supported languages

Avaya one-X® Communicator supports the following languages:

- English
- Chinese, Simplified
- Dutch
- French, Parisian
- German
- Italian
- Japanese
- Korean
- Portuguese, Brazilian
- Russian
- Spanish, Latin American

Security

Avaya one-X® Communicator provides you with the following options for a secure implementation:

Connections through TLS and TCP

Avaya one-X® Communicator supports connection through Transport Layer Security (TLS) and Transmission Control Protocol (TCP).

Secure connections through firewalls

Avaya one-X® Communicator supports connection through a third-party, external, VOIP-aware firewall. Avaya has successfully tested Avaya one-X® Communicator with several external firewalls and Virutal Private Network (VPN).

User authentication through the enterprise directory

Avaya one-X® Communicator integrates with the existing enterprise directory. Avaya one-X® Communicator uses the Active Directory, Lightweight Directory Access Protocol (LDAP), or the Novell eDirectory user records for authentication and authorization.

User authentication in the standalone mode

In standalone mode, for login, Avaya one-X® Communicator uses the extension and password of the Avaya Aura® Communication Manager for authentication of the user. You can also disable the user name and password caching.

For SIP connection

Avaya one-X® Communicator establishes all the instant messaging sessions using Transport Layer Security (TLS), which provides a secure communication channel.

For H.323 connection

Avaya one-X® Communicator supports signaling channel encryption for call signaling messages if administered on the call server.

Connections to integrated components through secure ports

You can configure secure ports for integrated components, including:

- Enterprise directory application
- Modular Messaging

Secure Real-time Transport Protocol (SRTP) connections

Avaya one-X® Communicator is secured by audio media encryption in both H.323 and SIP modes through SRTP connections. Avaya one-X® Communicator supports two of the eight available options, 1-srtp-aescm128-hmac80 and 2-srtp-aescm128-hmac32. Administrators can select from these options on the ip-codec-set form in Communication Manager.

SRTP for the Avaya one-X® Communicator client

You must enable the SRTP option in the `config` file if you do not have `NONE` as an option. You can set the SRTP options by setting a value for **Media Encryption Parameters** in the `config.xml` file as shown in the following example:

```
<parameter>

<name>MediaEncryptionParameters</name>

<value>1,2</value>

</parameter>
```

The available options for **Media Encryption Parameters** are:

- MediaEncryptionParameters
  - eSRTP_CONFIG_AESCM128_HMAC80= 1
  - eSRTP_CONFIG_AESCM128_HMAC32= 2
  - eSRTP_CONFIG_NONE=9
- MediaEncryptionParameters=1,9 -> SRTP with AESCM128_HMAC80 and NONE

Note:

If SRTP settings on the Communication Manager is set to 1, you must set MediaEncryptionParameters value to `1` in the `config.xml` file. If SRTP Settings on the Communication Manager is set to 2, you must set MediaEncryptionParameters value to `2` in the `config.xml` file.

Denial of Service protection

Avaya one-X® Communicator is protected against Denial of Service attacks.

Security recommendations for administrators

Use the following methods to help maintain a secure environment for Avaya one-X® Communicator:

- Use role assignments and assign security groups to appropriately restrict access to operations.
- Instruct users not to share their login ID and password. For accountability, each user must have a unique login ID.
- Periodically review and update the list of administered users, their roles, and their permissions.
- Review administration logs on a regular basis to ensure that the system is operating properly.
- Review audit logs on a regular basis to ensure that the system is operating properly.
- Review security logs and alarms on a regular basis to monitor possible security events.

Additional security information

Additional security information for all Avaya products, including Avaya one-X® Communicator and the Avaya components that integrate with it, is available at the Avaya Security Advisories Website. You can find information about the following:

- Avaya Product Security Vulnerability Response Policy
- Avaya Security Vulnerability Classification

- Security advisories for Avaya products
- Software patches for security issues
- Reporting a security vulnerability
- Automatic e-mail notifications of security advisories

For additional information about security practices, see the National Security Agency Security Configuration Guide Web site. Security Configuration Guides Website.

System architecture

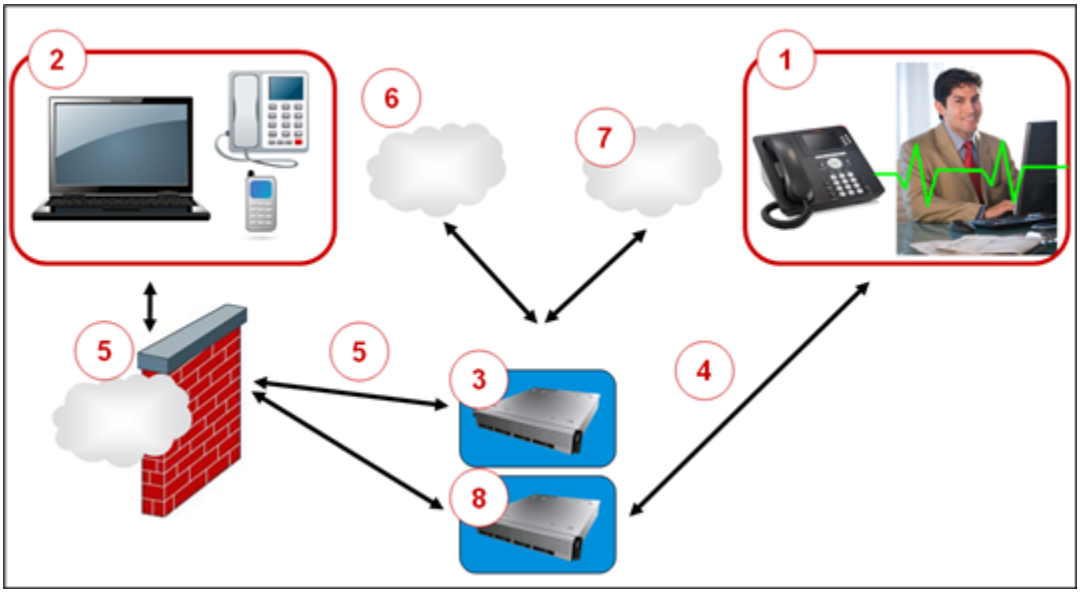
Avaya one-X® Communicator uses the following system architecture, software integrations, and software components to provide you the Basic and Unified Communication feature sets.

Related topics:

H.323 architecture for the Basic feature set on page 13
SIP architecture for the Basic feature set on page 14
Architecture for the Unified Communication feature set on page 15

H.323 architecture for the Basic feature set

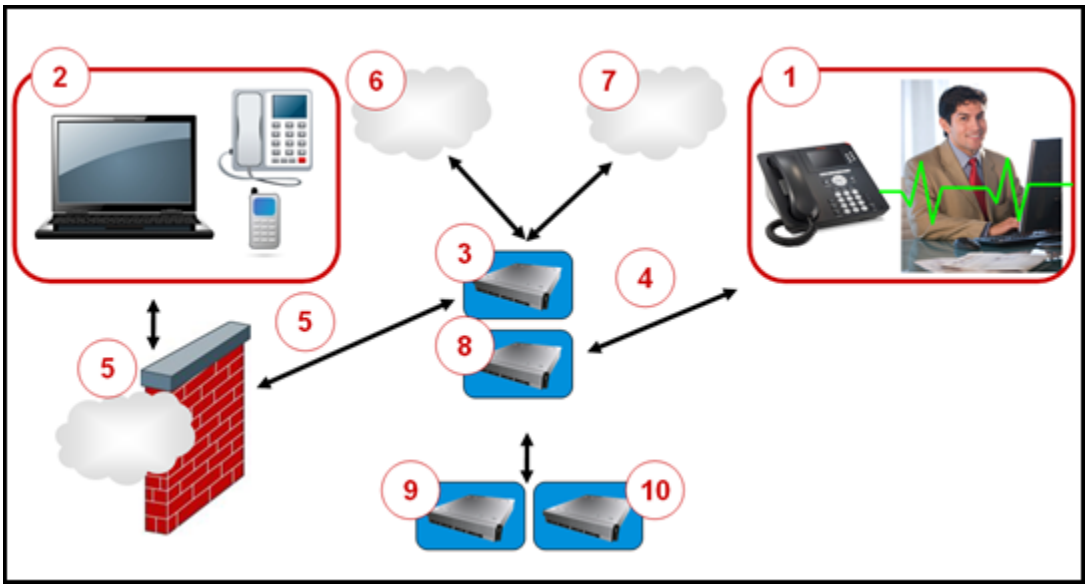
The following illustration shows the system architecture required for the Basic feature set using the H.323 protocol:



1	Avaya one-X® Communicator at office
2	Avaya one-X® Communicator while at home or using a cell phone
3	Avaya Aura® Communication Manager
4	H.323
5	Network access over a VPN through the Internet
6	PSTN
7	IP
8	(Optional) Avaya Aura®Application Enablement Services for integration with Microsoft Office Communicator and IBM Lotus Sametime Connect

SIP architecture for the Basic feature set

The following illustration shows the system architecture required for the Basic feature set:

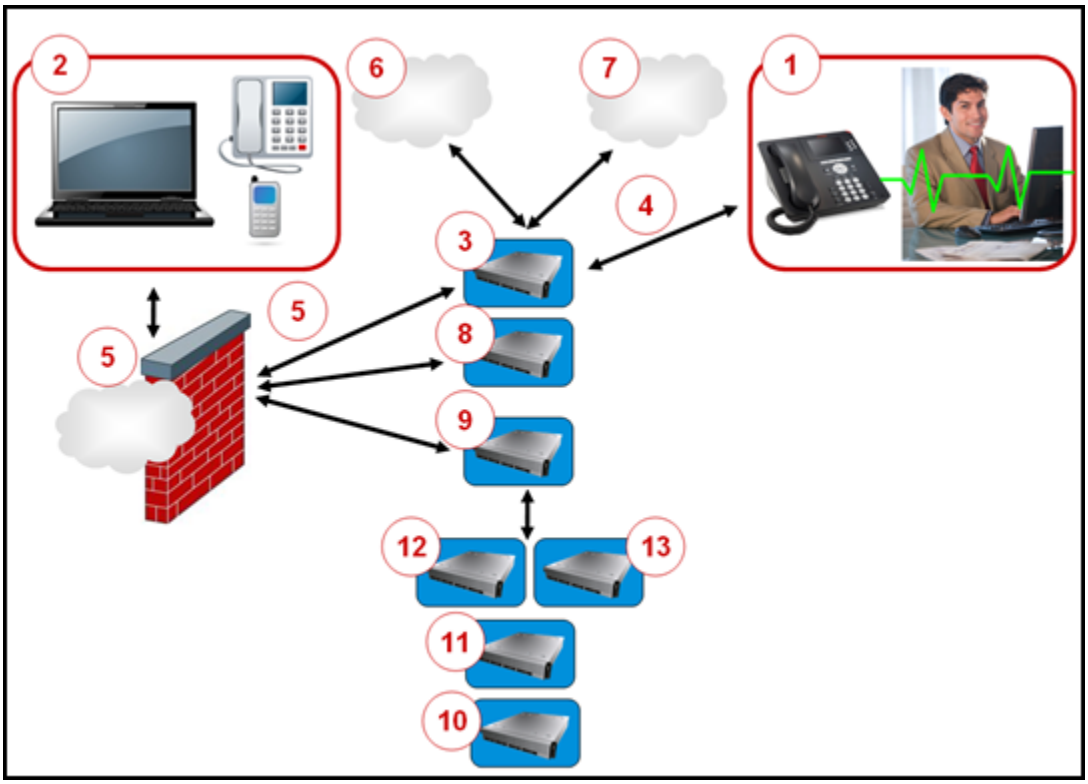


1	Avaya one-X® Communicator at office
2	Avaya one-X® Communicator while at home or using a cell phone
3	Avaya Aura® Communication Manager
4	SIP
5	Network access over a VPN through the Internet
6	PSTN

7	IP
8	Avaya Aura® Session Manager
9	Avaya Aura® System Manager
10	Avaya Aura® Presence Services

Architecture for the Unified Communication feature set

The following illustration shows the system architecture required for the Unified Communication feature set.



1	Avaya one-X® Communicator at office
2	Avaya one-X® Communicator while at home/mobile
3	Avaya Aura® Communication Manager
4	H.323 or SIP
5	Network access over a VPN through the Internet
6	PSTN

7	IP
8	Avaya one-X® Client Enablement Services
9	(Optional) Avaya Aura® Application Enablement Services for integration with Microsoft Office Communicator and IBM Lotus Sametime Connect
10	Avaya Aura® Presence Services server.
11	Active Directory
12	(Optional) Message Store with Modular Messaging
13	Conferencing with Meeting Exchange Enterprise (optional)

Product documentation

Additional Avaya one-X® Communicator documentation includes:

- Administering Avaya one-X® Communicator (for administrators)
- Avaya one-X® Communicator Centralized Administration Tool (for administrators)
- Implementing Avaya one-X® Communicator (for end users)
- Using Avaya one-X® Communicator (for end users)

You can access these documents and documents about other Avaya products mentioned in this guide, from the Avaya Web site at http://www.avaya.com/support.

Related topics:

Accessing Online Help on page 16

Accessing Online Help

Procedure

Do either of the following:

- Press F1 on any Avaya one-X® Communicator screen.
- Click the **?** icon.

Chapter 2: Integrations between Avaya one-X® Communicator and other applications

Software integration overview

Avaya one-X® Communicator integrates with many products and services to provide users with a rich set of features. Unless otherwise stated, the product and services described below are optional. Subsequent chapters explain which of them are required for specific Avaya one-X® Communicator features.

Additional information

You can get more information about the products and services discussed in this guide from the following Web sites:

- For Avaya products and services: http://www.avaya.com/support
- For Microsoft products: http://www.microsoft.com
- For IBM products: http://www.ibm.com/

Release numbers associated with the products and services that support Avaya one-X® Communicator are available in Enterprise requirements on page 60.

Avaya one-X® Client Enablement Services

Avaya one-X® Client Enablement Services is a new series of next-generation applications that bring Unified Communications (UC) to your desktop in a single tool. Client Enablement Services gives you access to multiple Avaya UC capabilities such as Avaya telephony, messaging, mobility, presence, and conferencing services provided by Avaya Aura® Communication Manager, Avaya Modular Messaging or Avaya Aura® Messaging, Avaya Conferencing Enterprise, and Avaya Aura® Presence Services.

Avaya one-X® Client Enablement Services does not require the installation of any application software on your desktop to deliver its basic functionality.

Supported software

Avaya one-X® Client Enablement Services integrates with the following software to support Avaya one-X® Communicator features:

- Avaya Modular Messaging or Avaya Aura® Messaging to view and play voice messages
- Avaya Conferencing Enterprise to view and control live audio conferences
- Avaya Aura® Presence Services server to publish presence state information
- Microsoft Office Communicator for instant messaging support
- Communication History logs (24*7 call logs)
- Contact management (Microsoft Active Directory, IBM Domino Server, or Novell eDirectory Server for enterprise user information)

Messaging

Messaging is a powerful IP and standards-based unified messaging platform designed for single or multistage global enterprises. Avaya Modular Messaging or Avaya Aura® Messaging offers exceptional scalability and a superior feature package of call answering and voice messaging capabilities. You can access messages any time from a wide array of access devices including telephones, fax machines, or computer graphical user interfaces.

Avaya one-X® Client Enablement Services integrates with Modular Messaging or Avaya Aura® Messaging servers using only the Avaya message store, and not any other e-mail message stores. Avaya one-X® Client Enablement Services then makes this information available to Avaya one-X® Communicator.

Avaya one-X® Communicator integrated with Visual Messaging provides the following functions from the user interface:

- Listen to a voice mail
- Delete a voice mail
- Call a voice mail
- Add a number from voice mail to personal contact
- Add a number from voice mail to favorites
- Mark a voice mail as read or unread
- Send an e-mail
- Launch IM

Avaya Application Enablement Services

Application Enablement Services is a server-based software solution that enables Microsoft Office Communicator and IBM Lotus Sametime to leverage the rich telephony capabilities of Communication Manager IP Telephony Software.

Enterprises that want to provide the presence features provided by Avaya one-X® Communicator to their end users who use the Microsoft Office Communications server must integrate the Application Enablement Services platform, Avaya one-X® Client Enablement Services, and Avaya Aura® Presence Services into their enterprise network.

Supported products

Application Enablement Services supports the following products in an Avaya one-X® Communicator configuration:

- Avaya one-X® Client Enablement Services Release 6.1
  - Avaya Aura® Presence Services Release 6.1
  - Avaya Modular Messaging, MSS configuration Release 5.2

    or Avaya Aura® Messaging, MSS configuration Release 6.0
  - Avaya Meeting Exchange Enterprise Release 4.1 and 5.2
- IBM Lotus Sametime Connect version 8.5
- Microsoft Office Communications Server 2007 Release 1 and Release 2

For more information about Application Enablement Services, see Avaya Web sitehttp://www.avaya.com/support.

Software integration

To provide the Unified Communication feature set, Avaya one-X® Communicator must integrate with Application Enablement Services and Avaya one-X® Client Enablement Services.

Avaya Aura® Presence Services

Viewing presence and sending instant messages in real time are two key features of Avaya one-X® Communicator. Avaya Aura® Presence Services provides a Presence aggregation service that collects Presence information from a wide variety of Avaya endpoints and third-party sources and disseminates Presence information to Avaya one-X® Communicator. This information is filtered individually for every user who wants to view other's presence, watcher, and also for every user who wants to share presence with others, called watched. Avaya one-X® Communicator renders the presence information for various watchers. Access rules defined

in the Presence Access Control Lists (ACL) is not applicable for Avaya one-X® Communicator and Presence access is allowed for all the watchers. There is support for up to 10,000 users per server with 25 contacts for each server instance.

Users can also exchange messages in real-time without the need of any third-party messaging application. The Unicode option feature sending messages in different languages. Users can also change the format of messages.

Note:

The system performance for various functions, such as updating of presence information and handling of calls, might slow down if you add 50 or more contacts.

Supported products

For Avaya one-X® Communicator to use presence services, Microsoft Active Directory (LDAP source) must be integrated with Avaya Aura® System Manager.

Presence Server works in concert with the following presence-enabling software in an Avaya one-X® Communicator configuration:

- Avaya Aura® Presence Services
- Avaya one-X® Client Enablement Services
- Avaya Application Enablement Services
- Microsoft Office Communicator

Avaya Aura® Session Manager

Session Manager is a SIP routing and integration tool and the core component within the Avaya Aura® Enterprise Edition solution. It integrates all the SIP entities across the entire enterprise network within an organization. Session Manager offers a new perspective on enterprise communication where individual locations are no longer managed as separate units within the enterprise.

Session Manager connects Communication Manager as a feature server and both Avaya and enterprise PBX systems within branch offices, third-party PBXs, gateways, service providers, SIP-enabled adjuncts, and SIP telephones.

With Session Manager, messages pass through a secure channel. A Session Manager instance consists of one server supporting up to 25,000 SIP entities. An enterprise network can support up to three instances.

System Manager is the application used to manage Session Manager. System Manager runs on a separate server and only one System Manager is required for the entire network.

Avaya Conferencing Enterprise Edition

Conferencing Enterprise is an advanced conferencing solution that combines features such as reservation-less, scheduled meet-me, and Web conferencing. It enables enterprises to integrate and customize conferencing solutions to complement existing business processes and enhance productivity.

Supported features

Conferencing supports Visual Audio Bridge Conferencing and video for the Avaya one-X® Communicator Unified Communication feature set.

Required third-party software products

For release numbers associated with the third-party products, see Enterprise requirements on page 60. Avaya one-X® Communicator interacts with the following required third-party software products:

Microsoft Visual C++ 2005 SP1 Redistributable Package ATL Security Update

To overcome the threat of someone attacking your system that has Microsoft Visual C++ 2005 SP1 Redistributable Package installed, you must run vcredist_x86.exe before you install Avaya one-X® Communicator on your computer.

This security update, vcredist_x86.exe, is included with the installer.

Microsoft .NET Framework 4

The precoded solutions that form the Base Class Library in Microsoft .NET Framework 4 include user interface, data access, database connectivity, cryptography, Web application development, numeric algorithms, and network communications. Avaya one-X® Communicator uses this library to integrate with other Microsoft applications.

You must install Microsoft .NET Framework 4 before you install Avaya one-X® Communicator on your computer. You can download this software from the Microsoft Web site http://www.microsoft.com/downloads/en/details.aspx?FamilyID=0a391abd-25c1-4fc0-919f-b21f31ab88b7&displaylang=en.

Microsoft DirectX

Microsoft DirectX is a collection of application programming interfaces (APIs) for handling tasks related to multimedia, including video, on Microsoft platforms.

Optional third-party software products

For release numbers associated with the third-party products, see Enterprise requirements on page 60. Avaya one-X® Communicator interacts with the following optional software products:

Directory services

Avaya one-X® Communicator uses the following public directories:

- LDAP provides directory services for TCP/IP networks, including Novell eDirectory.
- Microsoft Active Directory provides directory services in a Windows environment.

IBM Lotus Notes

Avaya one-X® Communicator users can look up IBM Lotus Notes contacts from the Avaya one-X® Communicator user interface.

Microsoft Office Communications Server

The Microsoft Office Communications Server platform supports Microsoft Office Communicator. You must integrate Avaya Application Enablement Services into your enterprise network for Avaya one-X® Communicator, the Presence Services, and the Microsoft Office Communications Server to work together.

Microsoft Office Communicator

Microsoft Office Communicator provides Instant Messaging in a Windows environment. When integrated with Avaya one-X® Communicator, you can:

- View the telephony presence status of your Microsoft Office Communicator contacts
- Send an instant message to a contact by clicking the IM icon on the Avaya one-X® Communicator user interface

You must integrate Avaya Application Enablement Services into your enterprise network for Avaya one-X® Communicator and Microsoft Office Communicator to work together.

Microsoft Outlook

Note:

Avaya one-X® Communicator supports Microsoft Outlook 2007 and Microsoft Outlook 2010. Avaya one-X® Communicator does not support Microsoft Outlook 2003.

Avaya one-X® Communicator users can look up Outlook contacts from the Avaya one-X® Communicator user interface.

Microsoft Outlook provides e-mail in a Windows environment. Avaya one-X® Communicator users can send an Outlook e-mail by clicking on the e-mail icon from the Avaya one-X® Communicator user interface.

Microsoft Outlook stores logs of incoming, outgoing, and missed calls. Users can view the details of all calls of a contact if the contact has been added to Outlook.

Web browsers

Avaya one-X® Communicator works with the following Web browsers:

- Microsoft Internet Explorer version 6.0, 7.0, or 8.0
- Mozilla Firefox version 3.x, 4.0, 5.0, 6.x, 9.0, 10.0, 11.0, 12.0, or 13.0

Chapter 3: Basic feature set

Overview of the Basic feature set

Avaya one-X® Communicator provides basic communication functions in a standalone configuration. These functions include:

- Desktop integration with an easy-to-use user interface
- Basic telephony, including ad hoc conferencing
- Contact management
- Instant Messaging and Presence
- Click-to-Dial from Internet browsers (Microsoft Internet Explorer and Mozilla Firefox)
- Wipe-to-dial (clipboard dialing) from an application
- Optional video

Note:

Avaya one-X® Communicator supports video with H.323 in This Computer and Desk Phone modes but not in Other Phone mode. It supports video with SIP in This Computer mode but not in Desk Phone and Other Phone modes. There is no support for video with the Citrix Presentation Server.

Software integration

Full implementation of the Basic feature set requires integration with other products.

Avaya Application Enablement Services integrates with Microsoft Office Communications Server to provide Avaya one-X® Communicator with telephony control. You can deploy the Basic feature set with or without this functionality. However, if you want telephony control with Avaya one-X® Communicator, you must also deploy Application Enablement Services.

Microsoft Outlook and Internet browsers support the click-to-dial feature even without the Application Enablement Services integration.

If you want to use Avaya one-X® Communicator in SIP mode, you must deploy Session Manager.

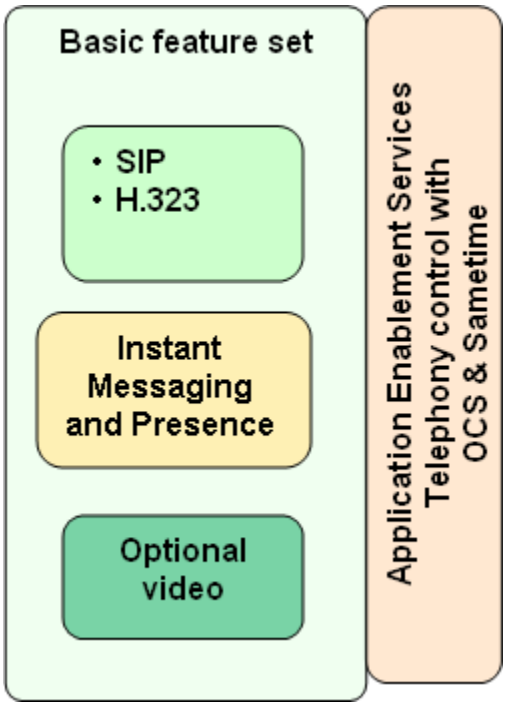
Related topics:

Basic features at a glance on page 26

Basic features at a glance

The Basic Avaya one-X® Communicator configuration includes the following components:

- Basic feature set
- Support for H.323 or SIP
- Supported on both 32-bit and 64-bit Windows XP, Windows Server 2003, Windows Vista, Windows Server 2008, and Windows 7
- Instant Messaging and Presence
- Optional video
- (Optional) Application Enablement Services



For a more detailed view of the above illustration, see overview on page 7.

Basic feature set

The Basic feature set includes the following features:

Some functionalities also require integration with additional products.

- Call bar / Windows task bar
- Dialpad / Feature tab
- Usage modes (Desk Phone, This Computer, Other Phone)
- High definition video calling

- Presence states
- Scalable Instant messaging capability
- Groups for associating users with particular phone settings
- Six-party ad hoc conferencing
- Multiple line appearances
- Bridged line appearances
- Lookup/Dial enterprise Contacts through LDAP, requires integration with LDAP
- Lookup/Dial Microsoft Outlook or IBM Lotus Notes Contacts
- Click-to-Dial from Microsoft Outlook Contacts, requires integration with Microsoft Outlook
- Click-to-Dial from Microsoft Internet Explorer and Mozilla Firefox
- Wipe-to-dial (clipboard dialing) from an application
- Click-to-Email through Microsoft Outlook or IBM Lotus Notes, requires integration with Avaya one-X® Client Enablement Services
- Click-to-IM via Microsoft Office Communicator, requires integration with Application Enablement Services
- 24*7 Call logs, requires integration with Avaya one-X® Client Enablement Services
- Enhanced login preferences: Automatic login and Autostart
- Emergency call handling
- Expanded video options: Full screen option, Always on top feature, and Screen Saver and Monitor Power Saving feature

Deployment options

Deployment options are:

- H.323 telephony feature set
- SIP telephony feature set

Optional video

Video features are optional and include:

- SIP high definition video in the This Computer mode using Session Manager 6.0 SP1
- H.323 high definition video in the This Computer and Desk Phone modes
- Six-party ad hoc conferencing showing active speaker

  (Requires Meeting Exchange Enterprise with Common Intermediate Format (CIF) video resolution)
- Six-party ad hoc conferencing

  (Requires Meeting Exchange Enterprise)

For more information about video features, see Overview of video on page 51.

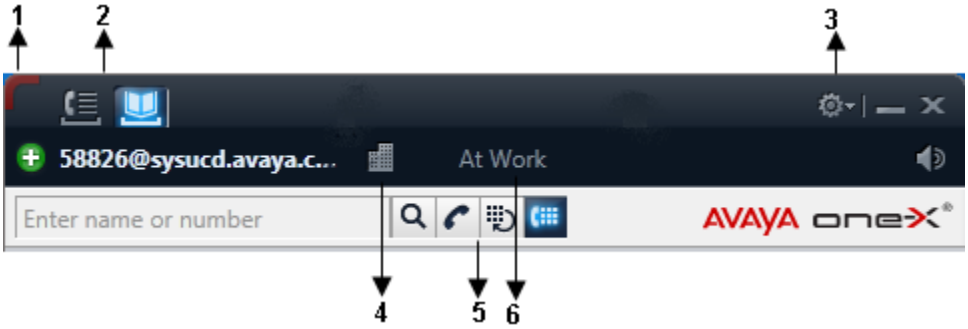
Features with Application Enablement Services (optional)

Basic features that require integration with Application Enablement Services are optional. They include:

- Telephony integration with Microsoft Office Communications Server

User interface

The following is an example of the user interface for the Basic feature set:



1	Message waiting indicator
2	Inbox dashboard
3	Window and application controls
4	Mode indicator
5	Action bar
6	Presence message

User interface description

The user interface provides easy and intuitive access to Avaya one-X® Communicator features.

Message waiting indicator

Use the MWI to receive alerts when you get new voice mail messages in your inbox. You can also use MWI to retrieve voice mail messages stored in your inbox if you have enabled message access in the **General Settings**>**Messaging** tab and provided the Modular Messaging pilot number.

Inbox dashboard

The inbox dashboard gives you easy access to:

- Call logs
- Contacts

Window and application controls

Use Window controls to:

- Open Online Help. The Online Help describes how to use the icons in the user interface to perform tasks.
- Open a context-sensitive menu to perform tasks such as changing your configuration settings and exiting the program.
- Minimize the interface and place the Avaya one-X® Communicator icon in the desktop task bar.
- Minimize the interface and place a Avaya one-X® Communicator icon in the system tray.

Location mode indicator

The location mode indicator displays your active usage mode. Examples of location modes are:

- Office
- Home
- Mobile
- Traveling

Action bar

The action bar contains a field for entering names or phone numbers. The buttons in the action bar perform the following tasks with the information you enter:

- Search the contact results based on the letters or numbers you enter
- Dial the number or name that you enter
- Redial the number or name that you enter
- Display the Dialpad

Telephony

Advanced Telephony features

The following telephony features are available with both H.323 (Advanced Telephony) and SIP (Advanced SIP Telephony) protocols depending on how your extension on the Communication Manager system is administered.

Feature	Description	H.323	SIP
Automatic Call Back	Enables a user to set up a call back request if the telephone of the called party is busy.	Yes	Yes
Call Forwarding All Calls	Enables a user to forward all calls to any extension.	Yes	Yes
Call Forwarding Busy/Don't Answer	Enables a user to forward calls to any extension when the user's extension is busy or when the user does not answer.	Yes	Yes
Call Park and Call Retrieve	The Call Park feature enables a user to place the current call in the call park state. The Call Retrieve feature enables the user to retrieve the parked call.	Yes	Yes
Calling Party Number Blocking	Enables a user to block the sending of the calling party number for a call.	Yes	Yes
Calling Party Number Unblocking	Enables a user to deactivate the Calling Party Number Blocking feature and allows the calling party number to be sent for a single call.	Yes	Yes
Call Pickup (Group, Directed, and Extended Group)	With Call Pickup, a user creates a call pickup group. All group members can answer a call ringing at another telephone in the group from their telephones. If more than one telephone is ringing, the telephone that has been ringing the longest is picked up. With Directed Call Pickup, a user specifies which ringing telephone a user want to answer from your telephone. A call pickup group is not required. With Group Call Pickup, Avaya one-X® Communicator prompts for a group number. Users within an "extended" group can then answer calls outside of their immediate group by entering a feature access code (FAC) followed by the one-digit or two-	Yes	Yes

Feature	Description	H.323	SIP
	digit pickup (index) number. However, the users need not enter FAC if it is administered on the telephone.		
Malicious Call Trace	Enables a user to send a message to the MCT control extensions that the user wants to trace a malicious call.	Yes	Yes
One-step Recording	Enables a user to activate and deactivate the recording of active calls to Audix.	Yes	Yes
Priority Calling	Enables a user to dial a feature access code or use the Priority feature button (if administered on your call server) to originate a priority call. Priority calls ring differently and override the Send All Calls feature, if active.	Yes	Yes
Send All Calls	Enables a user to direct all incoming calls to coverage.	Yes	Yes
Transfer to Voicemail	Enables a user to transfer the caller to Audix mail where the caller can leave a message.	Yes	Yes
Whisper Page	Enables a user to make and receive whisper pages. A whisper page is an announcement that is sent to another extension that is active on a call. Only the party on the extension hears the announcement. No other parties on the call hear the announcement.	Yes	Yes
EC500	Enables a user to divert calls to its office phone to other phones. Using this feature incoming calls to your office number reach you on the road, at another location, or even walking around the workplace. When you cannot respond, your voice mail picks up your messages.	Yes	Yes
Team Button	Enables a user to monitor the members of a team of stations. Members of a team can be of any	Yes	Yes Not supported when Avaya one-

Feature	Description	H.323	SIP
	station type with multiple call appearance displays and administrable feature buttons.		X® Communicator is used in the Other Phone mode.
Enhanced Call Pickup with Alerting	Enables users to answer calls for one another if the users are members of the same pickup group. The feature has been enhanced to provide display of calling and called party information. You can get the enhanced features if you are using Communication Manager Release 5.2 or later.	Yes	Yes Call Pick Up with Alerting and Enhanced Call Pickup with Alerting features are not supported when Avaya one-X® Communicator is used in the Other Phone mode.
Enhanced Call Forwarding	Enables a user to set up forwarding of incoming calls to different destinations depending on whether the incoming calls are from internal or external sources.	Yes	Yes Not supported when Avaya one-X® Communicator is used in the Other Phone mode.

Basic Telephony features

Basic Avaya one-X® Communicator telephony features support both the SIP and H.323 protocols. You must choose one of these protocols when you install Avaya one-X® Communicator.

The following basic telephony features are available with Avaya one-X® Communicator:

- Call answer
- Call hold (automatic and user selected)
- Call resume (user selected only)
- Call transfer (user selected only)
- Call mute (user selected only)
- Outgoing calls from the desktop, Dialpad, and personal contact list
- Click-to-Dial from Microsoft Outlook Contacts
- Click-to-Dial from any number highlighted in Microsoft Internet Explorer and Mozilla Firefox browsers
- Select any number in Microsoft Internet Explorer and Mozilla Firefox browsers, right-click, and click-to-dial the number
- Wipe-to-Dial (clipboard dialing) from an application

- Communication Manager feature buttons, when configured. For example, Extension to Cellular
- Call logs

Conferencing

Avaya one-X® Communicator supports Meet-Me conferencing (ad hoc conferences with as many as 6 parties.)

Voice messaging

The Message Waiting Indicator (MWI) is included in the Basic feature.

Presence Services

Use Avaya Aura® Presence Services features with Avaya one-X® Communicator to reach your coworkers and staff quickly. Avaya one-X® Communicator provides Instant Messaging and Presence services by connecting to the Avaya Presence Server through XMPP protocol.

Feature highlights

- View the Presence of a contact through system messages
- View whether the contact has video enabled
- View the usage mode of a contact or set your own mode

Note:

The Presence status is displayed for contacts added to the favorite list and for enterprise contacts from LDAP search results. To get the appropriate presence information for an enterprise contact, the IM handle mapping must be configured.

Products and services required in a Microsoft environment

The following products and services are required for proper software integration in a Microsoft environment:

- Presence Server
- Application Enablement Services

- Microsoft Office Communicator
- Microsoft Office Communications Server

Related topics:

Instant Messaging on page 34

Instant Messaging

Instant Messaging enables users to send and receive messages to other users in SIP mode as well as in H.323 mode. Avaya one-X® Communicator supports Unicode enabling to send and receive instant messages in any language.

You can also send and receive instant messages from Avaya one-X Agent users if they are registered on the same Presence server or a federated XMPP server.

Call logs

The call log feature in Avaya one-X® Communicator logs incoming, outgoing, and missed calls.

Contact management

You can access your enterprise contact (Favorites) and personal contact directories from the Avaya one-X® Communicator user interface.

Enterprise contact directories (Favorites)

Avaya one-X® Communicator uses the Public Directory Client software, which is LDAP compliant, to support the following types of enterprise contact directories. You cannot make changes to the content of these directories.

- Active Directory (for Windows)
- LDAP (for IBM Domino or Novell eDirectory)

You select one of these directories when you configure your desktop for Avaya one-X® Communicator.

Personal contact directories

After you create your personal contact directory, you can edit it from the Avaya one-X® Communicator user interface.

Feature highlights

- Display favorites and personal directories.
- Search for a contact in all of your directories at the same time or in each directory separately.
- Add, change, and delete personal contacts.
- View contact details. You can change this information for a personal contact but not for a favorite contact.
- Use Click-to-Dial to dial a contact from your contact directories.
- Click on a contact to open your default e-mail client. The e-mail that opens is pre-addressed to that contact.
- Double-click a contact to display more details.
- Send an instant message from your contact directories. Avaya one-X® Communicator launches your default Instant Messaging client.
- Create journal entries in a Microsoft Outlook environment.

Feature functionality

The functionality for Basic contact management features include:

- You can only establish an Instant Messaging session with a user who is online.
- If a contact record contains more than one phone number, you select the number you want to dial from a menu.
- You can set the Contacts inbox to display all favorites and personal contacts by default. However, this setting might affect performance.

Software interactions

Software interactions for Basic contact management features include:

- Screen pops are available for personal contact searches only if you have installed and properly configured the Avaya Integrator for Outlook.
- You cannot import contacts into Avaya one-X® Communicator. However, using Avaya one-X® Communicator, you can search Microsoft Outlook or Lotus Notes contact directory and then use Click-to-Dial or send the contact as an e-mail.

Avaya Integrator for Outlook

The Avaya Integrator for Outlook integrates Avaya one-X® Communicator with Microsoft Outlook. The first time you log into Mircrosoft Outlook after you install Avaya one-X® Communicator, the Integrator displays automatically. You can also launch the integrator anytime from the Avaya menu in Microsoft Outlook.

Note:

Avaya one-X® Communicator supports Microsoft Outlook 2007 and Microsoft Outlook 2010. Microsoft Outlook 2003 is not supported.

To use Avaya Integrator with Microsoft Outlook, make sure your computer meets the following requirements:

- Visual Studio Tools for Office Runtime (VSTOR) 4.0 is installed on your computer. You can download VSTOR 4.0 from: http://www.microsoft.com/downloads/en/details.aspx?familyid=06C32242-2289-4471-93AA-CE96AA5CBC36&displaylang=en.
- If using Microsoft Outlook 2007 versions prior to 12.0.6520.XXXX, use hotfix KB976811. You can download the hotfix from: http://support.microsoft.com/kb/976477/.

Use the Avaya Integrator for Outlook with Avaya one-X® Communicator to:

- Click-to-call from Microsoft Outlook contacts
- Create journal entries for incoming and outgoing calls
- Set the duration for which Avaya one-X® Communicator displays the incoming call alert, that is, up to 30 seconds.
- Enable or disable pop-up contact information for incoming calls
- Set the minimum number of digits used to find the best match for the contact name
- Enable or disable logging by the Avaya Integrator for Outlook
- Set a schedule for automatically indexing your contacts
- Launch immediate indexing of your contacts

Citrix Presentation Server

Use the Citrix Presentation Server (also known as Citrix XenApp) to connect to applications that are located on central servers.

You must publish the applications so that you can connect to the applications remotely, that is, from your home, airport Internet kiosks, softphones, and other devices outside your corporate network. Though the applications seem to be installed and running on your desktop computer, the applications are actually running on the Citrix Presentation Server hosted in your corporate environment. You can access Avaya one-X® Communicator if the Avaya one-X® Communicator client application is a published application on the Citrix Presentation Server.

The Citrix Presentation Server supports both SIP and H.323 softphones for Avaya one-X® Communicator in the following environments:

- Citrix Presentation Server 5.0 with Microsoft Windows Server 2003 (64-bit version and 32-bit version)
- Citrix Presentation Server 4.5 with Microsoft Windows Server 2003 (64-bit version and 32-bit version)

Note:

- You can install Avaya one-X® Communicator and IP Softphone on the same Citrix presentation server.
- Avaya one-X® Communicator does not support integration with Microsoft Internet Explorer, Mozilla Firefox, and IBM Lotus Notes in Citrix environment.
- Avaya one-X® Communicator does not support This Computer login mode in a Citrix environment.
- Although video is installed with Avaya one-X® Communicator, it is disabled by default on a Citrix presentation server.
- Installation may not be successful in Citrix deployments when the CA root certificate is already installed in more than one certificate store on the server. This issue has been observed with Citrix 4.7 on Windows 2003 SP2. Workaround: Install through command line, with parameter **`norootcertificates`**. The installer will not install the root certificates. This installs the application successfully. From the command line, run the following command:

  ```
  Setup_Citrix.exe /norootcertificates
  ```

Products and services required for Basic features

H.323 protocol

Basic feature	Requirement
H.323 telephony features	Avaya Aura®Communication Manager Release 5.2 or later
H.323 video (point-to-point)	Avaya Aura®Communication Manager Release 5.2 or later
H.323 video with ad hoc video conferencing	Avaya Aura®Communication Manager Release 5.2 or later Avaya Aura® Conferencing Video conferencing bridge hardware

Basic feature	Requirement
Desk Phone (hardware)	Avaya phone series 46xx, 24xx, 64xx, and 96xx (except 9610) **Note:** All 16xx phones configured as 46xx phones on the Communication Manager server are also supported. All phones not listed here are not supported in the Desk Phone mode. For more information about aliasing one telephone model as another, see Using an Alias section in the *Administering Avaya Aura Communication Manager* guide for Avaya Aura®Communication Manager.

SIP protocol

Basic feature	Requirement
SIP telephony and video features	Avaya Aura®Communication Manager Release 6.0 SP1 or later Avaya Aura® Session Manager Release 6.0 SP1 or later
Instant Messaging	Avaya Aura®Communication Manager Release 6.0 SP1 or later Avaya Aura® Session Manager Release 6.0 SP1 or later Avaya Aura® System Manager Avaya Aura® Presence Services Release 6.1
Desk Phone (hardware)	Avaya phones series 96xx (except 9610) **Note:** SIP support in Desk Phone mode requires Avaya one-X desk phone SIP firmware version 2.6 or later

Note:

Avaya one-X® Communicator supports video with H.323 in This Computer and Desk Phone modes but not in Other Phone mode. It supports video with SIP in This Computer mode but not in Desk Phone and Other Phone modes. There is no support for video with the Citrix Presentation Server.

Product integrations and feature functionality

Basic feature	Requirement
Click-to-Dial from a Web browser	Microsoft Internet Explorer Release 6.0, or 7.0, or 8.0 Mozilla Firefox version 3.x, 4.0, 5.0, 6.x, 9.0, 10.0, 11.0, 12.0, or 13.0
Click-to-Dial from IBM Lotus Notes	IBM Lotus Notes Release 7.5.1 and 8.0
Click-to-Dial from Microsoft Outlook	Microsoft Outlook 2007 SP1 and SP2 or Outlook 2010
Citrix Presentation Server (also known as Citrix XenApp) support (video feature and This Computer log in mode are not supported)	Citrix XenApp Release 5 and 6 with: • Microsoft Windows 2008 R2 Citrix XenApp Release 5.0 with: • Microsoft Windows Server 2003 (32–bit version and 64–bit version) Citrix XenApp Release 4.5 with: • Microsoft Windows Server 2003 (32–bit version and 64–bit version)

Chapter 4: Unified Communication feature set

Overview of the Unified Communication feature set

Avaya one-X® Communicator offers a rich set of features designed to help you manage all of your communication tasks. These features include:

- Desktop integration with an easy-to-use user interface
- Visual audio bridge conferencing
- Visual voice mail
- Contact management, including access to LDAP directories within the enterprise
- Communication History for enterprise calls and messages
- Presence access requests control

Note:

Avaya one-X® Communicator supports video with H.323 in This Computer and Desk Phone modes but not in Other Phone mode. It supports video with SIP in This Computer mode but not in Desk Phone and Other Phone modes. There is no support for video with the Citrix Presentation Server.

Software integration

To provide the Unified Communication feature set, Avaya one-X® Communicator must integrate with Application Enablement Services and Avaya one-X® Client Enablement Services.

If you are using a SIP softphone, Avaya one-X® Communicator also integrates with Session Manager.

Related topics:

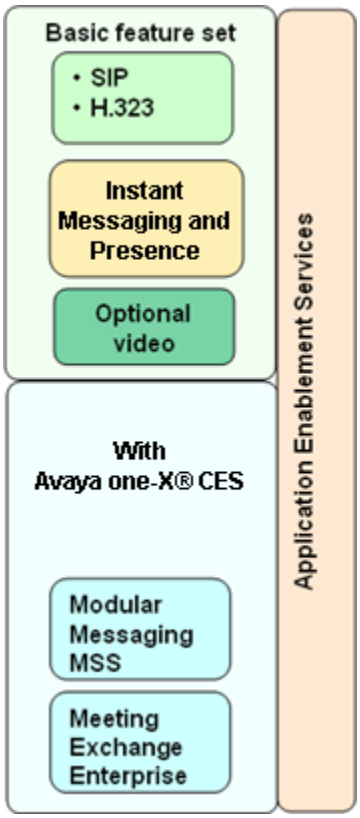
Unified Communication features at a glance on page 41

Unified Communication features at a glance

The Unified Communication feature set includes everything in the Basic feature set. For information about the Basic feature set, see Overview of the Basic feature set on page 25. The

Unified Communication feature set also includes functions based on the following Avaya products:

- Avaya one-X® Client Enablement Services
- Modular Messaging, Message Storage Server (MSS) configuration
- Meeting Exchange Enterprise



For a more detailed view of the above illustration, see overview on page 7.

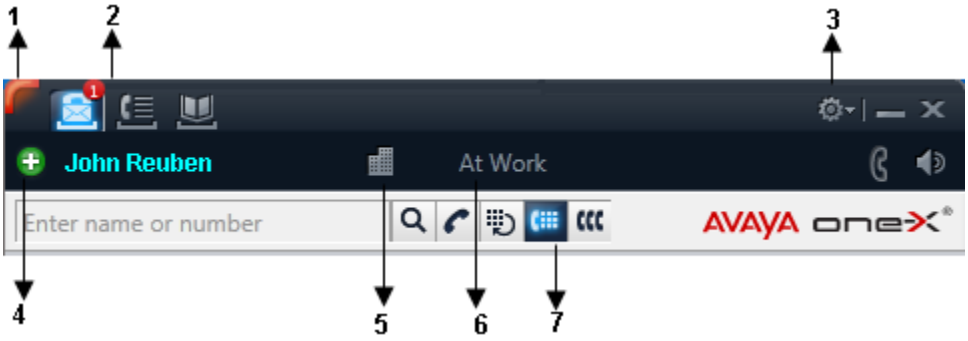
With Avaya one-X® Client Enablement Services

When you deploy the Unified Communication feature set, you get all the functions of the Basic feature set and the following Unified Communication features:

- Visual Audio Bridge Conferencing, see Visual Audio Bridge Conferencing on page 45. This feature requires integration with Avaya Modular Messaging.
- Visual Messaging, see Visual Messaging on page 45. This feature requires integration with Avaya Modular Messaging.
- Contact management, see Contact management on page 46. This feature requires integration with LDAP server.
- Communication History, see Communication History on page 47.
- Video presence, see Presence Services on page 33.

Unified Communication user interface

The following is an example of the user interface for the Unified Communication feature set:



1	Message Waiting Indicator (MWI)
2	Inbox dashboard
3	Window and application controls
4	User status
5	Mode indicator
6	Presence message
7	Action bar

User interface description

Message waiting indicator

Use the MWI to receive alerts when you get new voice mail messages in your inbox. In addition, you can use MWI to retrieve voice mail messages stored in your inbox.

Inbox dashboard

The inbox dashboard gives you easy access to:

- Voice mail. The previous picture shows that there is one new message.
- Communication History
- Contacts

Window and application controls

Window controls allow you to:

- Open online Help. The Help describes how to use the icons in the user interface to perform tasks.
- Open a context-sensitive menu to perform tasks like changing your settings and exiting the program.
- Minimize the interface and place a Avaya one-X® Communicator icon in the desktop task bar.
- Minimize the interface and place a Avaya one-X® Communicator icon in the system tray.

User status

The user status indicator displays the current status of a contact. Examples are:

- Available
- Busy
- Unavailable
- Out of the Office
- Offline
- Invisible
- Auto-Manage

Mode indicator

The mode indicator displays the active usage mode of a contact. Examples are:

- Office
- Home
- Mobile
- Traveling

Presence message

The user interface displays your presence message of your contact. Examples are:

- Away
- On a call
- In a Conference
- Hosting Conference
- In a meeting
- Out of Office

You can customize the presence message that displays the user interface of your contact by entering a new presence message.

Action bar

The action bar contains a field for entering names or phone numbers. The buttons in the action bar perform the following tasks with the information you enter:

- Search for the text or numbers that you enter
- Dial the number or name that you enter
- Redial the number or name that you enter
- Show the conference bridge
- Display the Dialpad

Visual Audio Bridge Conferencing

The optional Avaya one-X® Communicator conferencing features can improve collaboration by increasing the effectiveness of conference calls made on the Avaya Conferencing Enterprise solution.

Feature highlights

This Unified Communication option includes the following features:

- Start a conference, mute, drop, and invite new participants
- Initiate the lecture mode
- Record a bridged conference
- View Caller ID or name (when name is mapped) in a bridged conference
- Identify the speaker, noisy lines, and a muted participant
- Lock a conference
- Close a conference

Products and services required for Visual Audio Bridge Conferencing

Visual Audio Bridge Conferencing requires access to the following products and services:

- Avaya one-X® Client Enablement Services
- Conferencing Enterprise

Visual Messaging

The Avaya one-X® Communicator Visual Messaging features increase individual productivity by providing visual access and sorting capability to voice messages for users of Modular Messaging with MSS.

Feature highlights

- Use Message Waiting Indicator (MWI)
- View your voice mail
- View the status of a message (read, unread)
- Use click-to-play and delete voice messages from your desktop
- Download and save the voice message
- View the name of a caller (if available) or phone number
- Add the phone number to personal contacts
- Add a number to favorites
- Send an e-mail to the caller
- Send an instant message to the caller

Products and services required for Visual Messaging

Visual Messaging is an optional Unified Communication feature that requires access to the following Avaya products:

- Avaya one-X® Client Enablement Services
- Avaya Modular Messaging with MSS
- Avaya Aura® Messaging with MSS

Contact management

Contact management in the Unified Communications feature set builds on the Basic feature set by adding Avaya one-X® Client Enablement Services functionality.

Personal contact directories

After you create your personal contact directory within Avaya one-X® Client Enablement Services, you can edit it from the Avaya one-X® Communicator user interface. However, you cannot view presence information from the personal contact directory.

Feature highlights

In addition to the Basic contact management features, the integration with Avaya one-X® Client Enablement Services allows you to display the Presence Access List (PAL) and view presence information for corporate contacts in call logs, visual voice mails, favorites, and messages.

Feature functionality

- You can click the Instant Message icon for a specific contact to start your default Instant Message client, such as Microsoft Office Communicator. You can only establish an instant messaging session with a user who is online and who is using the same Instant Message

client that you are using. For example, Microsoft Office Communicator users cannot send an instant message to users using AOL, Yahoo, or MSN.

- You can click on the e-mail icon to use your default mail client, that is, Microsoft Outlook or IBM Lotus Notes, to compose a new e-mail.
- If a contact record contains more than one phone number, select the number you want to dial from a menu. The Unified Communication integration with Avaya one-X® Client Enablement Services and the Presence Server displays presence information only for the primary number of a contact.
- Call records for known contacts display basic presence information and available communication channels.
- You can set the Contacts inbox to display all corporate and personal contacts by default. However, this setting might affect performance.

Software interactions

Software interactions for Unified Communication contact management features include:

- Screen pop-ups are available for personal contact searches only if you have properly installed and configured the Avaya Integrator for Outlook.
- You cannot import contacts into Avaya one-X® Communicator. However, Avaya one-X® Communicator allows you to search the Outlook or Lotus Notes contact directory and then Click-to-Dial or e-mail or IM the contact.

Communication History

Communication History logs incoming and outgoing calls across the following products:

- Avaya one-X® Communicator
- Avaya one-X® Client Enablement Services
- Avaya desk phones

Logs are stored on the Avaya one-X® Client Enablement Services server.

Feature highlights

In addition to the Basic call log features, you can:

- View 24*7 call logs from the user interface. You can view incoming and outgoing call logs for Avaya desk phones that occurred even when Avaya one-X® Communicator was not running.
- Sort records by name, time, and status.

Products and services required for Communication History

Communication History requires Avaya one-X® Client Enablement Services.

Products and services required for Unified Communication features

The Unified Communication feature set includes the Basic features. Therefore, the requirements in this section are in addition to those described for the Basic features. All Unified Communication features require integration with Avaya one-X® Client Enablement Services.

Unified Communication features

Unified Communication feature (integrated with Avaya one-X® Client Enablement Services)	Requirement
Call logs and contacts	Avaya one-X® Client Enablement Services Release 6.1
Visual Messaging	• Avaya one-X® Client Enablement Services Release 6.1 • Modular Messaging Release 5.2 with Message Storage Server (MSS) • Avaya Aura® Messaging 6.0 with MSS.
Visual Audio Bridge Conferencing	• Avaya one-X® Client Enablement Services Release 6.1 • Conferencing Enterprise 5.2 or later
Presence Services	• Avaya Aura® Presence Services Release 6.1
Telephony and presence integration with Microsoft Office Communications Server and Office Communicator	• Avaya one-X® Client Enablement Services Release 6.1 • Application Enablement Services Release 4.2.2 or 5.2 • Avaya Aura® Presence Services Release 6.1 • Microsoft Office Communications Server 2007 • Microsoft Office Communicator 2007

Unified Communication feature (integrated with Avaya one-X® Client Enablement Services)	Requirement
Telephony with Microsoft Office Communications Server and Office Communicator	• Avaya one-X® Client Enablement Services Release 6.1 • Application Enablement Services Release 4.2.2 or 5.2 • Microsoft Office Communications Server 2007 • Microsoft Office Communicator 2007

Chapter 5: Video Communication

Overview of video

Video communication using Avaya one-X® Communicator is as simple as a phone call. This solution has:

- High definition video quality
- Supported on both 32-bit and 64-bit Windows XP, Windows Vista, and Windows 7
- Provides both point-to-point and multipoint capability
- Gives users improved collaboration capability for real-time decision making in the office, at home, or on the road

Avaya one-X® Communicator has support for SIP protocol in This Computer mode and H.323 protocol in This Computer and Desk Phone modes.

Avaya one-X® Communicator uses a single IP network for voice and video applications. Using this feature businesses can reduce costs, simplify network management, and make video a significant component of enterprise communications.

Avaya one-X® Communicator automatically adjusts the video quality based on the capabilities of the computer.

Video telephony is an optional Avaya one-X® Communicator feature and requires the Communication Manager Remote Feature Activation (RFA) license. For information about this license requirement, see Licenses on page 55.

Note:

Audio and video features are not supported when Avaya one-X® Communicator is used through a remote desktop connection or a virtual computer.

Communication Manager Release 6.0 SP1 supports SIP video and audio shuffling optimization. In addition, it indicates when the called party is a video-enabled endpoint and hence allows video to be added when a called party is transferred or conferenced

Additional video information

For more information about video features, see the Avaya Video Telephony Solution deployment guide which is available on the Avaya Web site at http://www.avaya.com/support.

Video features for Avaya one-X® Communicator

Video capability is an optional feature for Avaya one-X® Communicator. Avaya one-X® Communicator. Release 6.1 supports video features in H.323 mode with Communication Manager Release 5.2 or later.

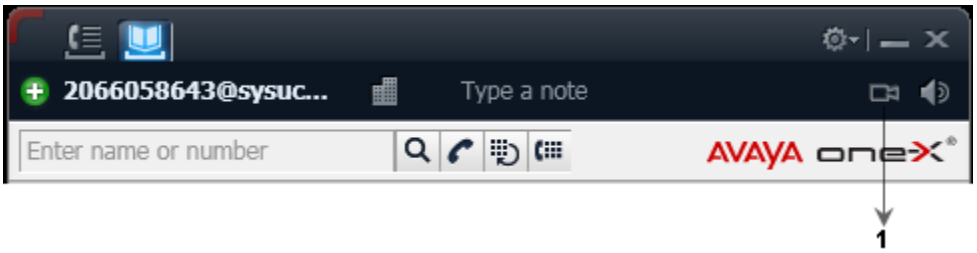
Feature highlights

Video features for Avaya one-X® Communicator are:

- Desktop video controls: stop, mute/unmute, display properties and options, and relinquish camera control
- Video ad hoc conferencing
- Point-to-point video
- Multipoint video
- Bandwidth management
- Class of service and Differentiated Services Code Point tagging
- Video window always on top
- Full screen video window
- Disabling screen saver and saving monitor power

Basic user interface with video

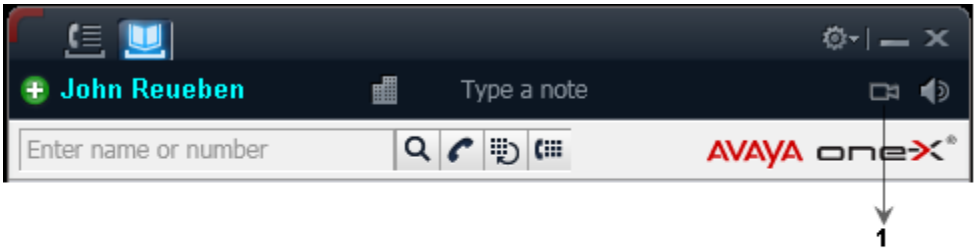
Following is an example of the user interface for the Basic feature with the optional video feature:



1	Video button

Unified Communication user interface with video

Following is an example of the user interface for the Unified Communication feature with the optional video feature:



1	Video button

Products required for video features

Avaya products

Avaya one-X® Communicator features differ depending on the Communication Manager release because video is part of Communication Manager.

Web camera

You can use any of the following USB cameras with Avaya one-X® Communicator:

Creative Cameras	Software/Driver Version
Creative Live! Cam Socialize HD webcam	1.2.1.0
Creative Live! Cam Optia Pro	
Creative Live! Cam Optia AF	
Creative Live! Cam Notebook Ultra	
Creative Live! Cam Notebook Pro	1.2.6.627

Microsoft Cameras	Software/Driver Version
Lifecam Cinema	3.20.240.0
Lifecam Show	

Logitech Cameras	Software/Driver Version
Logitech® Webcam C905	13.0.1788.0
Logitech® Webcam Pro 9000	12.10.11113.0000
Logitech® Webcam C600	
Logitech® Orbit AF	
Logitech® Webcam Pro 5000	12.0.1278.0
Logitech® Quickcam Messenger	12.0.1278.0

Additional product information

You can find additional information about video products from the following resources:

- For video requirements for your computer, go to End user requirements on page 56.
- For information about the supported web cameras, go to the manufacturer's Web site.

Chapter 6: Deployment planning

Deployment overview

You can deploy Avaya one-X® Communicator in network environments that support the following telephony protocols:

- H.323
- SIP

Avaya one-X® Communicator supports both protocols in the same network for the Basic feature set. To deploy the Basic feature set with SIP, you must also deploy Session Manager.

For information about how to configure different Avaya one-X® Communicator settings, see *Avaya one-X® Communicator Centralized Administration Tool* guide on the Avaya Support Web site http://www.avaya.com/support.

Licenses

Avaya controls the use of Avaya one-X® Communicator and the optional video telephony feature through licenses. You must purchase licenses for these products in order to use them.

Avaya one-X® Communicator in H.323 mode

This deployment option requires a station form on Communication Manager with the Avaya one-X® Communicator registration limit in the Communication Manager Remote Feature Activation (RFA) license. The Avaya one-X® Communicator registration limit is automatically included in all Communication Manager Release 4.0.4 RFA licenses generated after January 8, 2008 and is automatically included in all Communication Manager Release 5.0 or later RFA licenses. However, customers still need to acquire the right to use Avaya one-X® Communicator from Avaya.

Avaya one-X® Communicator in SIP Mode

This deployment option requires a station form on Communication Manager and a userid and media extension on Session Manager for each user. It does not require use of the Avaya one-X® Communicator registration limit in Communication Manager nor softclient licenses on either Session Manager or Communication Manager.

Video telephony (H.323 and SIP)

Video telephony is an optional Avaya one-X® Communicator feature that is controlled in the Communication Manager RFA license.

You only need this license if you are deploying the Avaya one-X® Communicator video feature. You need to select the **IP Softphone** and **IP Video Softphone** check boxes while administering H.323 and SIP endpoints. For more information see the Avaya Video Telephony Solution Quick Setup guide, available on the Avaya Web site at http://www.avaya.com/support.

Avaya one-X® Communicator supports video with H.323 in This Computer and Desk Phone modes but not in Other Phone mode. It supports video with SIP in This Computer mode but not in Desk Phone and Other Phone modes. There is no support for video with the Citrix Presentation Server.

Each Avaya one-X® Communicator station administered on Communication Manager requires one RTU License for the Maximum Video Capable Avaya one-X® Communicator Endpoints feature.

These licenses are automatically included in all Communication Manager RFA licenses.

You need to provision and enable the Communication Manager RFA license.

Other products

For licensing requirements of the products that you integrate with Avaya one-X® Communicator, refer to the product documentation for the specific product.

End user requirements

Following are the hardware, software, and connectivity requirements for an end user:

Computer hardware without video

Computers that are not running the optional video feature must meet these hardware requirements:

- Intel Pentium 1.2 GHz processor (minimum)
- 1-GB RAM. More for Windows Vista and Windows 7 as per Microsoft recommendations
- 1.5-GB free hard disk space (3-GB free hard disk space if .NET 4 is not already installed)
- Keyboard
- Mouse or some other compatible pointing device
- Monitor with 1024 x 768 or higher resolution
- Network interface card
- USB headset for This Computer mode

Computer hardware with video

Computers that are running the optional video feature must meet these hardware requirements:

- Intel Pentium 4 2.0 GHz or dual-core processor (minimum)
- 1-GB RAM. More for Windows Vista and Windows 7 as per Microsoft recommendations
- 100 MB dedicated video RAM
- 1.5-GB free hard disk space (3-GB free hard disk space if .NET 4 is not already installed)
- Keyboard
- Mouse or some other compatible pointing device
- Video adapter and Monitor with 1024 x 768 or higher resolution
- Network interface card
- USB headset for This Computer mode
- Recommended USB camera. See Products required for video features on page 53 on page for a list of Web cameras.

Computer hardware with HD video

Computers that are running the optional HD video feature must meet these hardware requirements:

- Intel Dual Core or Core 2 Duo or Core i3 (minimum)
- 2-GB RAM. More for Windows Vista and Windows 7 as per Microsoft recommendations
- 100 MB dedicated Video RAM. If this is shared with main RAM, main RAM needs to be increased by 100 MB.
- 1.5-GB free hard disk space (3-GB free hard disk space if .NET 4 is not already installed)
- Keyboard
- Mouse or some other compatible pointing device
- Video adapter and Monitor with 1024 x 768 or higher resolution
- Network interface card
- USB headset for This Computer mode
- HD camera (up to 720p that supports 30fps video)

Operating system

Computers must have one of the following 32 bit or 64 bit operating systems:

- Microsoft Windows XP Home or Professional editions with Service Pack 3 or higher
- Microsoft Windows Vista Enterprise or Ultimate or Business Editions with Service Pack 2 or higher
- Microsoft Windows Server 2003
- Microsoft Windows Server 2008
- Microsoft Windows 7 Service Pack 1 or Ultimate or Professional Editions

Required Microsoft products

Avaya one-X® Communicator requires the following products. You can download this software from the Microsoft Web site http://www.microsoft.com.

- Microsoft .NET Framework 4
- Microsoft Visual C++ 2005 SP1 Redistributable Primary Interop Assemblies (PIA), required only when integrating with Microsoft Office 2007
- Microsoft DirectX. Computers running
  - Windows XP require Release 9.0c
  - Vista require Release 10
- Windows Media Player Release 10 or higher, required if you are using the H.323 protocol

For more information about these products, see Required third-party software products on page 21.

Web camera

This document has a list of supported web cameras at Products required for video features on page 53.

Telephones

Avaya 24xx, 46xx, 64xx, or 96xx (except 9610) series phone

Note:

- Avaya one-X® Communicator supports only 96xx series telephones (except 9610) in SIP mode with Desk phone mode.
- All 16xx phones configured as 46xx phones on the Communication Manager server are also supported.
- All phones not listed here are not supported in the share control mode.

Headsets

The following wireless (USB/PC) headsets can be used with Avaya one-X® Communicator.

Model	Supported region	Headset
72830-01	Global, non EMEA	510-USB,US, VOYAGER HEADSET, W/BUA 100 ADAPTER
72270-45	EMEA	510/USB,EURO, BT DONGLE, VOYAGER HEADSET
67000-10	Global, non EMEA	CS50-USB,US RETAIL/ DISTY
36947-12	EMEA	CS60-USB,EURO

To use these wireless headsets, you need Plantronics PerSono Suite Release 1.1.

The following wired headsets can be used with Avaya one-X® Communicator:

Model	Supported region	Headset
SupraElite Narrowband now converted to Wideband		
64336-31	Global	HW251, US-APLA
64339-31	Global	HW251N, US-APLA
700343742	Global	HW261N, US-APLA
36828-31	EMEA	HW251, EMEA
36832-31	EMEA	HW251N, EMEA
36830-31	EMEA	HW261, EMEA
36830-31	EMEA	SHW261N, EMEA
SupraElite Wideband		
64338-31	Global, non EMEA	HW251N, US-APLA
64339-31	Global, non EMEA	HW261N, US-APLA
36832-31	EMEA	HW251N, EMEA
36830-31	EMEA	HW261N, EMEA
Encore		
78712-01	Global, non EMEA	HW291N,APLA-NA
78714-01	Global, non EMEA	HW301N,APLA-NA
78712-02	EMEA	HW291N/A, EMEA
78714-02	EMEA	HW301N/A, EMEA
Tristar		
40203-01	Global, non EMEA	H81N HEADSET,APLA/CAN

To use these wired headsets, you need USB adapters:

Model	Supported region	USB
63725-03	Global	DA55, USB, ADAPTER

For more information about these headsets, see the Avaya Headset Catalog available on the Avaya Web site.

Note:

Before using these headsets, customers must test them in their environment. Other headsets may work as well, but they must be extensively tested in the customers environment.

Web browser

End users can choose any of the following browsers:

For this Avaya one-X® Communicator function ...	... You can use these browsers ...
Telephony integration	Microsoft Internet Explorer Release 6.0, 7.0, or 8.0 Mozilla Firefox version 3.x, 4.0, 5.0, 6.x, 9.0, 10.0, 11.0, 12.0, or 13.0

Enterprise requirements

System requirements for the Enterprise follow.

Avaya products and services for deployment options

	H.323	SIP
Avaya Communication Manager with Video Telephony configured	5.2 and later	6.0 SP1 and later

Avaya products and services for feature sets

	Basic	UC
Avaya Aura® Presence Services	6.1	6.1
Avaya Application Enablement Services	4.2.2 or 5.2	4.2.2 or 5.2
Avaya one-X® Client Enablement Services	N/A	6.1
Avaya Modular Messaging with Message Storage Server (MSS)	N/A	5.2
Avaya Aura®Conferencing	N/A	4.1 or 5.2
Avaya Integrator for Outlook	2007 or 2010	2007 or 2010

Avaya products and services for feature sets

IBM products

This section only applies if you plan to deploy Avaya one-X® Communicator in an IBM environment.

All of the Avaya one-X® Communicator functions shown are optional. You can deploy Avaya one-X® Communicator in an IBM environment without them. However, some functionality may require the following Avaya products:

- Avaya Aura® Application Enablement Services required for the click-to-call feature.
- Presence server required for the presence feature.

For this Avaya one-X® Communicator function ...	... You need this IBM product ...	... At this release
Click-to-Dial from IBM Lotus Notes	IBM Lotus Notes	7.5.1 or 8.0

Optional Microsoft products

All of the Avaya one-X® Communicator functions shown below are optional. You can deploy Avaya one-X® Communicator in a Microsoft environment without them. However, some functionality may require the following Avaya products:

- Avaya Application Enablement Services required for the click-to-call feature.
- Presence server required for the presence feature.

For this Avaya one-X® Communicator function ...	... You need these Microsoft products ...
Click-to-Dial from Microsoft Outlook	Microsoft Outlook 2007 or 2010
Contact management	Microsoft Active Directory server 2003 or Windows Server 2008 Active Directory Domain Services

Other optional products

You may also need the following products:

- Citrix Presentation Server Release 4.5 or Citrix XenApps 4.5
- IBM Domino or Novell eDirectory, for contact management in a non-Microsoft environment

Planning for implementation

Because Avaya one-X® Communicator interacts with many different products and services, you must plan for a successful implementation. Use the following steps as a guide for your planning activities:

Procedure

1. Determine how your enterprise will deploy Avaya one-X® Communicator. Deployment options follow:

Telephony protocol	Feature set	Usage mode
H.323 and SIP	Basic	Desk Phone This Computer Other Phone
H.323	Basic with optional video	Desk Phone This Computer
SIP	Basic with optional video	This Computer
H.323	Unified Communication	Desk Phone This Computer Other Phone
H.323	Unified Communication with optional video	Desk Phone This Computer

Note:

Avaya one-X® Communicator supports video with H.323 in This Computer and Desk Phone modes but not in Other Phone mode. It supports video with SIP in This Computer mode but not in Desk Phone and Other Phone modes. There is no support for video with the Citrix Presentation Server.

2. Ensure that all product licenses are in place.
3. Ensure that the end user and enterprise environments can support Avaya one-X® Communicator. For your deployment option, consider the following:
   - Is the required hardware in place?
   - Have all related Avaya software products been installed and administered correctly?
   - Have all related third-party software products been installed and administered correctly?

- Have you verified that your infrastructure is ready for video telephony? For more information see the Avaya Video Telephony Solution Quick Setup guide, available on the Avaya Web site at http://www.avaya.com/support.

4. Determine how you will distribute Avaya one-X® Communicator software to your employees. You can:
   - Use a tool like the Microsoft Software Management Server (SMS) for silent installations
   - Use a customer-installable process that requires end users to manually install Avaya one-X® Communicator and other related software
5. Ensure that end users can access the following Avaya one-X® Communicator implementation and administration documents:
   - Implementing Avaya one-X® Communicator guide
   - Administering Avaya one-X® Communicator guide

Implementation

Your enterprise can use either of the following deployment methods to install Avaya one-X® Communicator:

- Silent installation: System administrator of enterprise customizes, tests, and deploys the Avaya one-X® Communicator installer software.
- Customer installation: End users of your enterprise manually perform the following:
  - Uninstall Avaya Softphone and related software (required only if they are currently using Avaya Softphone with video)
  - Download and install all required software onto their computers

Related topics:

Silent installation on page 64
Customizing the installer for silent installation deployments on page 65
Uninstalling existing software on page 66
Installing Avaya one-X Communicator manually on page 67
Initial configuration on page 68
Customization on page 73

Silent installation

The silent installer for Avaya one-X® Communicator installs Avaya one-X® Communicator with the following features and integrations:

- H.323 and SIP protocols
- Video telephony
- Avaya Integrator for Outlook
- Avaya one-X® Client Enablement Services
- Microsoft Internet Explorer
- Mozilla Firefox

Properties

When using the MSI file to install Avaya one-X® Communicator, users can set values for the following configuration parameters through the command line:

Parameter	Default value	Permitted values	Definition of values
ENABLECLICKTODIALIE	1	0 or 1	• **1** = Enable Click-to-dial from Internet Explorer • **0** = Disable Click-to-dial from Internet Explorer
ENABLECLICKTODIALFF	1	0 or 1	• **1** = Enable Click-to-dial from Mozilla Firefox • **0** = Disable Click-to-dial from Mozilla Firefox
ENABLEOUTLOOKADDIN	1	0 or 1	• **1** = Enable Microsoft Outlook integration with Avaya one-X® Communicator • Disable Microsoft Outlook integration with Avaya one-X® Communicator

Syntax for MSI files

The following syntax are for silent installation and uninstallation through MSI. All parameters are case sensitive.

Silent Install:

The following command sets the signaling protocol to H.323 and installs the Click-to-dial feature integration with Microsoft Internet Explorer, Mozila Firefox, and Microsoft Outlook if the corresponding software is installed.

```
msiexec /i "i onexc_setup_6.1.0.12_30334.msi"
ENABLECLICKTODIALIE="1" ENABLECLICKTODIALFF="1"
ENABLEOUTLOOKADDIN="1" SIGNALPROTOCOL="1" /qn
```

Silent uninstall:

Any one of the following commands can be used to uninstall Avaya one-X® Communicator:

- **msiexec /x "onexc_setup_6.1.0.12_30334.msi" /l*v C:\temp \Uninstall.log /qn**
- **msiexec /uninstall "onexc_setup_6.1.0.12_30334.msi" /l*v C:\temp \Uninstall.log /qn**

Customizing the installer for silent installation deployments

You can customize the Avaya one-X® Communicator installer for specific deployment of your enterprise.

Note:

Avaya one-X® Communicator supports Microsoft Outlook 2007 and Microsoft Outlook 2010. Microsoft Outlook 2003 is not supported.

Before you begin

Before you begin customizing the Avaya one-X® Communicator installer, complete the following:

- Complete all planning activities described in Planning for implementation on page 62 so you have a clear understanding of how the network and end user environments of your organization need to change to support Avaya one-X® Communicator.
- (Optional). If you want to enable the Auto-configure button and pre-populate some of the end user's configuration fields, configure the automatic settings in the 46xxsetting.txt file that is hosted on your http/https server. Also ensure that end-user computers are in a network that has access to the Dynamic Host Configuration Protocol (DHCP).

About this task

Use the following guidelines for customizing the Avaya one-X® Communicator installer to meet the needs of your organization. Use only the guidelines that apply to your networking environment, but script the installer to follow the sequence shown below.

Procedure

1. Uninstall Avaya softphone software as described in Uninstalling existing software on page 66.
2. Install Microsoft .Net Framework in the computer of the end user before you install Avaya one-X® Communicator.
3. Download and install the following:
   a. If not already installed, install Visual Studio Tools for Office Runtime (VSTOR) 4.0 on your computer. You can download VSTOR 4.0 from: http://www.microsoft.com/downloads/en/details.aspx?familyid=06C32242-2289-4471-93AA-CE96AA5CBC36&displaylang=en.
   b. If using Microsoft Outlook 2007 versions prior to 12.0.6520.XXXX, use hotfix KB976811. You can download the hotfix from: http://support.microsoft.com/kb/976477/.
4. Use the appropriate installation script to install Avaya one-X® Communicator. See Silent installation on page 64.

Next steps

Test your installer until it meets your expectations. Then follow the silent installation process of your organization for deploying the software.

Uninstalling existing software

If you are not currently using Avaya softphones with video, you can skip this section.

If you are currently using Avaya softphones with video, and if you plan to use Avaya one-X® Communicator with video, then you must uninstall the following Avaya software from your computer before you install Avaya one-X® Communicator:

- Avaya IP Softphone
- Avaya one-X Desktop Edition (formally SIP Softphone)
- Avaya Integrator for Outlook

Before you begin

Before uninstalling Avaya IP Softphone software, record the following information. You need this information when you install Avaya one-X® Communicator:

- Your IP Softphone call server address
- Your IP Softphone login
- The password for your extension

About this task

To uninstall Avaya software:

Procedure

1. Navigate to the Windows Add or Remove Programs utility (Start/Settings/Control Panel).
2. Follow the standard process for removing programs from Windows.

Installing Avaya one-X® Communicator manually

Before you begin

The following are prerequisites to installing Avaya one-X® Communicator:

- If you plan to install Avaya one-X® Communicator with video and if Avaya IP Softphone with video is on your computer, then you must remove all of the software discussed in Uninstalling existing software on page 66 before you install Avaya one-X® Communicator.
- Microsoft .NET Framework 4 has been installed on the computer. See Required third-party software products on page 21 for more information.
- Optional. If you want to use the Auto-configure button to pre-populate some of your configuration fields, your system administrator must first configure the automatic discovery settings in the 46xxsettings.txt file that is hosted on your http/https server. Your computer must also be in a network that has access to the Dynamic Host Configuration Protocol (DHCP).

About this task

To install Avaya one-X® Communicator on to your computer, follow these steps:

Procedure

1. Close all open applications.

2. Follow the installation instructions in the Implementing Avaya one-X® Communicator guide.

Next steps

Launch Avaya one-X® Communicator and follow the instructions in the Implementing Avaya one-X® Communicator guide.

Initial configuration

After you install Avaya one-X® Communicator you must configure it. If your company has implemented the Auto-configure functionality of Avaya one-X® Communicator, the Auto-configure button on the General Setting screens pre-populates some settings for you. See the *Implementing Avaya one-X® Communicator* guide for more information.

Related topics:

Pre-configure using Avaya one-X Communicator on page 68
Manually create or edit the configuration files on page 68
Auto-configure at startup on page 73
Auto-configure as needed on page 73

Pre-configure using Avaya one-X® Communicator

The administrator can install Avaya one-X® Communicator on a machine with the minimum required hardware. For more information, see End user requirements on page 56. After the installation, the administrator can start the application and configure the desired values for server address, desktop integration settings, public directory settings, and so on. These configuration data generated after the configuration can be copied and distributed to all users. This method of configuring Avaya one-X® Communicator makes it easy for the end users to use it. However, the administrator must not save any user specific data, such as password and user name.

Manually create or edit the configuration files

The configuration files used by Avaya one-X® Communicator are XML files which can be edited using either XML file editor or any text editor such as Notepad. However, administrators need to know the specific configuration parameters to be edited. For more advanced features and options, administrators need to contact Avaya technical support.

Location of the configuration files

Avaya one-X® Communicator configuration files are located under user data directory: `%APPDATA%\Avaya\Avaya one-X Communicator` where *%APPDATA%* is Windows environment variable.

- For Windows XP, the path is `C:\Documents and Settings\<USER_NAME>\Application Data\Avaya\Avaya one-X Communicator`
- For Windows 7 and Windows Vista, the path is `C:\Users\<USER_NAME>\AppData\Roaming\Avaya\Avaya one-X Communicator`

Names of important configuration files

- `config.xml`: Phone-related information.
- `onexcuiconfig.xml`: Message Access-related information.
- `dirserver.xml` : Public Directory related information. Administrators need to use this file to enable Public Directory feature.

Sample configuration files

- `config.xml`: It contains the format of configuration parameters.

  Format:

  <parameter>

  <name>*parameterName*</name>

  <value>*parameterValue*</value>

  </parameter>

  Sample:

  - H.323 protocol

```
<ConfigData xmlns="http://xml.avaya.com/endpointAPI">
<version>1</version>
<parameter>
<name>SipProxyServerList</name>
<value>135.11.11.111</value>
</parameter>
<parameter>
<name>AvayaSearchDirectory</name>
<value>1</value>
</parameter>
<parameter>
<name>EnableG729</name>
<value>1</value>
</parameter>
</ConfigData>
```

  where *SipProxyServerList* is the CLAN IP (H.323) address

  where *AvayaSearchDirectory* enables the public directory search. If this is set to 1, dirsever.xml specifies the information to access the LDAP server for public directory search.

- SIP protocol

```
<parameter>
<name>DialPlanCountryCode</name>
<value>1</value>
</parameter>
<parameter>
<name>DialPlanInternationalAccessCode</name>
<value>00</value>
</parameter>
<parameter>
<name>DialPlanLongDistanceAccessCode</name>
<value>0</value>
</parameter>
<parameter>
<name>DialPlanOutsideLineAccessCode</name>
<value>0</value>
</parameter>
<parameter>
<name>DialPlanAreaCode</name>
<value>086</value>
</parameter>
<parameter>
<name>DialPlanNationalPhoneNumbLengthList</name>
<value>11,12</value>
</parameter>
<parameter>
<name>DialPlanLocalCallPrefix</name>
<value>0</value>
</parameter>
<parameter>
<name>DialPlanExtensionLengthList</name>
<value>7</value>
</parameter>
<parameter>
<name>DialPlanPBXPrefix</name>
<value>848</value>
</parameter>
<parameter>
<name>ConfirmDialStringEnabled</name>
<value>1</value>
</parameter>
```

where *SipControllerList* is the SM (Asset Card) IP (SIP) address in the following format:

host[:port][;transport=xxx]

- *host* is an IP address of SM in dotted-decimal format or DNS name.
- *port* is the optional port number. If a port number is not specified, the default value 5060 for UDP and 5061 for TLS is used.
- *transport* is the optional transport type (where *xxx* is TLS, TCP, or UDP). If a transport type is not specified, the default value of TLS is used.

SipDomain is the SIP Domain name for registration.

where *AvayaSearchDirectory* enables the public directory search. If this is set to 1, dirsever.xml specifies the information to access the LDAP server for public directory search.

- Dialing rules

```
<parameter>
<name>DialPlanCountryCode</name>
<value>1</value>
</parameter>
<parameter>
<name>DialPlanInternationalAccessCode</name>
<value>00</value>
</parameter>
<parameter>
<name>DialPlanLongDistanceAccessCode</name>
<value>0</value>
</parameter>
<parameter>
<name>DialPlanOutsideLineAccessCode</name>
<value>0</value>
</parameter>
<parameter>
<name>DialPlanAreaCode</name>
<value>086</value>
</parameter>
<parameter>
<name>DialPlanNationalPhoneNumbLengthList</name>
<value>11,12</value>
</parameter>
<parameter>
<name>DialPlanLocalCallPrefix</name>
<value>0</value>
</parameter>
<parameter>
<name>DialPlanExtensionLengthList</name>
<value>7</value>
</parameter>
<parameter>
<name>DialPlanPBXPrefix</name>
<value>848</value>
</parameter>
<parameter>
<name>ConfirmDialStringEnabled</name>
<value>1</value>
</parameter>
```

where:

- *DialPlanOutsideLineAccessCode* is the number to dial to access outside line.
- *DialPlanCountryCode* is the country code.
- *DialPlanAreaCode* is the area/city code.
- *DialPlanPBXPrefix* is the PBX main prefix.
- *DialPlanLongDistanceAccessCode* is the number to dial for long distance calls.
- *DialPlanInternationalAccessCode* is the number to dial for international calls.
- *DialPlanExtensionLengthList* is the extension length for internal extension calls.
- *DialPlanNationalPhoneNumbLengthList* is the length of national phone numbers.

- *ConfirmDialStringEnabled* is to enable displaying of confirmation dialog before making a call.

- *onexcuiconfig.xml*

```
<?xml version="1.0" encoding="utf-8"?>
<UserData xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://xml.avaya.com/
endpointAPI"
<Messaging>
<MessageAccessMode>DialNumber</MessageAccessMode>
<EnableMessageAccess>true</EnableMessageAccess>
<MessageAccessApplication />
<MessageAccessWebPage />
</Messaging>
</UserData>
```

where:

- *EnableMessageAccess* enables message access (voicemail configuration).
- *MessageAccessMode* is the DIAL_NUMBER to dial the pilot number.
- *MessageAccessApplication* is the path to the application that runs.
- *MessageAccessWebPage* is the URL of the web page that will run.

Note:

If message access is enabled to dial a number, that number must be defined in `config.xml`.

```
<parameter>
<name>MessagingAppPhoneNumber</name>
<value>999999</value>
</parameter>
```

- `dirserver.xml` (optional)

It contains the following information related to Public directory configuration. AvayaSearchDirectory parameter needs to be set to 1 in `config.xml` otherwise information in `dirsever.xml` will not be used.

```
<SearchDirectorySettings xmlns="http://xml.avaya.com/endpointAPI">
<searchDirectories> <id>0</id> <name>LDAPServerName</name>
<address>ldapserver.xcompany.com</address>
<port>389</port> <userName/> <userPassword/>
<searchRoot>ou=people;o=xcompany.com</searchRoot>
<searchTimeout>100</searchTimeout> <maxEntriesReturned>50</maxEntriesReturned>
<bindOption/> <type>ActiveDirectory</type> </searchDirectories>
<currentSearchServerIndex>0</currentSearchServerIndex>
</SearchDirectorySettings>
```

where:

- name is the identifier the LDAP server entry.
- address is the LDAP server address.
- port is the LDAP server port.
- searchRoot is the search root to perform the contact search through LDAP server.

Auto-configure at startup

This option enables the administrator to configure the client to automatically retrieve settings from the 46xxsettings.txt file when the end-user first runs the application. For more information, see The Auto-configure Feature section in the *Administering Avaya one-X® Communicator* guide.

Auto-configure as needed

46xxsettings.txt file is setup with default user configuration data that is hosted on the HTTP server. The end-user can click the Auto-configure button on the General Settings windows of Avaya one-X® Communicator. The HTTP server retrieves the configuration information, and the this configuration information appears in the General Settings window automatically. For more information, see “The Auto-configure Feature” section in the Administering Avaya one-X® Communicator guide.

Customization

Enterprises can customize Avaya one-X® Communicator by selecting the softphone protocol as H.323 or SIP. Avaya one-X® Communicator is installed with default protocol as SIP. However, users can change the protocol at the first login.

End users can customize Avaya one-X® Communicator by:

- Selecting their preferred usage mode when they log in
- Adding additional choices to their presence status list

Avaya one-X® Communicator log files

Avaya one-X® Communicator stores the following log files in your computer at: Documents and Settings\<user name>\Application Data\Avaya\Avaya one-X Communicatior\Log Files folder:

- onexcvideo.txt (audio and video components)
- GIPSAdapterTrace.txt (video component)
- GIPSIncomingRTPDump
- GIPSOutgoingRTPDump

- EndpointLog.txt (general debugging information)
- PPMMessages (SIP)
- H323Station.txt (station administration)
- onexcapi.log (messages to and from the user interface)
- onexcui.log (general user interface debugging information)
- onexcuisystem.txt (user ingerface logs)
- FFLogs.txt
- XmppLog.txt (Xmpp protocol)
- IELogs.txt (Click-to-dial component)
- OutlookIntegratorLog.txt (Outlook integrator logs)

Chapter 7: Feature set comparison

Comparison of Basic and Unified Communication feature sets

The tables in this section compare the Avaya one-X® Communicator Basic and Unified Communication feature sets.

Communication History and call logs

Feature	Basic	UC
Logs incoming and outgoing calls for Avaya desk phones when Avaya one-X® Communicator is running	Yes	Yes
Logs incoming and outgoing calls for Avaya desk phones when Avaya one-X® Communicator is not running	No	Yes
View call logs from the user interface	Yes	Yes
View voice mail logs from the user interface	No	Yes
Sort records by name, time, status, etc.	Yes	Yes
Call the caller from the call log	Yes	Yes
Add a caller to contacts	Yes	Yes
Send an e-mail to a contact from the call log	No	Yes
Send an instant message to a contact from the call log	Yes (with SIP)	Yes

Contact management

Feature	Basic	UC
Display corporate and personal directories	Yes	Yes
Search for a contact in all of your directories	Yes	Yes
Filter directories by latest search or contact availability	Yes	Yes
Add, change, and delete personal contacts	Yes	Yes

Feature	Basic	UC
View contact details. You can change this information for a personal contact, but not for a corporate contact.	Yes	Yes
Call the contact from your contact directories	Yes	Yes
Single-click on a contact to open your default e-mail client. The e-mail that opens is pre-addressed to that contact.	Yes	Yes
Send an Instant Message from your contact directories. Avaya one-X® Communicator launches native Instant Messaging or Microsoft Office Communicator.	Yes (in case of native Instant Messaging)	Yes
Select a contact to display more details	Yes	Yes
Create Journal entries (in a Microsoft Outlook environment)	Yes	Yes
Display the Presence Access List (PAL) and view presence information for corporate contacts	No	Yes

Desktop integration

Feature	Basic	UC
Action bar for search, dial, redial, Dialpad	Yes	Yes
Action bar for Bridge Conference	No	Yes
Communication channel indicator for phone, Instant Message, e-mail, and video	No	Yes
Inbox dashboard for incoming messages, calls, Instant Messages, and contacts	Yes	Yes
Message Waiting Indicator (MWI)	Yes	Yes
Mode indicator that shows your active usage mode	Yes	Yes
Presence indicator. You can use the predefined statuses or you can define your own.	No	Yes
Window controls for contextual menu, task bar, tool bar system tray	Yes	Yes

Avaya Aura® Presence Services

Feature	Basic	UC
View the presence of a contact through status messages • Available • Busy	No	Yes

Feature	Basic	UC
• Unavailable • Out of the Office • Invisible • Auto-Manage		
View the usage mode of a contact or set your own mode	No	Yes

Visual Messaging

Feature	Basic	UC
Click the Message Waiting Indicator (MWI) to call into your voice mail system	Yes	Yes
View your voice mail	No	Yes
View the status of a message (read, unread)	No	Yes
Click-to-play and delete voice messages from your desk top	No	Yes
View the caller's name (if available) or phone number	No	Yes
Call a number from a voice mail	No	Yes
Add a number from a voice mail to contacts	No	yes
Add a contact to favorites	No	Yes
Send an e-mail to a contact	Yes	Yes
Send an instant message to a contact	No	Yes
Save and download a voice mail	No	Yes

Instant Messaging and e-mail

Feature	Basic	UC
Click the Instant Message icon for a specific contact to start your default Instant Message client	Yes	Yes
Click the e-mail icon to use your default mail client (Microsoft Outlook or IBM Lotus Notes) to compose a new e-mail	No	Yes

Telephony

The following telephony features are available and may require administration and configuration in Communication Manager.

Feature	Basic	UC
Call answer	Yes	Yes

Feature	Basic	UC
Call forwarding	Yes	Yes
Send all calls to coverage	Yes	Yes
Call hold (automatic and user selected)	Yes	Yes
Call resume (user selected only)		
Call transfer (user selected only)	Yes	Yes
Call mute (user selected only)	Yes	Yes
Automatic call back	Yes	Yes
Outgoing calls from the desk top, Dialpad, and personal contact list	Yes	Yes
Click-to-Dial from Microsoft Outlook	Yes	Yes
Click-to-Dial from any number highlighted in Internet Explorer and Firefox browsers	Yes	Yes
Wipe-to-dial (clipboard dialing) from an application	Yes	Yes
Manage multiple call appearances	Yes	Yes
Extension to Cellular	Yes	Yes
Call logs	Yes	Yes
Integration with Communication History logs	No	Yes

Video

Video features differ depending on the Communication Manager release.

Feature	Basic	UC
Desktop video controls: stop, mute or unmute, display properties and options, and relinquish camera control	Yes	Yes
Video ad hoc conferencing when the required hardware and software is available	Yes	Yes
Point-to-point and multipoint video	Yes	Yes
Bandwidth management	Yes	Yes
Class of Service and Differentiated Services Code Point (DSCP) control	Yes	Yes
Video window always on top	Yes	Yes
Full screen video	Yes	Yes
Disabling Screen Saver and Monitor Power Savings mode when on a call	Yes	Yes

Chapter 8: Softphone comparison

Overview of softphone comparisons

The tables in this section compare Avaya one-X® Communicator and Avaya IP Softphone Release 6 and Avaya one-X Desktop Edition Release 2.1.

Feature comparisons

Communication History and call logs

Feature	Basic	UC	IP Softphone	one-X Desktop
Logs incoming, outgoing, and missed calls for Avaya desk phones when Avaya one-X® Communicator is running	Yes	Yes	Yes	Yes
Logs incoming, outgoing, and missed calls for Avaya desk phones when Avaya one-X® Communicator is not running	No	Yes	No	No
View call logs from the user interface	Yes	Yes	Yes	Yes
View voice mail logs from the user interface	No	Yes	No	No
Sort records by name, time, status, etc.	Yes	Yes	Yes	Yes
Call the caller from the call log	Yes	Yes	Yes	Yes
Add a caller to contacts	Yes	Yes	Yes	Yes
Send an e-mail to a contact from the call log	No	Yes	Yes	Yes
Send an instant message to a contact from the call log	Yes (with SIP)	Yes	Yes	Yes

Contact management

Feature	Basic	UC	IP Softphone	one-X Desktop
Display corporate and personal directories	Yes	Yes	Yes	Yes
Search for a contact in all of your directories	Yes	Yes	Yes	Yes
Filter directories by latest search or contact availability	Yes	Yes	Yes	Yes
Add, change, and delete personal contacts	Yes	Yes	Yes	Yes
View contact details. You can change this information for a personal contact, but not for a corporate contact.	Yes	Yes	Yes	Yes
Call the contact from your contact directories	Yes	Yes	Yes	Yes
Dial from TAPI-compliant contact mangers/Personal Information Managers (like ACT!)	No	No	Yes	Yes
Single-click on a contact to open your default e-mail client. The e-mail that opens is pre-addressed to that contact.	Yes	Yes	Yes	Yes
Send an Instant Message from your contact directories. Avaya one-X® Communicator launches native Instant Messaging, your default Instant Message client. Microsoft Office Communicator.	Yes	Yes	Yes, using Avaya IM through AES or Session Manager	Yes, using Avaya IM through AES or Session Manager
Select a contact to display more details	Yes	Yes	Yes, with optional Avaya Integrator with Outlook	No
Create Journal entries (in a Microsoft Outlook environment)	Yes	Yes	No	No
Display the Presence Access List (PAL) and view presence information for corporate contacts	No	Yes	No	No

Desktop integration

Feature	Basic	UC	IP Softphone	one-X Desktop
Action bar for search, dial, redial, Dialpad	Yes	Yes	No	No
Action bar for bridge conference	No	Yes	No	No
Communication channel indicator for phone, Instant Message, e-mail, and video	No	Yes	Yes	Yes
Inbox dashboard for incoming messages, calls, Instant Messages, and contacts	Yes	Yes	No	No
Message Waiting Indicator (MWI)	Yes	Yes	Yes	Yes
Click the Message Waiting Indicator (MWI) to call into your voice mail system	Yes	Yes	Yes	Yes
Mode indicator that shows your active usage mode	Yes	Yes	No	No
Presence indicator. You can use the predefined statuses or you can define your own.	No	Yes	Yes, using Avaya IM through AES or Session Manager	Yes, using Avaya IM through AES or Session Manager
Window controls for contextual menu, task bar, tool bar system tray	Yes	Yes	Yes	Yes
Dial from Microsoft Outlook, Lotus SmartSuite (and other TAPI-enabled contact managers, PIMs)	Yes, for Outlook if not using TAPI	Yes, for Outlook if not using TAPI	Yes	Yes
Public Directory access using LDAP	Yes	Yes	Yes	Yes
Screen Pop to Softphone's Contact Directory	No	No	Yes	Yes
Screen Pop to user defined application/directory	Yes	Yes	Yes	No
Click-to-Dial from Internet Explorer	Yes	Yes	Yes	Yes
Click-to-Dial from other Windows applications	Yes	Yes	Yes	Yes

Feature	Basic	UC	IP Softphone	one-X Desktop
Click-to-Dial from Mozzilla Firefox	Yes	Yes	Yes	Yes
Name Look-up into Contact Directory	Yes	Yes	Yes	Yes
Name Look-up into Microsoft Outlook	Yes	Yes	Yes	Yes
Name Look-up into LDAP Public Directory	Yes	Yes	Yes	Yes
Name Look-up into Lotus Notes address book	Yes	Yes	Yes	Yes

Presence Services

Feature	Basic	UC	IP Softphone	one-X Desktop
View presence of a contact through status messages • Available • Busy • Away • Unavailable • Out of the Office • Offline (automatic and user selected)	Yes	Yes	No	No
View the usage mode of a contact or set your own mode	No	Yes	No	No

Visual Messaging

Feature	Basic	UC	IP Softphone	one-X Desktop
Message Waiting Indicator (MWI)	Yes	Yes	Yes	Yes
View the voice mail and the mail logs.	No	Yes	No	No
View the status of a message (read, unread)	No	Yes	No	No
Click-to-play and delete voice messages from your desktop	No	Yes	No	No
View the name of the caller (if available) or phone number	No	Yes	No	No

Feature	Basic	UC	IP Softphone	one-X Desktop
Call a number from a voice mail	No	Yes	No	No
Add a number that is registered in Avaya one-X® Client Enablement Services from a voice mail to contacts	No	Yes	No	No
Add a contact to favorites	No	Yes	No	No
Send an e-mail to a contact	Yes	Yes	No	No
Send an instant message to a contact	No	Yes	No	No
Save and download a voice mail	No	Yes	No	No

Instant Messaging and e-mail

Feature	Basic	UC	IP Softphone	one-X Desktop
Click on the Instant Message icon for a specific contact to start native Instant Messaging, your default Instant Message client (Microsoft Office Communicator)	Yes	Yes	No	No
Click on the e-mail icon to use your default mail client (Microsoft Outlook or IBM Lotus Notes) to compose a new e-mail	Yes	Yes	No	No
Instant Messaging sessions	Yes	Yes	Yes	Yes

Telephony

The following telephony features must be available and properly configured in Communication Manager.

Feature	Basic	UC	IP Softphone	one-X Desktop
Call answer	Yes	Yes	Yes	Yes
Call forwarding	Yes	Yes	Yes	Yes
Send all calls to coverage	Yes	Yes	Yes	Yes
Call hold/resume (automatic and user selected)	Yes	Yes	Yes	Yes
Call resume (user selected only)	Yes	Yes	Yes	Yes
Call transfer (user selected only)	Yes	Yes	Yes	Yes

Feature	Basic	UC	IP Softphone	one-X Desktop
Call mute (user selected only)	Yes	Yes	Yes	Yes
Call control (drag and drop, transfer, and conference)	Yes	Yes	Yes	Yes
Automatic call back	Yes	Yes	Yes	Yes
Outgoing calls from the desk top, Dialpad, and personal contact list	Yes	Yes	Yes	Yes
Click-to-Dial from Microsoft Outlook	Yes	Yes	Yes	Yes
Click-to-Dial from any number highlighted in Internet Explorer and Firefox browsers	Yes	Yes	Yes	Yes
Speed Dial numbers	No	No	Yes	Yes
Wipe-to-Dial (clipboard dialing from an application)	Yes	Yes	Yes	Yes
Manage multiple call appearances	Yes	Yes	Yes	Yes
Extension to Cellular	Yes	Yes	Yes	Yes
Call logs	Yes	Yes	Yes	Yes
Integration with Communication History logs	No	Yes	Yes	Yes

Usage modes

Mode	Basic	UC	IP Softphone	one-X Desktop
This Computer : Road Warrior (VoIP)	Yes	Yes	Yes	Yes
Other Phone : Telecommuter	Yes	Yes	Yes	No
Desk Phone : Shared control of an Avaya telephone (through the server).	Yes	Yes	Yes	No

User interface

Feature	Basic	UC	IP Softphone	one-X Desktop
Picture of Phone: • Enhanced: graphic image of the terminal • Basic: approximation of the image of the terminal	No	No	Enhanced	No
Support for multibyte telephones (4610, 4620)	Yes	Yes	Yes	N/A
View of the Contact Directory (Contacts) • Classic: grid based view of contact information • IM: expandable list view of contacts based on presence state and/or category	Yes	Yes, for local and Avaya one-X® Client Enablement Services based contacts	Classic & IM	Classic
Dialpad	Yes	Yes	Yes	Yes
Quick access to certain feature buttons on a Call Bar toolbar. (You can add up to 7 buttons from the Phone Features dialog box.)	No	No	Yes	No
Click-to-Dial from an Internet Explorer Web page	Yes	Yes	Yes	Yes
Click-to-Dial from a Mozzilla Firefox Web page	Yes	Yes	Yes	No
Screen Pop on incoming calls	Yes	No	Yes	Yes

Video

Video features differ depending on the Communication Manager release.

Feature	Basic	UC	IP Softphone	one-X Desktop
Desktop start video control	No	No	Yes	No
Desktop video controls: stop, mute/ unmute, display properties and options, and relinquish camera control	Yes	Yes	Yes	No
Video ad hoc conferencing when the required hardware and software is available	Yes	Yes	Yes	No

Feature	Basic	UC	IP Softphone	one-X Desktop
Point-to-point and multipoint video	Yes	Yes	Yes	No
Bandwidth management and class of service control	Yes	Yes	Yes	No
Class of Service and Differentiated Services Code Point (DSCP) control	Yes	Yes	Yes	No
Video window always on top	Yes	Yes	No	No
Full screen video	Yes	Yes	No	No
Disabling Screen Saver and Monitor Power Savings mode when on a call	Yes	Yes	Yes	No

Administration comparisons

ARS and dialing rules

Function	Avaya one-X® Communicator	IP Softphone	one-X Desktop
Log in as 7-digit station	Yes	Yes	Yes
Dial 7-digit stations internally (If the server supports a 7-digit dial plan, users can instruct it to treat a 7-digit number as either an external call or an internal extension.)	Yes	Yes	Yes
Dialing rules based on Microsoft TAPI Dial Locations	No	Yes	No

Direct IP-IP voice traffic

Function	Avaya one-X® Communicator	IP Softphone	one-X Desktop
Shuffling (Direct audio path between IP endpoints that are using similar codecs)	Yes	Yes	Yes
Shuffling with change in codec (Server-assisted dynamic codec change during a call to allow direct	Yes	Yes	Yes

Function	Avaya one-X® Communicator	IP Softphone	one-X Desktop
IP voice traffic between two IP endpoints.)			
Hairpinning (The audio stream going to the media processor is not placed on the TDM bus and the TDM bus resources are saved.)	Yes	Yes	Yes

Emergency Call Handling

Function	Avaya one-X® Communicator	IP Softphone	one-X Desktop
Based on extension	Yes	Yes	No
Based on CAMA CESID Centralized Automated Message Accounting (for billing information); Caller's Emergency Service Identification	Yes	Yes	No

Firewall interoperability

Function	Avaya one-X® Communicator	IP Softphone	one-X Desktop
TCP/UDP port range configuration	Yes	Yes	Yes

Security

Function	Avaya one-X® Communicator	IP Softphone	one-X Desktop
Survivability against Denial of Service (DoS) attacks	Yes	Yes	Yes
Encryption of audio streams via AES with Secure Real-time Transport Protocol (SRTP) in H.323 and SIP	Yes	No	No
Encryption of audio stream using Advanced Encryption Standard (AES)	No	Yes	Yes

Function	Avaya one-X® Communicator	IP Softphone	one-X Desktop
Encryption of audio stream using Avaya Audio Encryption Algorithm Version 2 (AEAv2)	No	Yes	No
Encryption of audio stream using Avaya Audio Encryption Algorithm Version 1 (AEAv1)	No	No	No
Password protected login sessions	Yes	Yes	Yes
Authenticated & encrypted passwords	Yes	Yes	Yes

Survivability

Function	Avaya one-X® Communicator	IP Softphone	one-X Desktop
Enhanced Link recovery and call preservation	Yes	Yes	No
Load balancing across gatekeepers	Yes	Yes	N/A
Recover link using alternate gatekeepers	Yes	Yes	No
Protection against Denial of Service (DoS) attacks	Yes	Yes	Yes

Voice control and quality

Function	Avaya one-X® Communicator	IP Softphone	one-X Desktop
Ring to secondary audio devices (This Computer/Road Warrior only)	Yes	Yes	No
Support Bluetooth audio devices (for audio only)	Yes	Yes	Yes
Robust handling of removal of USB headsets	Yes	Yes	Yes
Operating system prioritization (The process priority for Avaya iClarity is increased to above normal (Windows 2000 and	No	Yes	Yes

Function	Avaya one-X® Communicator	IP Softphone	one-X Desktop
Windows XP) for better voice quality.)			

Configuration comparisons

Avaya server software

Avaya server software	Avaya one-X® Communicator	IP Softphone	one-X Desktop
Avaya Communication Manager 6.0 and later	Yes	Yes	Yes
Session Manager 6.0 SP1 and later	Yes	Yes	Yes

Operating systems

Operating systems	Avaya one-X® Communicator	IP Softphone	one-X Desktop
Microsoft Windows 7	Yes	No	No
Windows Vista (Enterprise, Ultimate, and Business Editions)	Yes	Yes	No
Windows XP (Home and Professional Editions)	Yes	Yes	Yes
Windows XP (Tablet PC Edition)	No	No	Yes
Windows 2000 (Professional)	No	Yes	Yes

Other configurations

Configuration	Avaya one-X® Communicator	IP Softphone	one-X Desktop
Microsoft Office Communicator 2005 (Feature tab for telephony functionality via Microsoft Office Communications Server 2005)	No	Yes	Yes
Microsoft Office Communicator 2007 (Feature tab for telephony	Yes	No	No

Configuration	Avaya one-X® Communicator	IP Softphone	one-X Desktop
functionality via Microsoft Office Communications Server 2007)			
IBM Lotus Sametime Connect 2005	No	Yes	Yes
IBM Lotus Sametime Connect 8.0	Yes	No	No

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