



## **Cisco CAD Installation Guide**

CAD 7.0 for Cisco Unified Contact Center Express Release 7.0(2)  
Cisco Unified Communications Manager Express Edition

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*Cisco CAD Installation Guide*

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# Introduction

# 1

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## Overview

This manual guides you through the process of installing the CAD client applications: Cisco Agent Desktop, Cisco Agent Desktop—Browser Edition, Cisco Supervisor Desktop, and Cisco Desktop Administrator.

The CAD services are integrated into the Cisco Unified Contact Center Express (Unified CCX) installation program. See the *Cisco Unified Contact Center Express Installation Guide* for information on installing Unified CCX.

After you have successfully installed the CAD desktop applications into a properly-configured Unified CCX environment and licensed the applications, the basic functionality of Cisco Agent Desktop, Cisco Agent Desktop—Browser Edition, Cisco Supervisor Desktop, and Cisco Desktop Administrator are ready to use with no further configuration required.

## Related CAD Documentation

- *Cisco Agent Desktop User Guide*
- *Cisco Agent Desktop—Browser Edition User Guide*
- *Cisco Supervisor Desktop User Guide*
- *Cisco IP Phone Agent User Guide*
- *Cisco CAD Troubleshooting Guide*
- *Configuring and Troubleshooting VoIP Monitoring*
- *Cisco Desktop Administrator User Guide*
- *Integrating CAD with Thin Client and Virtual Desktop Environments*
- *Cisco CAD Error Code Dictionary*

## What's New In This Release

CAD 7.0 includes the following new features:

- Support for Windows 7
- E-mail integration that supports contact center agents and supervisors in handling and managing e-mails
- Support for Cisco Agent Desktop—Browser Edition (CAD-BE)
- Support for web-based Cisco Desktop Administrator
- Multiple (10) browser tab support in Cisco Supervisor Desktop integrated browser
- Improved browser features
- Improved accessibility for desktop applications
- Improved Backup and Restore (BARS) functionality for backup, conversion, and data access

## CAD 7.0 Elements

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CAD 7.0 includes the following client applications and services.

### Client Applications

#### **Cisco Desktop Administrator**

Cisco Desktop Administrator provides centralized administration tools to configure the Cisco desktop applications. It supports multiple administrators, each able to configure the same data (although not all at the same time; only one person can work in one node at any one time to ensure data integrity).

See the *Cisco Desktop Administrator User Guide* for more information.

#### **Cisco Agent Desktop**

Cisco Agent Desktop is an application that helps agents manage their customer contacts. It includes enterprise data, call activity information, reports, a Call/Chat client for chatting with other agents and supervisors, and an integrated browser window.

The agent must use a hard IP phone or the Cisco IP Communicator soft phone with Cisco Agent Desktop.

Agent Desktop controls the telephony activities on the agent's Unified CCX phone line. Agent Desktop cannot coexist with other applications, such as Cisco Attendant Console and Cisco Unified Personal Communicator, that attempt to share or control the agent's Unified CCX phone line.

See the *Cisco Agent Desktop User Guide* for more information.

#### **Cisco IP Phone Agent**

Cisco IP Phone Agent is a service that runs on the agent's Cisco IP phone. It enables agents to manage their customer contacts without the need of a computer. It includes enterprise data, agent states, reason codes, and contact service queue statistics.

See the *Cisco IP Phone Agent User Guide* for more information.

#### **Cisco Supervisor Desktop**

Cisco Supervisor Desktop allows contact center supervisors to manage agent teams in real time. They can observe, coach, and view agent status details, as well as view conference information. Without the caller's knowledge, supervisors can initiate chat sessions with agents to help them handle calls. They can also silently monitor and record customer calls. Through the Supervisor Record Viewer, supervisors can play back and save recorded agent calls.

See the *Cisco Supervisor Desktop User Guide* for more information.

### **Cisco Agent Desktop—Browser Edition**

Cisco Agent Desktop—Browser Edition (CAD-BE) is a Java applet version of Cisco Agent Desktop that runs in the Internet Explorer or Firefox web browser.

CAD-BE provides ACD state control—ready/not ready, wrap-up, and so on. Customer information is presented to the agent through an enterprise data window. CAD-BE also provides an integrated browser window so agents can view intranet, internet, and web application pages as needed.

See the *Cisco Agent Desktop—Browser Edition User Guide* for more information.

## **Services**

The following are the individual CAD services that are installed on the Unified CCX server as part of the Unified CCX installation.

The group of services referred to as the “CAD Base services”, which are always installed on the Unified CCX server, include the following:

- Cisco Browser and IP Phone Agent Service (BIPPA service)
- Cisco Desktop Agent E-Mail Service (Agent E-Mail service)
- Cisco Desktop Call/Chat Service (Call/Chat service)
- Cisco Desktop Enterprise Service (Enterprise service)
- Cisco Desktop LDAP Monitor Service (LDAP Monitor service)
- Cisco Desktop Licensing and Resource Manager Service (LRM service)
- Cisco Desktop Recording and Statistics Service (Recording and Statistics service)
- Cisco Desktop Recording Service (Recording service)
- Cisco Desktop Sync Service (Sync service)
- Cisco Desktop VoIP Monitor Service (VoIP Monitor service)
- Directory Services

### **Agent E-Mail Service**

The Agent E-Mail service supports the handling and managing of e-mails for a contact center's agents and supervisors. It provides the basic set of features for receiving e-mails from customers, distributing them to agents to service customer requests, sending responses from the contact center to the customer, and reporting on e-mail activity.

### **Call/Chat Service**

The Call/Chat service acts as a message broker between the Call/Chat clients and Supervisor Desktop. It is in constant communication with all agent and supervisor desktops.

Agents' desktops inform the Call/Chat service of all call activity. The service, in turn, sends this information to all appropriate supervisors. It also facilitates the sending of text chat and team performance messages between agents (excluding IP Phone agents) and supervisors.

### **Directory Services**

The LDAP Monitor service and the LRM service register with Directory Services at startup. All other services use the LRM service to determine how to connect to each other.

The majority of the agent, supervisor, team, and skill information is kept in Directory Services. Most of this information is imported from Unified CCX and kept synchronized by the Sync (Synchronization) service. Directory Services is also used to hold the configuration information administered via Desktop Administrator.

### **Enterprise Service**

The Enterprise service tracks calls in the system. It is used to attach IVR-collected data to a call in order to make it available at the agent desktop. It also provides real-time call history.

### **BIPPA Service**

The BIPPA service enables IP phone agents to log in and out of Unified CCX, change agent states, and enter reason codes and wrap-up data without having the Agent Desktop software.

This service works in conjunction with the Services feature of Unified CM and supported Cisco IP phones. It is also used to hold the configuration information administered via Desktop Administrator. CAD-BE agents use this service to interact with the other services.

### **LDAP Monitor Service**

The LDAP Monitor service starts Directory Services and then monitors it to ensure that it keeps running. It also sets up the configuration for LDAP replication, and resynchronizes LDAP data.

### **LRM Service**

The LRM service distributes licenses to clients and oversees the health of the CAD services. All other CAD services, except the LDAP Monitor service, register themselves with the LRM service so that clients can locate them.

### **Recording Service**

The Recording service extends the capabilities of the VoIP Monitor service by allowing supervisors and agents to record and play back calls.

### **Recording and Statistics Service**

The Recording and Statistics service maintains a 1-day history of agent and team statistics, such as average time an agent is in a particular agent state, last login time, number of calls an agent has received. It maintains a rolling 7-day history of recordings (unless they are saved, in which case they are saved for 30 days).

### **Sync Service**

The Sync service connects to Unified CCX via ACMI and retrieves agent, supervisor, team, and skill information. It then compares the information with the information in Directory Services and adds, updates, or deletes entries as needed to stay consistent with the Unified CCX configuration.

### **Voice over IP Monitor Service**

The Voice over IP (VoIP) Monitor service enables supervisors to silently monitor agents. The service accomplishes this by “sniffing” network traffic for voice packets.

Multiple VoIP Monitor services can be installed in one logical contact center to ensure there is enough capacity to handle the number of agents.

## CAD Feature Levels

There are three feature levels of CAD: Standard, Enhanced, and Premium. The following chart outlines the features available at each level. All features not listed here are present in all three levels.

Table 1. CAD Feature Levels

|   | Standard | Enhanced | Premium |
|---|----------|----------|---------|
| <b>Cisco Agent Desktop (not available in Standard bundle)</b>                 |          |          |         |
| Agent-initiated chat  |          | x        | x       |
| Automated recording (workflow action)   |          | x        | x       |
| Agent E-Mail feature  |          |          | x       |
| Enterprise data thresholds  |          | x        | x       |
| Event-triggered work flows  |          | x        | x       |
| HTTP Post/Get Action  |          |          | x       |
| Integrated browser  |          |          | x       |
| Reason codes  |          | x        | x       |
| Task buttons  |          | x        | x       |
| Unified Presence integration  |          | x        | x       |
| Wrap-up data  |          | x        | x       |
| <b>Cisco Agent Desktop Browser Edition (not available in Standard Bundle)</b> |          |          |         |
| Agent-initiated high priority chat  |          | x        | x       |
| Enterprise data thresholds  |          | x        | x       |
| Event-triggered workflows   |          | x        | x       |
| HTTP Get action   |          | x        | x       |
| Integrated browser  |          | x        | x       |
| Reason codes  |          | x        | x       |
| Task buttons  |          | x        | x       |
| Wrap-up data  |          | x        | x       |

Table 1. CAD Feature Levels — *Continued*

|   | Standard | Enhanced | Premium |
|---|----------|----------|---------|
| <b>Cisco IP Phone Agent</b>                             |          |          |         |
| Agent states  |          | x        | x       |
| Agent-initiated recording                               |          | x        | x       |
| Caller data   | x        | x        | x       |
| Contact service queue (CSQ) statistics                  | x        | x        | x       |
| Reason codes  | x        | x        | x       |
| Wrap-up data  |          | x        | x       |
| <b>Cisco Supervisor Desktop</b>                         |          |          |         |
| CSQ (Contact service queue) statistics                  | x        | x        | x       |
| Recording (up to <n> simultaneous recordings/playbacks) |          | 32       | 64      |
| Reports   | x        | x        | x       |
| Silent monitoring                                       |          | x        | x       |
| Supervisor workflow (tree control)                      |          | x        | x       |
| Supervisor workflow all                                 |          |          | x       |
| Team messages   | x        | x        | x       |
| Unified Presence integration                            | x        | x        | x       |
| <b>Cisco Desktop Administrator</b>                      |          |          |         |
| Configure Agent E-Mail                                  |          |          | x       |
| Configure Enterprise data                               |          | x        | x       |
| Configure silent monitoring                             |          | x        | x       |
| Configure Unified Presence                              | x        | x        | x       |
| Configure workflow groups                               |          | x        | x       |
| <b>Configure Workflow Administrator</b>                 |          |          |         |

Table 1. CAD Feature Levels — *Continued*

|  | <b>Standard</b> | <b>Enhanced</b> | <b>Premium</b> |
|--|-----------------|-----------------|----------------|
| Configure Agent Desktop, CAD-BE, and IP Phone Agent interfaces |                 | ×               | ×              |
| Configure integrated browser                                   |                 | ×               | ×              |
| Configure Outbound options                                     |                 |                 | ×              |
| Configure workflows  |                 | ×               | ×              |
| Configure wrap-up data   |                 | ×               | ×              |

## Localization

In CAD 7.0, the CAD desktop applications are localized in the languages displayed in [Table 2](#).

**Table 2. CAD applications and supported languages**

| Language               | Agent Desktop | CAD-BE | Supervisor Desktop | IP Phone Agent | Desktop Administrator |
|------------------------|---------------|--------|--------------------|----------------|-----------------------|
| Chinese (Simplified)   | x             | x      | x                  |                |                       |
| Chinese (Traditional)  | x             | x      | x                  |                |                       |
| Danish                 | x             | x      | x                  | x              |                       |
| Dutch                  | x             | x      | x                  | x              |                       |
| English (US)           | x             | x      | x                  | x              | x                     |
| Finnish                | x             | x      | x                  | x              |                       |
| French                 | x             | x      | x                  | x              |                       |
| German                 | x             | x      | x                  | x              |                       |
| Italian                | x             | x      | x                  | x              |                       |
| Japanese               | x             | x      | x                  | x              |                       |
| Korean                 | x             | x      | x                  |                |                       |
| Norwegian              | x             | x      | x                  | x              |                       |
| Portuguese (Brazilian) | x             | x      | x                  | x              |                       |
| Russian                | x             | x      | x                  | x              |                       |
| Spanish                | x             | x      | x                  | x              |                       |
| Swedish                | x             | x      | x                  | x              |                       |

**NOTE:** IP Phone Agent does not support Japanese if it is running on a SIP phone. Reason codes and wrap-up data must be Katakana half-width in Shift-JIS format. Kanji will not display properly.

**NOTE:** Agent Desktop does not support the Agent E-Mail feature for the following languages: Chinese (Traditional and Simplified), Finnish, Japanese, Korean, Russian, and Swedish.

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## Before You Install CAD 7.0

# 2

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### System Configurations

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Supported system configurations are documented in the *Cisco Unified Contact Center Express Solution Reference Network Design (SRND)*, available for download on <http://www.cisco.com>.

### Citrix and Microsoft Terminal Services Environments

CAD is supported in Citrix and Microsoft Terminal Services environments. For more information, see *Integrating CAD with Citrix Presentation Server or Microsoft Terminal Services*.

## System Requirements

CAD 7.0 is integrated into the following environments:

- Unified Contact Center Express (CCX) – 7.0
- Unified Communications Manager Express (CME) – 4.2(1)
- Cisco Security Agent – 5.2, 6.0

In addition to the CSA versions supported by CRS 5.0(1), Unified CCX 7.0(1) will support the subsequent new versions of Cisco Security Agent (CSA) supported by Unified CCM 7.0 [CSA Version 5.x or later].

Consult the *Cisco Unified Communications Manager Software Compatibility Matrix* for the appropriate versions of other Cisco applications required in your contact center environment. The compatibility matrix is located at:

[www.cisco.com/en/US/products/sw/voicesw/ps4625/prod\\_installation\\_guide09186a00805acf50.html](http://www.cisco.com/en/US/products/sw/voicesw/ps4625/prod_installation_guide09186a00805acf50.html)

## Operating Environment

CAD 7.0 runs on the following minimum operating systems and hardware.

**NOTE:** CAD does not support 64-bit operating systems with the exception of Windows 7, starting with CAD 7.0(2).

**Table 3. Desktop application minimum operating systems and hardware**

| Operating System                                | Hardware   |
|---|--|
| Windows XP Professional<br>Service Pack 1 and 2 | <i>All desktops:</i><br>500 MHz processor<br>128 MB RAM<br>100 Mbit NIC supporting Ethernet 2<br>800 × 600 screen resolution<br><i>Agent, Supervisor, and Admin Desktops:</i><br>650 MB free space |
| Windows Vista Business and Ultimate Edition     | <i>All desktops:</i><br>800 MHz processor<br>512 MB RAM<br>100 Mbit NIC supporting Ethernet 2<br>800 × 600 screen resolution<br><i>Agent, Supervisor, and Admin Desktops:</i><br>650 MB free space |

Table 3. Desktop application minimum operating systems and hardware — *Continued*

| Operating System   | Hardware   |
|--|--|
| Windows 7 Ultimate, Enterprise, and Professional Edition<br>Starting with CAD 7.0(2), x64bit with WoW64 is supported | <i>All desktops:</i><br>800 MHz processor<br>512 MB RAM<br>100 Mbit NIC supporting Ethernet 2<br>800 × 600 screen resolution<br><i>Agent, Supervisor, and Admin Desktops:</i><br>650 MB free space |
| Red Hat Enterprise Linux versions 4 and 5  | <i>CAD-BE only:</i><br>1 GHz Pentium processor<br>256 MB RAM<br>1 GB free space (for logging)<br>100 Mbit NIC supporting Ethernet 2<br>800 × 600 screen resolution                                 |
| Microsoft Terminal Server  | For minimum hardware requirements, see <i>Integrating CAD with Citrix Presentation Server and Microsoft Terminal Server</i>  |
| Citrix MetaFrame Presentation Server   | For minimum hardware requirements, see <i>Integrating CAD with Citrix Presentation Server and Microsoft Terminal Server</i>  |

|                     |  |
|---------------------|--|
| Windows Server 2003 | 2.8 GHz processor<br>2 GB RAM<br>1 GB free space<br>100 Mbit NIC supporting Ethernet 2 |
|---------------------|--|

## Operating Environment Language Requirements

The CAD services must be installed on machines running an English language operating system.

Agent Desktop and Supervisor Desktop can be installed on machines running localized operating systems. For a list of supported languages, see ["Localization" on page 16](#).

Desktop Administrator is always installed on the Unified CCX server, which runs an English language operating system. However, in a non-English language environment, it is necessary to run a second instance of Cisco Desktop Administrator on a machine with a localized operating system so that Call/Chat messages, tooltips, enterprise data names, and other communications within the contact center are in the local language.

A site cannot support more than one localized language. All agents and supervisors must use the same language—there cannot be some agents and supervisors using one language and other agents and supervisors using another language.

## VPN and NAT Requirements

Virtual private networks (VPNs) provide a more secure connection. Connections over a VPN are supported by the CAD clients (Agent Desktop, Supervisor Desktop, and CAD-BE).

Cisco VPN 3000 Concentrator and Cisco VPN Client have been formally verified to work correctly with CAD clients, and are supported for access. VPN solutions from other vendors may work correctly, but since they have not been formally verified, they are not supported. If you want an alternative VPN solution to be verified, please contact your Cisco distributor.

CAD does not support server-side network address translation (NAT). The CAD clients must be able to connect using the real IP addresses of the server components. When CAD client addresses are translated via NAT, VPN software must be used. If CAD clients are used in a NAT environment without VPN software, a variety of problems may occur, such as agents not being visible in Supervisor Desktop.

### Using NAT With IP Phone Agent

NAT is supported with IP Phone Agent. However, it is required that you use static IP addresses for the IP Phone Agent phones as well as Static NAT. Dynamic NAT and address overloading are not supported.

Recording and monitoring do not work with IP Phone Agent when it is used with NAT.

For more information on NAT, see *How NAT Works* (Cisco document ID 6450), located at:

<http://www.cisco.com/warp/public/556/nat-cisco.shtml>

## Third Party Software Environment

CAD 7.0 requires the following software applications to run successfully.

### Microsoft Internet Explorer

Microsoft Internet Explorer 6 or 7 must be installed on agent and supervisor PCs to support the integrated browser component of Cisco Agent Desktop and Cisco Supervisor Desktop. The CAD integrated browser is implemented using the Microsoft WebBrowser control (Shdocvw.dll), which provides a window in which the user can navigate websites and files using hyperlinks and URLs.

Differences between the CAD integrated browser and Internet Explorer include the following:

- If a third-party web application attempts to launch a new browser window, the CAD integrated browser will open a new tab instead.
- If a page that contains a JavaScript error is opened from the CAD integrated browser and script error notification is disabled in IE (the default), the CAD integrated browser will not display any information about the error. To see detailed information about the error, you must open the page from IE with script debugged enabled.
- The CAD integrated browser does not support the more advanced features of Internet Explorer, including the pop-up blocker, the phishing filter, and Internet Explorer 7-style tabs.

**NOTE:** The integrated browser supports only one web session at a time for web applications that use cookies for session management. For example, you cannot log into a web application that uses cookies in one tab as User A and then log into the same web application in another tab as User B. However, multiple web sessions are supported for web applications that use URL-based session management.

**NOTE:** For technical reference information about the WebBrowser control, see the MSDN article available at this URL:

[http://msdn2.microsoft.com/en-us/library/42h6dke4\(VS.80\).aspx](http://msdn2.microsoft.com/en-us/library/42h6dke4(VS.80).aspx)

### Java Runtime Environment (JRE)

JRE 1.5.0\_14 or newer, up to but not including JRE 1.6.0, is required to run the Java applets and JavaServer pages (JSP) used by IP Phone Agent, Agent Desktop, and CAD-BE. JRE is shipped with CAD 7.0. It is installed automatically with the CAD services and the client desktops.

### Mozilla Firefox

The following versions of Mozilla Firefox are supported browsers for CAD-BE:

- Firefox 1.5.0.8 on Microsoft Windows XP and Red Hat Enterprise Linux, v4 and v5
- Firefox 2.0.0.11 on Microsoft Windows XP, Microsoft Vista, and Red Hat Enterprise Linux, v4 and v5

## **Monitoring and Recording Requirements**

For information about recording requirements, see *Configuring and Troubleshooting VoIP Monitoring*.

The space requirements for the Recording service and the Recording and Statistics service depend on the size of the contact center as described below.

**NOTE:** The CAD recording functionality is intended for “on demand” use only, and not for recording all calls in the contact center.

### **Agent Data Store Database**

The Agent Data Store database (the MSDE database associated with the Recording and Statistics service) requires 1.2 GB to store agent state and call activity records for a 7 days per week/10 hours per day, with calls that last 1 minute each. This assumes that the contact center has the maximum configuration of 300 agents and 64 simultaneous recordings.

### **Recording Service**

The Recording service requires the following space.

- ~800 kB for each minute of a recorded G.711 voice call
- ~200 kB for each minute of a recorded G.729 voice call
- 2.6 GB to store voice calls assuming that there are 32 supervisors, each supervisor recording 10 G.711 calls per day, each call lasting 5 minutes. This space requirement is divided over all Recording server, because they balance the recording load.
- RASCAL and Record services are configured to have 10GB recording files.

If the audio files are stored on a partition using the FAT32 file system, a limit of 21,844 objects can be stored. If this recording limit is exceeded, supervisors will be unable to record any more audio files. There is no such limitation on an NTFS file system partition.

## **Setting Up Agents in Unified CCX**

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For CAD 7.0 applications to work properly, your agents must be organized into teams and some must be designated as supervisors. This is accomplished in Unified CCX. See your Unified CCX documentation for information on how to do this.

## System Capacity

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CAD 7.0 supports the system capacities displayed in [Table 5](#).

Table 5. Unified CME system capacity

| Description   | Capacity |
|---|----------|
| Maximum number of agents per site   | 50       |
| Maximum number of agents per team   | 50       |
| Maximum number of skills per agent (for real-time reporting)              | 50       |
| Maximum number of CSQs per agent (for real time reporting)                | 25       |
| Maximum number of supervisors per site                                    | 10       |
| Maximum number of supervisors per team                                    | 10       |
| Maximum number of simultaneous recordings/playbacks per Recording service | 16       |
| Average agents per supervisor   | 5:1      |
| Maximum number of agents per monitor domain                               | 50       |
| Maximum number of simultaneous monitoring sessions                        | 10       |

## Supported IP Phones

---

For a list of supported IP phones, see the *Cisco Customer Response Solutions (CRS) Software and Hardware Compatibility Guide*. This document is available on the web at

[http://www.cisco.com/en/US/products/sw/custcosw/ps1846/products\\_device\\_support\\_tables\\_list.html](http://www.cisco.com/en/US/products/sw/custcosw/ps1846/products_device_support_tables_list.html)

### Caveats on Using a Cisco 7920 Wireless Phone

Only SPAN port monitoring can be used with the 7920 wireless IP phone. The port that is to be included in the SPAN is the one to which the access point is wired.

Due to the nature the 7920 phone's mobility, there are certain conditions under which monitoring and/or recording calls may result in gaps in the voice:

- Agent to agent conversations when both agents are using the same wireless access point
- When an agent roams from one monitoring domain to another

The 7920 phone is not supported as a second line appearance for an agent's wired phone.



---

## Upgrade Notes

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### Upgrading from CAD 6.4(2)

- If you have configured an audible alert to play as part of a CAD 6.4(2) custom supervisor work flow, and then upgrade to CAD 6.6(1), the audible alert will be lost. After you upgrade, you must manually reconfigure any audible alerts you previously configured in CAD 6.4(2) using the Supervisor Work Flow Administrator utility. The size limit for an audible alert is 50 KB. If the CAD 6.4(2) was larger than 50 KB, use the Windows sound recorder to save the file with a lower bit rate.
- You must reset the Agent Desktop integrated browser's home page after an upgrade.
- You must re-enable reason codes and wrapup data in Desktop Administrator after an upgrade.
- All existing work flow group-level reason codes are prepended with a 1 (for example, reason codes 1, 2, and 3 become 11, 12, and 13) and all existing global-level reason codes are prepended with a 2 (for example, reason codes 1, 2, and 3 become 21, 22, and 23) to ensure that all reason codes have unique IDs.

### Upgrading from CAD 6.4(1)

- If you upgrade from CAD 6.4(1) to CAD 6.6(1), you will lose all supervisor work flow data. You will have to re-enter it manually after you upgrade, or apply CAD 6.4(1) SR2 before you upgrade.
- You must reset the Agent Desktop integrated browser's home page when upgrading from CAD 6.4(1) to CAD 6.6(1).
- You must reconfigure the Agent Desktop chart settings when upgrading from CAD 6.4(1) to CAD 6.6(1).

- You must re-enable reason codes in Desktop Administrator after an upgrade.
- You must re-enable the integrated browser in Cisco Agent Desktop preferences after an upgrade.
- All existing work flow group-level reason codes are prepended with a 1 (for example, reason codes 1, 2, and 3 become 11, 12, and 13) and all existing global-level reason codes are prepended with a 2 (for example, reason codes 1, 2, and 3 become 21, 22, and 23) to ensure that all reason codes have unique IDs.
- Configuration data for workflow groups whose names include the special character “/” (back slash) is not restored after the upgrade. Do not use the back slash in workflow group names.

### **Standard Bundle Customers**

It is important to remember that if you are upgrading to CAD 7.0, the 7.0 Standard bundle does not support Agent Desktop. It supports IP Phone Agent only. Contact your Cisco partner account team for further details on how to obtain Agent Desktop.

## Overview

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In a typical configuration, all CAD services and Desktop Administrator are installed on the Unified CCX server before the desktop applications are installed.

**NOTE:** After you install the CAD services on the Unified CCX server, do not change the name of that server. If you do change the computer's name, various required databases and licensing will no longer function correctly. To correct this problem, change the server's name back to the original name, and functionality will be restored.

This chapter describes the procedure for installing Supervisor Desktop, Agent Desktop, and CAD-BE, and the procedure for installing a second instance of Desktop Administrator.

### Client Installation Failure

If the installation program for any CAD client application will not run, and you receive the error message, "This installation is not fully configured. See product documentation for properly configuring your system", it means that the installation programs are not correctly configured through CAD Configuration Setup. You must reconfigure the client installation programs.

To correct this problem, follow this procedure.

**NOTE:** In a redundant configuration, you must complete this procedure on both the primary and secondary CAD base services servers.

#### *To reconfigure CAD client installation programs:*

1. Run CAD Configuration Setup on the Unified CCX server (see "[CAD Configuration Setup Utility](#)" on page 43 for more information).
2. Choose File > Reset Client Installs. This process reconfigures the client installation programs.
3. When the process is complete, the message, "Client installs reset" is displayed. Click OK to close the message. You can now install the client applications.

## Installing CAD Desktop Applications

---

Before you install a CAD desktop application, you need to know:

- The IP address of the Unified CCX server
- The user ID and password to access the Unified CCX Administration web application
- The destination folder on the user's PC in which you will install the application

Before agents can access CAD-BE or Agent Desktop's Agent E-Mail feature, you must ensure that the correct version of Java Runtime Environment (JRE) is installed on those agents' PCs.

If the incorrect version of JRE is installed, or if JRE is not present, CAD-BE will not start. Agent Desktop will function normally except for the Agent E-Mail feature, which will be disabled until the correct version of JRE is installed.

### Upgrading From an Earlier Version

Over-the-top upgrades (installing the new version over the older version) from CAD 6.4 to CAD 6.6 is supported.

Upgrading from any other version of CAD requires that the older version of CAD is uninstalled before CAD 6.6 is installed.

### Adding Desktop Applications After Initial Setup

You can install additional CAD desktop applications on a client desktop that already hosts a CAD desktop application. However, if the client desktop has had one or more service releases installed, you must follow these steps.

1. Uninstall all CAD service releases from the client desktop. See [“Rolling Back Client-Side Service Releases” on page 102](#).
2. Install the desired additional CAD desktop applications. See [“Installing CAD Desktop Applications” on page 31](#).
3. Reapply the service releases via the automated update feature. See [“Automated Updates” on page 40](#).

### Methods for Installing CAD Desktop Applications

The CAD desktop applications can be installed one of two ways:

- The desktop applications can be “pushed” to the agent desktops using an automated package distribution tool.

- The agent can install the application from the Unified CCX Administration web application.

The desktop user must have either administrator or elevated privileges to install the CAD desktop applications. This applies to installations pushed to the desktop via an automated package distribution tool or manual installation.

## Installing CAD Desktop Applications

The Unified CCX Administrator download page includes installation files for all CAD desktop applications. The Unified CCX Administrator web page, when accessed using a supervisor username and password, contains only the installation file for Supervisor Desktop. The Unified CCX User web page contains only the installation file for Agent Desktop.

If you do not want agents and supervisors to access the Unified CCX Administration web application as administrators, direct them to one of the alternatives given in the following procedure.

When you install Supervisor Desktop, Agent Desktop is also automatically installed.

**NOTE:** If you already have Agent Desktop installed on a PC and want to install Supervisor Desktop, you must first uninstall the existing instance of Agent Desktop.

### *To install a CAD desktop application:*

1. Open your web browser and access the appropriate Unified CCX application. Use the Unified CCX server IP address or hostname in the URLs listed below.
  - If you are an administrator, complete the following steps.
    - a. Access <http://<Unified CCX server>/appadmin>. The Unified CCX Administration Authentication page appears.
    - b. At the prompt, enter your username and password, then click Log On. The Unified CCX Administration home page appears.
    - c. From the Tools menu, choose Plug-ins.
    - d. On the Plug-ins page, click the Cisco Unified CCX Desktop Suites link.
  - If you are a supervisor, complete the following steps.
    - a. Access <http://<Unified CCX server>/appadmin>. The Unified CCX Administration Authentication page appears.
    - b. At the prompt, enter your Supervisor Desktop username and password, and then click Log On. The Unified CCX Supervision home page appears.

- c. From the Tools menu, chose Plug-ins.
- d. On the Plug-ins page, click the Cisco Unified CCX Desktop Suites link.
- If you are an agent, complete the following steps.
  - a. Access <http://<Unified CCX server>/appuser>. The Unified CCX User Authentication page appears.
  - b. At the prompt, enter your Agent Desktop username and password, and then click Log On. The Download page appears.
2. Click the link for the application you want to install. The File Download - Security Warning dialog box appears.
3. Click Run to run the installation program. You can also click Save to save the installation program to your local computer and run it from there. The InstallShield Wizard starts.

**NOTE:** You might see a security warning that the publisher could not be verified.

4. Follow the instructions in the InstallShield Wizard to install the selected application.

**NOTE:** After installation finishes, a dialog box might appear, stating that you must reboot your computer to complete the installation. This is a new feature of True Update. If this message appears, click OK, exit all running applications, then restart your computer.

## Installing the JRE Plug-in for CAD-BE

Before an agent can access the CAD-BE Java applet, you must install the correct version of the JRE plug-in for Internet Explorer or Firefox on that agent's PC. Both browsers require version 1.5.0 of the JRE plug-in, build 14 or newer, but not version 1.6.0. CAD-BE runs in the following web browsers:

| Operating System                                      | Supported Browsers  |
|---|---|
| Microsoft Windows XP Professional with Service Pack 2 | Microsoft Internet Explorer 6 and 7<br>Mozilla Firefox 1.5.0.8 and 2.0.0.11 |
| Microsoft Windows Vista Business and Vista Enterprise | Microsoft Internet Explorer 7<br>Mozilla Firefox 2.0.0.11                   |
| Red Hat Enterprise Linux 4 and 5                      | Mozilla Firefox 1.5.0.8 and 2.0.0.11  |

See ["Internet Explorer Settings for CAD-BE" on page 35](#) and ["Firefox Settings for CAD-BE" on page 35](#) for information on how to configure your web browser to run

CAD-BE. In addition, all popup blockers must be disabled. Consult your administrator for instructions on disabling your popup blockers, if any.

**To install the JRE plug-in on Microsoft Windows:**

1. From the agent's PC on which you want to install the JRE plug-in, start your web browser.
2. Type the following address in the address field, where <CAD server> is the IP address or hostname of the server that is hosting CAD.

`http://<CAD server>:6293/cadbe/CAD-BE.jsp`

3. Press Enter.
  - If the CAD-BE Login dialog appears, the agent's PC already has the correct version of JRE installed. You can skip the rest of this procedure.
  - If a page with an error message appears, the agent's PC does not have the correct version of JRE installed. Continue to the next step.
4. Click the hyperlink that corresponds to the operating system of the PC on which you are installing the plug-in. The browser may display a security warning.
5. Click Run to run the installation program. You can also click Save to save the installation program to your local computer and run it from there. The installation program starts up.
6. Follow the instructions in the Windows Installer to install the selected application.

**To install the JRE plug-in on Red Hat Linux:**

1. From the agent's PC on which you want to install the JRE plug-in, start your web browser.
2. Type the following address in the address field, where <CAD server> is the IP address or hostname of the server that is hosting CAD.

`http://<CAD server>:6293/cadbe/CAD-BE.jsp`

3. Press Enter.

If the CAD-BE Login dialog appears, the agent's PC already has the correct version of JRE installed. You can skip the rest of this procedure. If a page with an error message appears, the agent's PC does not have the correct version of JRE installed. Continue to the next step.
4. Click the hyperlink that corresponds to the operating system of the PC on which you are installing the plug-in. The browser may display a security warning.
5. Click Save to save the installation program to your local computer
6. At the terminal, type: **su**

7. Enter the root password.

**NOTE:** To install JRE in a systemwide location such as /usr/local, you must log in as the root user to gain the necessary permissions. If you do not have root access, install the JRE in your home directory or a subdirectory for which you have write permissions.

8. Change to the directory where you want to install JRE by typing the following command.

```
cd <directory path>
```

9. Change the permission of the file you downloaded to be executable by typing the following command.

```
chmod a+x jre-1_5_0_14-linux-i586.bin
```

10. Verify that you have permission to execute the file by typing the following command.

```
ls -l
```

11. Start the installation process by typing the following command. A binary license agreement is displayed.

```
./jre-1_5_0_14-linux-i586.bin
```

12. Press the spacebar to display the next page.

13. At the end, type **Yes** to proceed with the installation. JRE is installed into its own directory. When the installation finishes, the word Done appears.

**To enable the Firefox JRE plug-in on Linux:**

1. Go to the plug-ins subdirectory under the Firefox installation directory by typing the following command, where <Firefox directory> is the directory in which Firefox is installed.

```
cd <Firefox directory>/plugins
```

2. Create a symbolic link to the JRE ns7/libjavaplugin\_oji.so file by typing the following command, where <JRE directory> is the directory in which JRE is installed.

```
ln -s <JRE directory>/plugin/i386/ns7/libjavaplugin_oji.so
```

3. Start the Firefox browser. If it is already running, restart it.

**NOTE:** If there are other Firefox components running (such as Messenger or Composer), you must restart them as well..

4. Choose Edit > Preferences. Under the Content category, select Enable Java.

### Internet Explorer Settings for CAD-BE

The following settings must be configured in Internet Explorer in order for CAD-BE to run successfully.

#### Pop-up Blocker

Disable the pop-up blocker, or create an exception to enable pop-ups from the CAD-BE IP address:

- Choose Tools > Pop-up Blocker > Turn Off Pop-up Blocker.

OR

- Choose Tools > Pop-up Blocker > Pop-up Blocker Settings and add the CAD-BE IP address(es) to the list of allowed sites.

#### Internet Options

Set the following internet options:

1. Choose Tools > Internet Options and select the Security tab.
2. Click Custom Level.
3. In the Settings pane, set the following options:
  - Under the ActiveX controls and plug-ins section, set Run ActiveX controls and plug-ins to Enable.
  - Under the Miscellaneous section, set Launching programs and files in an IFRAME to Prompt or Enable.
  - Under the Scripting section, set Active Scripting to Enable.

### Firefox Settings for CAD-BE

The following settings must be configured in Firefox in order for CAD-BE to run successfully.

#### Popup Blocker

Disable the pop-up blocker, or create an exception to enable pop-ups from the CAD-BE IP address:

1. Choose Tools > Options > Content.
2. Deselect Block Popup Windows.

OR

1. Choose Tools > Options > Content.
2. Click Allowed Sites and add the CAD-BE IP address(es) to the list of allowed sites.

#### Content Settings

Configure the following settings:

1. Choose Tools > Options > Content, and select the following check boxes:
  - Enable Java
  - Enable JavaScript
2. Next to the Enable JavaScript check box, click Advanced and select these check boxes in the Advanced JavaScript Settings dialog box:
  - Raise or lower windows
  - Disable or replace context menus
3. In the browser address field, type the following:  
  
`about:config`
4. Locate the preference `dom.allow_scripts_to_close_windows`.
5. Right-click the preference and select Toggle to set the value to True.

## Using Automated Package Distribution Tools

CAD's MSI-based desktop application installations can be deployed ("pushed") via automated package distribution tools that make use of the Microsoft Windows Installer service.

### Requirements

CAD support for automated package distribution depends on compliance with the requirements listed below.

#### Execution

Installations must be executed on the target machine. Deployment methods that capture a snapshot of an installation and redistribute that image are not supported.

#### Per-Machine vs. Per-User Installation

Installations must be deployed on a per-machine basis. Per-user installations are not supported.

It might be necessary to ensure per-machine installation via command line.

#### Privileges

By default, Windows Installer installations run in the context of the logged-on user. CAD installations, which use Windows Installer, require either administrative or elevated (system) privileges. If the CAD installation is run in the context of an administrative account, no additional privileges are required.

If the CAD installation is run in the context of an account with reduced privileges, the Windows policy "Always Install with Elevated Privileges" must be enabled to deploy the installation with elevated privileges.

When the policy is enabled, Windows Installer installations will run in a context with elevated privileges, thus allowing the installation to successfully complete complex tasks that require a privilege level beyond that of the logged-on user.

To direct Windows Installer to use elevated privileges, launch the Microsoft Management Console (MMC) Local Computer Policy snap-in on the target machine. Enable the Windows policy "Always Install with Elevated Privileges" for both the Computer Configuration and the User Configuration nodes.

For more information about enabling this policy, see the topic "Always install with elevated privileges" at this URL:Linux

<http://msdn2.microsoft.com/en-us/library/ms813108.aspx>

### **Automated Package Installation vs. Manual Installation**

Automated installations must use the same files and meet the same installation criteria as manually-deployed installations.

CAD MSI packages are located in a specified location (the folder C:\Program Files\wfavvid\tomcat\_appadmin\webapps\TUP\CAD) on a successfully-installed production server and are intended for both manual and automated deployment. Alteration of these files or the use of other MSI files included with the product at other locations is not supported.

Installation criteria such as supported operating systems, product deployment configurations, installation order, and server/client version synchronization must be met. Altering the supplied MSI packages to circumvent the installation criteria is not supported.

### **Multiple Software Releases**

Multiple software releases must not be combined into a single deployment package. Each CAD software release is intended for distribution in its entirety as a distinct deployment. Combining multiple releases (for example, a software package's base release and a subsequent service release) into a single deployment package is not supported.

### **Reboots**

Any reboots associated with CAD installations are required. If the installation's default reboot behavior is suppressed, the target machine must be rebooted before running the installed applications to ensure expected functionality.

Delaying a reboot is not known to be an issue at this time, as long as a reboot occurs before launching the installed applications. If it is determined in the future that delaying a reboot via command line suppression affects expected behavior, then that delayed reboot will not be supported.

## **Best Practices**

Best practices recommendations are listed below.

### **Windows Installer Logging**

Windows Installer logging should be enabled. The installations should be run with the following command line argument:

```
/! *v <logfile path and name>
```

**NOTE:** The logfile path and name must be a location to which the installation's user context has permission to write.

This ensures that any loggable issues are captured efficiently.

### **Deployment**

Each installation package should be deployed using its own deployment package. Using separate packages offers faster isolation of potential issues than does a composite deployment package.

### **Installation and Uninstallation Deployment Packages**

The deployment engineer should create and test both an installation and uninstallation deployment package.

This is especially important for service release installations, which must be uninstalled before upgrading the underlying software.

## **Recommended Deployment Preparation Model**

1. Use a lab environment to model the pending deployment.
2. Install the servers to obtain valid client installation packages.
3. Manually deploy client installation packages to ensure that the installs are compatible with your environment. This will isolate product installation vs. automated deployment issues.
4. Create your deployment packages in accordance with the requirements listed in ["Requirements" on page 37](#).
5. Test the deployment packages.
6. At deployment time modify your deployment packages, replacing the client installation packages from the lab environment with valid client installation packages from the production server.

## Automated Updates

---

CAD automatically updates all instances of the CAD desktop applications to a newer version if the services have been updated. It also ensures that the correct version of Java Runtime Environment (JRE) is installed on the client desktop.

### CAD Desktop Applications

Every time a client desktop application is launched, the software checks to see if there is an updated version available, or if there was a system configuration change that requires a Windows registry change. If either of these conditions are true, the software automatically runs the update process.

When an update is available, the user sees a dialog box notifying the user that the desktop application will be updated. The user clicks OK to proceed with the update.

A progress bar is displayed to show the status of the download.

When the update is finished, the user will see a final dialog box that the update is complete, and which applications were updated. If the user has more than one CAD application installed, they will all have been updated.

**NOTE:** Because Agent Desktop is automatically installed when Supervisor Desktop is installed, only Supervisor Desktop will be listed as having been updated in the final dialog box. Agent Desktop will be listed only if Supervisor Desktop is not present on the desktop.

When the user clicks OK to close the dialog box, any CAD application that had been running on the desktop restarts automatically.

**NOTE:** To ensure that automated updates function correctly, Internet Explorer must be configured so that it checks for newer versions of stored pages. In Internet Explorer, choose Tools > Internet Options. In the Browsing history section on the General tab, click Settings. Select the option labeled Every time I visit the web page.

**NOTE:** If the system is configured with two Unified CCX servers, and one server is upgraded while the user's instance of CAD is connected to the older Unified CCX, and the user's system administrator performs a failover to switch all agents to the upgraded server, the user's CAD applications will not automatically upgrade when the user logs into the new server. The user must shut down the CAD applications and start them again for the automatic upgrade to take place.

## Java Runtime Environment

Every time a CAD desktop application is launched, it checks to see if the correct version of JRE is installed. If the correct version is not detected, the user is notified, and the Automated Update utility downloads and installs the correct JRE.

### User Privilege Requirements

Depending on the operating system, certain user privileges are required for the Automated Update utility to install JRE.

Table 6. User privilege requirements for installing JRE

| Package  | Operating System | Privilege Level |                               |       |                                |
|----------|------------------|-----------------|-------------------------------|-------|--------------------------------|
|          |                  | User            | User with Elevated Privileges | Admin | Admin with Elevated Privileges |
| Premium  | Vista            | No              | No                            | Yes   | No                             |
|          | XP               | No              | No                            | Yes   | Yes                            |
| Enhanced | Vista            | No              | No                            | No    | No                             |
|          | XP               | No              | No                            | No    | No                             |
| Standard | Vista            | No              | No                            | No    | No                             |
|          | XP               | No              | No                            | No    | No                             |

#### Key

No: JRE is not installed and the Automated Update process moves on

Yes: JRE is installed

## Repairing CAD

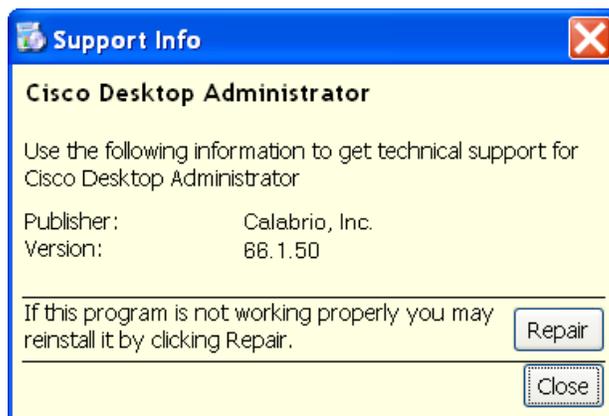
### Client Applications

If one of the CAD client applications is not functioning properly, you can use the Repair function to reinstall it. If you do repair a CAD application, you must also repair any service release that has been installed.

#### To repair a CAD client application:

1. On the Unified CCX server, in Windows Control Panel, start the Add or Remove Programs tool.
2. In the list of currently installed programs, locate the CAD application you want to repair. CAD client applications are repaired using the listing for the specific application (for example, “Cisco Desktop Administrator”).
3. Click the Click here for support information link to display the Support Info dialog box (Figure 1).

Figure 1. Support Info dialog box



4. Click Repair. The program will be reinstalled.
5. Repeat Steps 2 through 4 on the CAD service release, if one has been installed.

### Services

CAD services can be repaired using the restore and repair functions in Cisco Unified CCX. See the *Cisco Unified Contact Center Express Installation Guide* for information on repairing CAD services.

## CAD Configuration Setup Utility

You can use the CAD Configuration Setup utility to configure the CAD services.

CAD Configuration Setup runs initially as part of the Unified CCX installation process. After initial installation, you can change your configuration settings by launching it from Desktop Administrator or running PostInstall.exe (located in the folder ...\\Program Files\\Cisco\\Desktop\\bin on any CAD computer).

CAD Configuration Setup displays different windows depending on which host computer it runs on. Table 7 shows which windows appear when CAD Configuration Setup is run on a specific host computer. Refer to this table to determine where you should run Configuration Setup to change the desired configuration setting.

**NOTE:** If you run CAD Configuration Setup on a computer that hosts only Desktop Administrator, and no other CAD application or service, you will receive a message that there is nothing to configure on that computer. Run CAD Configuration Setup on another computer that hosts CAD services or applications.

Table 7. CAD Configuration Setup windows displayed per host computer

| Step Name  | Base <sup>1</sup> | CAD CSD | CDA |
|--|-------------------|---------|-----|
| <a href="#">CAD-BE Servers (page 47)</a>         | x                 |         |     |
| <a href="#">VoIP Monitor Service (page 48)</a>   | x                 | x       |     |
| <a href="#">Services Configuration (page 49)</a> | x                 |         |     |
| <a href="#">Terminal Services (page 50)</a>      |                   | x       |     |
| <a href="#">SNMP Configuration (page 51)</a>     | x                 |         |     |

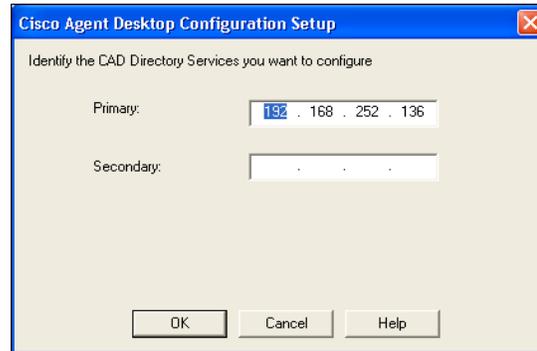
1 Header key: Base—Base services; CAD CSD—Cisco Agent Desktop, Cisco Supervisor Desktop; CDA—Cisco Desktop Administrator

### To modify configuration data:

1. Start CAD Configuration Setup using one of the following methods.
  - In Desktop Administrator, select the Call Center 1 node in the left pane and then choose Setup > Configure Systems from the menu bar.
  - On a CAD host computer, navigate to the folder ...\\Program Files\\Cisco\\Desktop\\bin and double-click PostInstall.exe.

Configuration Setup starts and displays the CAD Directory Services dialog box (Figure 2).

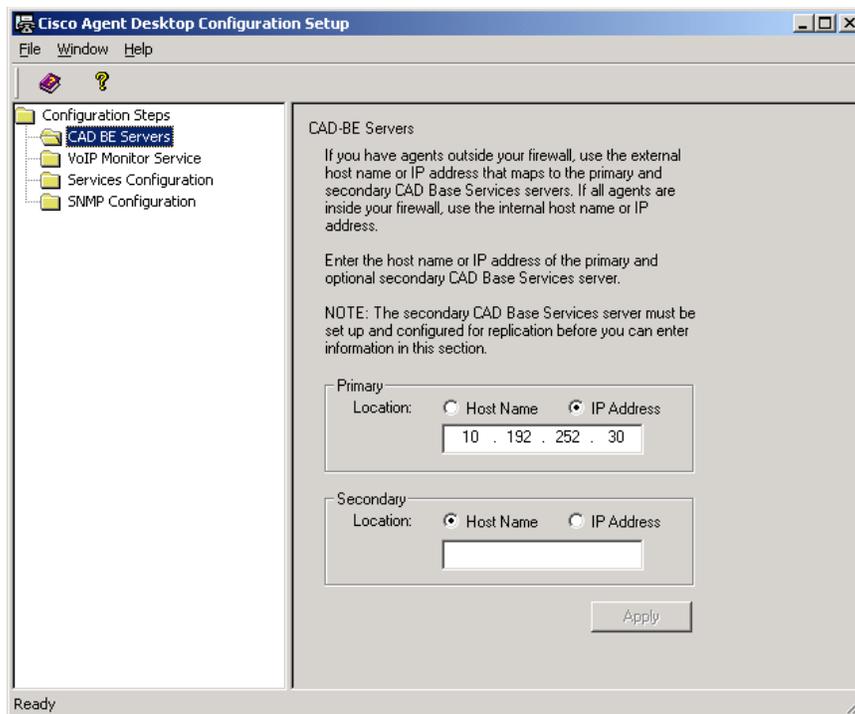
**Figure 2.** Cisco Agent Desktop Directory Services dialog box



2. Ensure that the correct primary (and optional secondary) Directory Services IP addresses are entered, and then click OK. The CAD Configuration Setup utility is displayed (Figure 3).

**NOTE:** Press the up and down arrows to move up and down the navigation tree in the left pane and F6 to switch between the left and right pane.

Figure 3. CAD Configuration Setup



3. Select the step window you want to modify from the left pane, enter the new data in the right pane, and then click Apply.
  - You can display the step windows in any order you wish.
  - If you modify something in a step window, you must click Apply to save your changes before you move on to another window.
4. When you are done making your changes, choose File > Exit from the menu or click Close. CAD Configuration Setup closes.
5. Stop and restart the modified service and all desktops for the change to go into effect.

### Changing the Primary and/or Secondary Directory Services IP Address

If you change the IP address of the primary and/or secondary Directory Services server

using CAD Configuration Setup, you must perform these additional steps after you complete the procedure, “To modify configuration data.”

You must perform this procedure on both the primary and secondary Directory Services server.

1. In a text editor, open the file C:/Program Files/Cisco/Desktop/bin/slapd.conf.
2. Search for the string replica host=. This string is followed by the IP address of the peer. On the primary server, this is the IP address of the secondary server. On the secondary server, this is the IP address of the primary server.
3. Change the IP address from the old IP address to the new IP address.
4. Save and then close the file.
5. Restart the Directory Services servers and all desktops for the changes to go into effect.

## CAD Configuration Setup Windows

The following section describes the CAD Configuration Setup windows in alphabetical order.

### CAD-BE Servers

Figure 4. CAD-BE Servers

CAD-BE Servers

If you have agents outside your firewall, use the external host name or IP address that maps to the primary and secondary CAD Base Services servers. If all agents are inside your firewall, use the internal host name or IP address.

Enter the host name or IP address of the primary and optional secondary CAD Base Services server.

NOTE: The secondary CAD Base Services server must be set up and configured for replication before you can enter information in this section.

Primary

Location:  Host Name  IP Address

10 . 192 . 252 . 30

Secondary

Location:  Host Name  IP Address

Apply

Type the hostname or IP address of the CAD Base Services server in the Primary Location field. Tomcat, which is required to run CAD-BE, is installed on this server.

If some of your agents are outside your firewall, use the external hostname/IP address that maps to the servers. If all of your agents are inside your firewall, use the internal hostname/IP address.

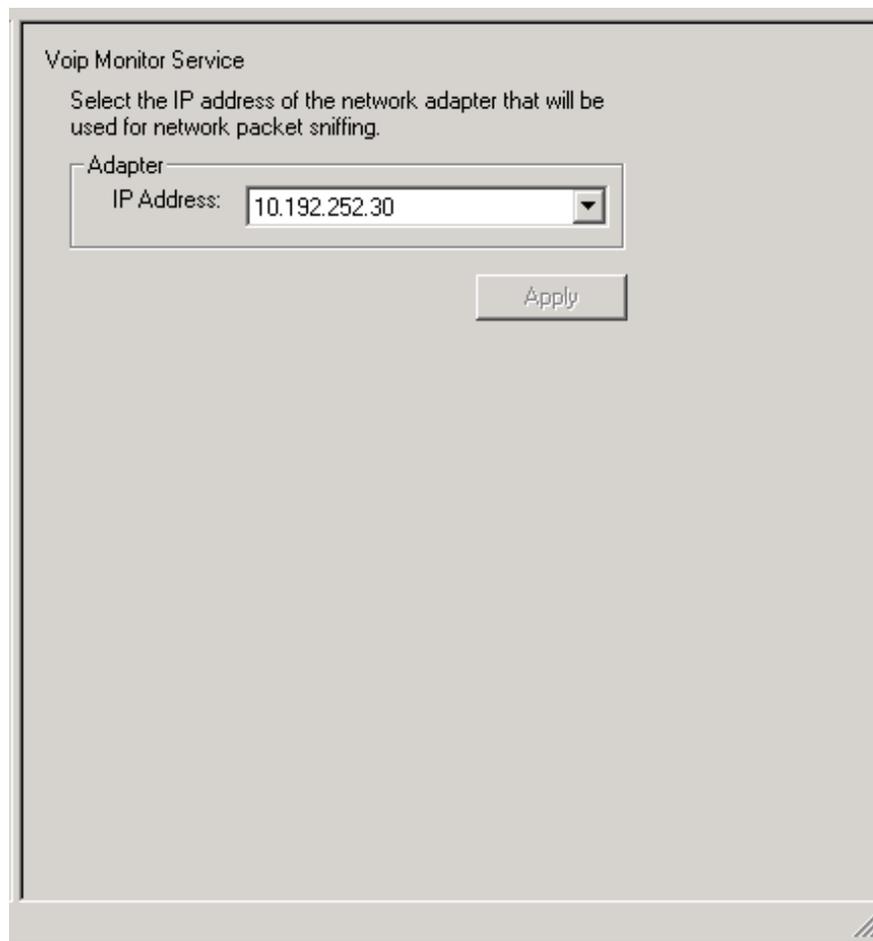
If your configuration includes a second server hosting the CAD Base Services, and you have configured replication between the two servers, type the location of the second server in the Secondary Location field.

**NOTE:** If you establish replication in initial mode, the Secondary Location field is filled automatically.

The Secondary Location is not enabled until you configure the second CAD Base Services server and establish replication.

### VoIP Monitor Service

Figure 5. VoIP Monitor Service



Select the IP address of the network adaptor to which voice packets are sent to be sniffed by the VoIP Monitor service (if this is a server) or the desktop monitor (if this is a client desktop).

- On a VoIP Monitor service server, use the IP address of the NIC that is connected to the port configured for SPAN.
- On a client desktop computer, use the IP address of the NIC on which the computer is daisy-chained to the phone.

**NOTE:** If you change these settings after initial setup, you must restart the VoIP Monitor service or the client application (depending on where you run CAD Configuration Setup) to ensure that the change is registered with them properly.

## Services Configuration

Figure 6. Services Configuration

Services Configuration

Services must register their IP address with Directory Services in order to function correctly. If the PC on which the services are installed has more than one network adapter card (NIC), it will have more than one IP address.

Select the IP address to register

IP Address: 10.192.252.30

The BIPPA service needs a user name and password to connect to the Unified CM.

BIPPA user login

Login ID: telecaster

Password: \*\*\*\*\*

Confirm Password: \*\*\*\*\*

Apply

If the computer has more than one IP address, select the IP address of the NIC used to connect to the LAN—it must be accessible by the client desktops.

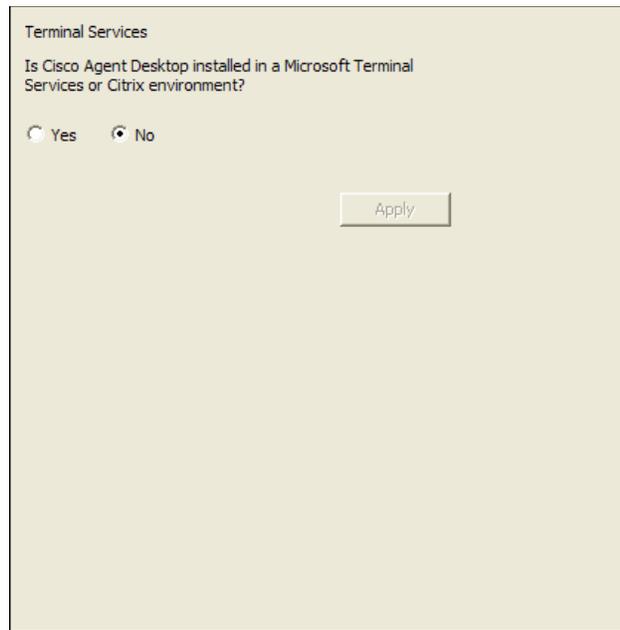
- . For Unified CME, BIPPA user login information is not required.

**NOTE:** If Directory Services is not running when you view this step, the BIPPA login information cannot be changed.

**NOTE:** If you change these settings, you must restart all CAD services to ensure that the change is registered with them properly.

## Terminal Services

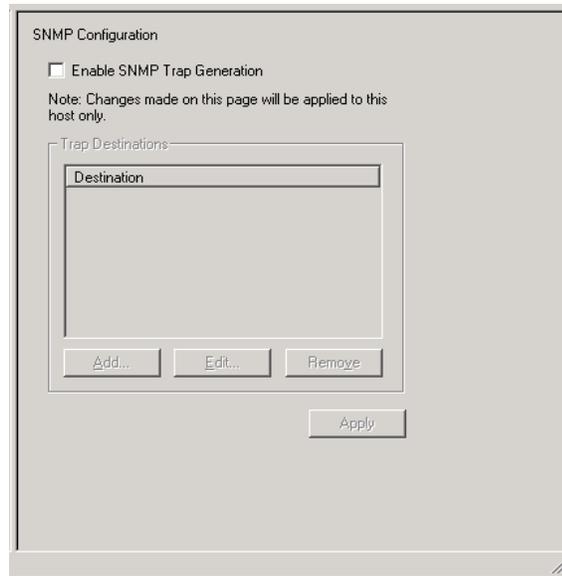
**Figure 7. Terminal Services**



If this instance of Agent Desktop is installed in a Microsoft Terminal Services or Citrix environment, click Yes. If not, click No.

## SNMP Configuration

Figure 8. SNMP Configuration



The SNMP Configuration window appears if the Microsoft Simple Network Management Protocol (SNMP) Service is installed on the CAD services server.

If you select the Enable SNMP Trap Generation check box, INFO and higher error messages are sent from the CAD services server to the IP addresses configured in the Destination pane. Use the Add, Edit, and Remove buttons to manage the list of destination IP addresses.

The SNMP Service can be installed using the Add/Remove Windows Components button in the Add or Remove Programs utility in Control Panel (select Management and Monitoring Tools from the list of available components, and then choose Simple Network Management Protocol).

SNMP allows you to monitor and manage a network from a single workstation or several workstations, called SNMP managers. SNMP is actually a family of specifications that provide a means for collecting network management data from the devices residing in a network. It also provides a method for those devices to report any problems they are experiencing to the management station.

For more information on using this tool, see Microsoft SNMP documentation.

## **Changing Unified CCX Cluster IP Addresses**

It might become necessary to change the IP address of a server in the Unified CCX cluster. When this happens, you must update the configuration so that the new IP address is properly registered.

See the *Cisco Unified Contact Center Express Administration Guide* for this procedure.

## Configuring IP Phones for Use With a Localized BIPPA Service

If a contact center is using a non-English language version of CAD, the BIPPA service will be displayed on the agent's IP phone in that non-English language (see "[Localization](#)" on page 16 for a list of supported languages). The phone does not need to be configured for the chosen locale. However, in this situation, the IP phone itself will display in English, the default locale for the phone, while the BIPPA service displays in the non-English language.

For information on configuring the IP phone itself to display in the non-English language, consult the *Cisco Unified Communications Manager Express System Administrator Guide*, available at:

[http://www.cisco.com/en/US/docs/voice\\_ip\\_comm/cucme/admin/configuration/guide/cmeadm.html](http://www.cisco.com/en/US/docs/voice_ip_comm/cucme/admin/configuration/guide/cmeadm.html)

After all IP agent phones are added to Unified CME, you must perform the following tasks.

1. Telnet to your CME router.
2. Configure the Telephony Services URL.
3. Configure the Telephony Authentication URL. All phones now subscribe to the IP Phone Agent Service.

**NOTE:** If there are multiple Unified CCX servers pointing to a single CME router, only one Unified CCX server can support IP phone agents. This is due to the limitation of configuring only one telephony-services URL and telephony-Authentication URL on the CME router.

The following sample telnet log illustrates steps 2 and 3 in the procedure above. In this example, the IP address of the Unified CCX server is 20.1.1.252.

```
Cisco2800#conf t
Cisco2800(config)#telephony-service
Cisco2800(config-telephony)#url services
http://20.1.1.252:6293/ipphone/jsp/sciphonexml/IPAgentInitial.jsp
Cisco2800(config-telephony)#url authentication
http://20.1.1.252:6293/ipphone/jsp/sciphonexml/IPAgentAuthenticate.jsp
Cisco2800(config-telephony)#no create cnf-file
Cisco2800(config-telephony)#create cnf-file
Cisco2800(config-telephony)#restart all
Cisco2800(config-telephony)#end
```

## **Configuring an IP Communicator Phone**

From the Unified CM Administration web-based application, follow these steps to configure a IP Communicator soft phone.

1. Choose Device > Add a New Device. The Add a New Device window appears.
2. In the Device Type field, select Phone, and then click Next. The Add a New Phone window appears.
3. From the Phone Type drop-down list, select IP Communicator, and then click Next. The Phone Configuration window appears.
4. Complete the fields in the Phone Configuration window, and then click Insert.

In the MAC Address field, enter the MAC address of the computer on which the IP Communicator phone is installed. The IP Communicator phone is inserted into the Unified CM database.

**NOTE:** An IP Communicator phone registers with Unified CM only when Agent Desktop is running on the agent PC.

## Configuring Agent E-Mail

This section provides information on what must be done in order for the Agent E-Mail feature to function correctly.

**NOTE:** The Agent E-Mail feature is not supported for the following languages: Chinese (Traditional and Simplified), Finnish, Japanese, Korean, Russian, and Swedish.

### Overview

The Agent E-Mail feature requires configuration in the following applications before it will function.

| Application                                  | Configure   |
|--|---|
| Microsoft Exchange                           | <ul style="list-style-type: none"> <li>• Set up Agent E-Mail e-mail account</li> <li>• Set up Agent E-Mail distribution lists</li> <li>• Set up Agent E-Mail mailboxes</li> </ul> <p>See "<a href="#">Configuring Microsoft Exchange for Agent E-Mail</a>" on page 64 for procedures.</p> |
| Cisco Unified CCX Application Administration | <ul style="list-style-type: none"> <li>• Set up contact service queues (CSQs)</li> <li>• Set up skills</li> </ul> <p>See the <i>Cisco Unified Contact Center Express Administration Guide, Release 7.0(1)</i> for procedures.</p>   |
| Cisco Desktop Administrator                  | <ul style="list-style-type: none"> <li>• Set up Exchange server information</li> <li>• Map CSQs to e-mail addresses</li> </ul> <p>See the <i>Cisco Desktop Administrator User Guide</i> for procedures.</p>   |

### Routing Rules

The Agent E-Mail feature manages the distribution of e-mails to agents based on the date the e-mail is received. The oldest e-mail is distributed first using a first-in-first-out (FIFO) distribution method.

If an agent supports multiple e-mail CSQs, the oldest e-mail in those CSQs is routed to the agent.

**NOTE:** The agent’s skill competency level is not taken into consideration for e-mail distribution.

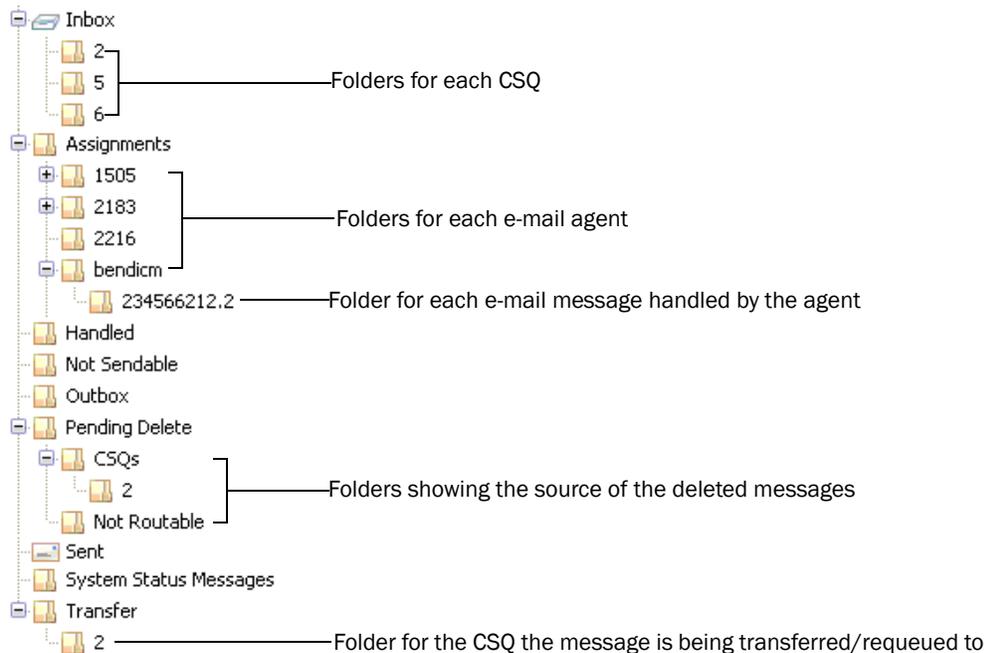
## Agent E-Mail Mailbox Folder Management

Messages received from and sent to customers are stored in the enterprise mail store in the Agent E-Mail mailbox.

By default, a new user’s mailbox contains a standard set of folders, one of which is the Inbox. The Agent E-Mail service monitors this folder for incoming e-mails and automatically creates additional folders as needed at runtime.

A typical folder layout is illustrated in [Figure 9](#).

**Figure 9.** Typical Agent E-Mail mailbox folder layout



E-mail flow is illustrated in the flowchart in Figures 10 and 11.

Figure 10. Customer e-mail flowchart (incoming e-mail)

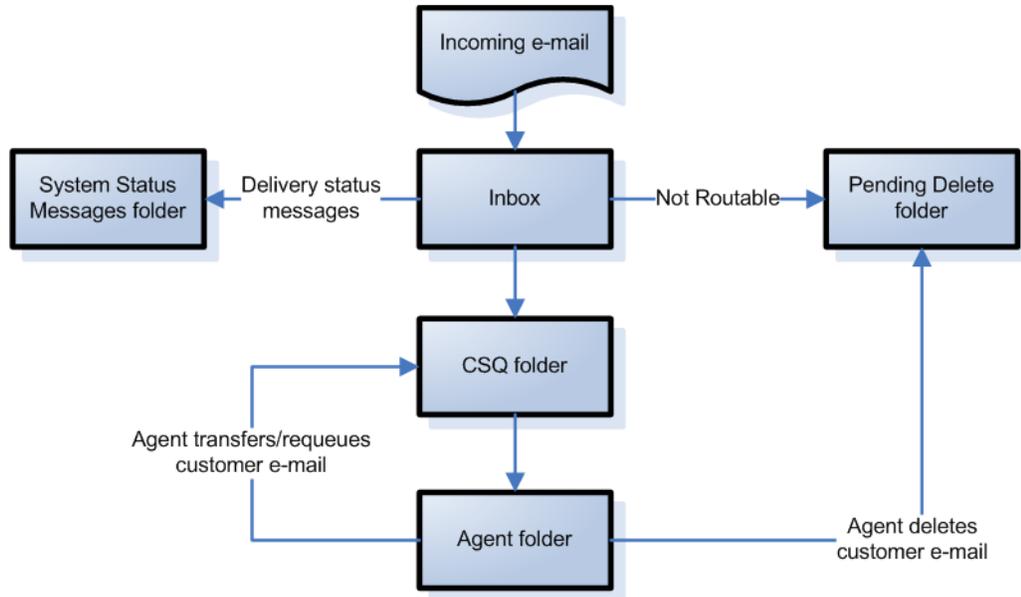
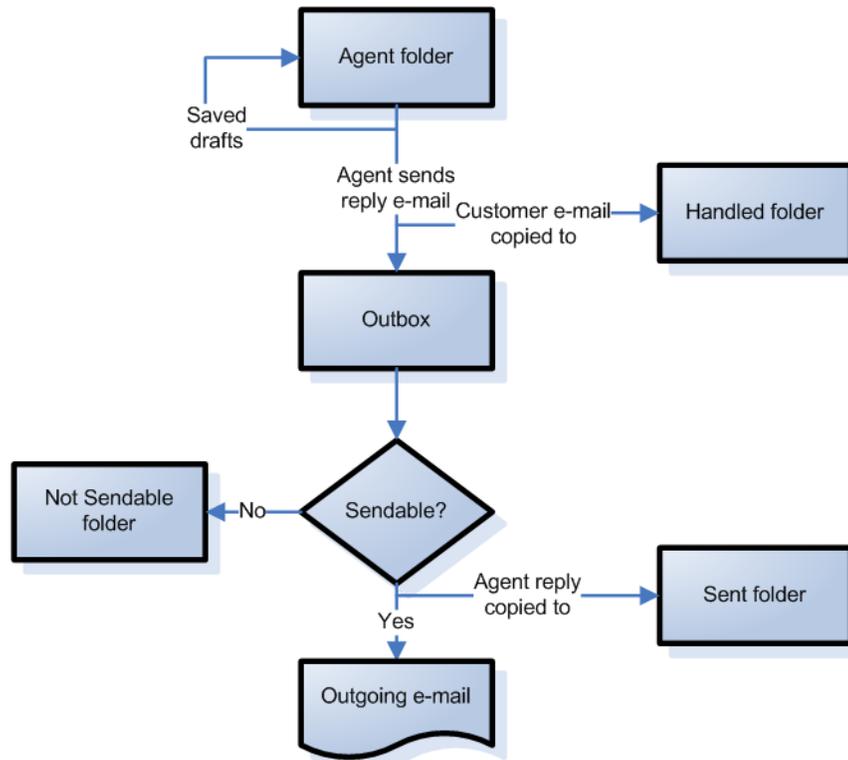


Figure 11. Agent reply e-mail flowchart (outgoing e-mail)



## Agent E-Mail Mailbox Folders

The following folders, with the exception of the Inbox folder, are created by the Agent E-Mail service at runtime.

### Inbox Folder

Initially, all inbound e-mails sent to the e-mail addresses associated with the Agent E-Mail user appear in the Inbox folder.

The Agent E-Mail service periodically checks the Inbox folder for new messages and moves them to the appropriate subfolder based on the routing rules (configured in Cisco Desktop Administrator) and agent availability. If an e-mail agent is in the E-Mail Ready state and is assigned to the appropriate CSQ, the e-mail is routed to that agent's subfolder under the Assignments folder. If there are no agents in the E-Mail Ready state, the e-mail is routed to the e-mail CSQ subfolder to wait for an agent to become available to handle that e-mail. The e-mail CSQ ID is used as the folder name.

Normally, it is not necessary to manipulate the messages located in the Inbox folder. A possible exception to this is if the Agent E-Mail service is unable to process a message in the Inbox folder and an error occurs. If this happens, you can use any IMAP client to move the message out of the Inbox and into another folder.

### Assignments Folder

The Assignments folder contains subfolders, one for every agent who is assigned to an e-mail CSQ. The agent ID is used as the folder name. The Agent E-Mail service creates these folders when agents are assigned to an e-mail CSQ.

Whenever an e-mail is assigned to an agent, a subfolder is created below the agent's folder. The name of the e-mail subfolder follows the format:

<unique e-mail ID>.<CSQ>

This message subfolder contains the customer e-mail and any saved draft response to that e-mail. When the agent clicks the Send button, the message subfolder is deleted.

### Handled Folder

The Handled folder contains customer e-mails that have been answered by agents. When the agent clicks the Send button, the reply is sent and the original customer e-mailed is moved to this folder.

Periodically, the messages in the Handled folder are deleted by the Agent E-Mail service. The cleanup interval is configured in Cisco Desktop Administrator.

### Not Sendable Folder

If an error occurs when sending a reply to a customer e-mail, that reply e-mail is moved to the Not Sendable folder. Errors can occur if the Exchange server is not configured to permit the Agent E-Mail account to send responses using the e-mail

addresses set up in Cisco Desktop Administrator. Once this issue is resolved, you can use a third party IMAP client to move the unsent message back into the Outbox folder for processing.

#### **Outbox Folder**

The Outbox folder contains reply messages waiting to be sent to customers. Cisco Agent Desktop moves messages to this folder so that Agent Desktop avoids using SMTP directly (SMTP typically is disabled by virus checkers). The Agent E-Mail service periodically checks this folder and sends any message it finds using SMTP. If the message is not sendable for some reason, it is moved to the Not Sendable folder.

#### **Pending Delete Folder**

The Pending Delete folder contains customer e-mails that were marked for deletion, either manually by an agent or automatically by the Agent E-Mail service if the message was determined to be non-routable when it arrived in the Inbox. Messages deleted by agents are in CSQ subfolders, and those deleted by the Agent E-Mail service are in the Not Routable folder.

In the case of messages in the Not Routable folder, it might be desirable to move those messages back into the Inbox if they were sent to a valid e-mail address that was not configured in Cisco Desktop Administrator when they arrived. After configuring the e-mail address, you can use a third-party IMAP client to move the messages from the Not Routable folder back into the Inbox so that they can be processed.

Periodically, the messages in the Pending Delete folder are deleted by the Agent E-Mail service. The cleanup interval is configured in Cisco Desktop Administrator.

#### **Sent Folder**

The Sent folder contains copies of e-mails sent by agents in response to customer e-mails. When the agent clicks the Send button, the reply is sent to the Outbox and a copy of it is moved to this folder.

It is possible that this folder contains e-mails that were not sendable. Sendability is determined when the the e-mail reaches the Outbox.

Periodically, the messages in the Sent folder are deleted by the Agent E-Mail service. The cleanup interval is configured in Cisco Desktop Administrator.

#### **System Status Messages Folder**

System status or delivery status messages are usually error messages that indicate a problem with e-mail delivery. An example of an error message is the automatically-generated message received when an agent's reply to a customer e-mail is undeliverable because the customer's inbox is full. These error messages are initially delivered to the Inbox, where the Agent E-Mail service finds and moves them to the System Status Messages folder. They are never delivered to the agents.

Periodically, the messages in the System Status Messages folder are deleted by the Agent E-Mail service. The cleanup interval is configured in Cisco Desktop Administrator.

### **Transfer Folder**

The Transfer folder is used by Cisco Agent Desktop in its transfer/requeue logic. It contains subfolders for the CSQs to which the e-mail messages are being transferred or requeued. Messages are moved to the subfolders and then periodically processed by the Agent E-Mail service for reassignment to the new CSQ.

## **Agent E-Mail Best Practices**

To maximize the efficiency of Agent E-Mail, consider the following best practices recommendations when configuring and maintaining your system.

### **Microsoft Exchange Server**

- If MS Exchange is replicated, use the most powerful and fastest of the two physical servers as the primary Mailbox node.
- Consider running all Exchange servers on physical servers instead of on virtual servers.
- The OS Event Viewer can provide information on Exchange performance monitoring, if logging for such tasks is enabled. For more information on Exchange debugging, see:
- [http://www.msexchange.org/articles\\_tutorials/exchange-server-2007/management-administration/managing-exchange-server-2007-log-files-part1.html](http://www.msexchange.org/articles_tutorials/exchange-server-2007/management-administration/managing-exchange-server-2007-log-files-part1.html)

Regarding the Exchange CAS/Hub and Mailbox servers, the following can contribute to poor Exchange performance:

- Low disk space on the CAS server: what is the disk space utilization?
- Severe file fragmentation: has the disk been defragmented recently? Is this monitored?
- Other processes running in the background: are there known periodic processes such as backups, software updates, or virus checking that run?
- Network connectivity between the server and the corporate network: is the connection good? Is DNS working correctly for the server? Is other network traffic affecting the processing between the Exchange server and the Unified CCX server? Are the two servers across the WAN from one another?
- Hardware: is a hardware component, such as the hard disk or network card, failing?
- VMWare: if provisioned on VMWare, is the VM image healthy? Is the VM host provisioned correctly?

### **Wide Area Network**

Deploy the Exchange CAS/Hub and Mailbox server closer to the Unified CCX server in order to improve network traffic from the Exchange IMAP server to the Agent E-Mail server process.

### **Microsoft Exchange Server Management**

Periodically check the following folders for backlogs of e-mails:

- Sent
- Sent Items
- Handled
- Not Sendable
- Not Routable
- Trash
- Deleted

The Agent E-Mail service does not maintain these folders. A large number of e-mails (10,000 or more) stored in these folders can cause delays in Agent E-Mail. Empty them to improve Exchange performance.

## Configuring Java for Agent E-Mail

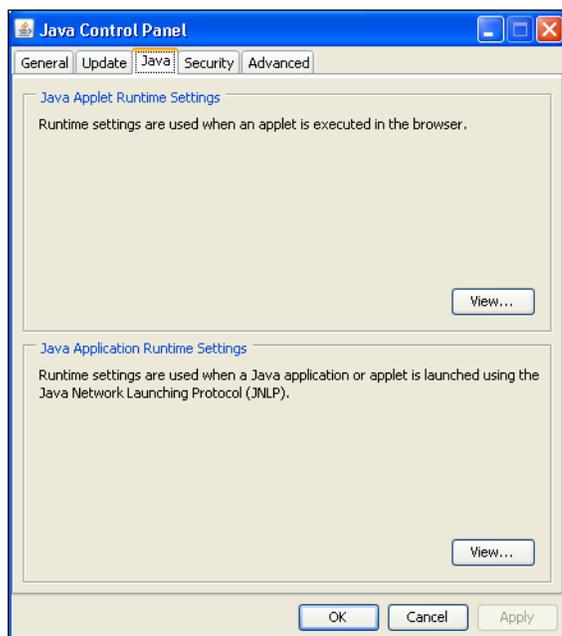
It is possible that some e-mails will be too large to be readily displayed in Cisco Agent Desktop. In general, e-mails over 1 MB in size can take a long time to download and display, or might not display at all. The reason for this is that the default maximum heap size for the Java applet used for the Agent E-Mail feature is too small to handle larger messages well.

To improve the handling of large e-mail messages, you can increase the maximum heap size in the Java applet.

### *To increase the maximum heap size in the Java applet:*

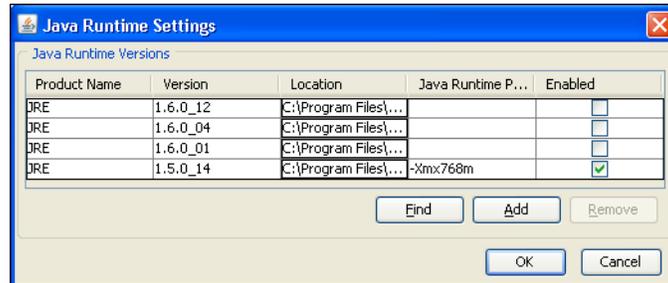
1. On the agent's PC, make sure that all browsers are closed.
2. Open the Windows Control Panel.
3. Double-click the Java (or Java Plug-In) icon to display the Java Control Panel.
4. Select the Java tab (Figure 12).

Figure 12. Java Control Panel



5. In the Java Applet Runtime Settings section, click View. The Java Runtime Settings dialog box appears (Figure 13).

Figure 13. Java Runtime Settings dialog box



6. On the row for the most recent JRE version supported by CAD (JRE 1.5.0\_14 or newer, up to but not including JRE 1.6.0), double-click the Java Runtime Parameters field and enter the following parameter:

-Xmx768m

**NOTE:** The value 768m has been tested and found to improve performance so that e-mail up to 2 MB are displayed easily. However, if the agent's PC does not have enough memory to accommodate this value, lower values (such as 512m or 300m) can be used.

7. Click OK to close the dialog box, and then click OK again to save your changes and close the Java Control Panel..
8. Exit Windows Control Panel.

The next time the agent starts Agent Desktop, the new setting will be in effect.

## Configuring Microsoft Exchange for Agent E-Mail

---

This section describes how to configure Microsoft (MS) Exchange so that it supports the Agent E-Mail feature.

CAD supports MS Exchange 2003 and MS Exchange 2007.

CAD connects to a single mail store account for all agents and for the Agent E-Mail service. This account must be created by the mail store administrator. CAD is configured to use this account via Cisco Desktop Administrator (see the *Cisco Desktop Administrator User Guide* for more information).

CAD uses the following protocols:

- IMAPv4 for retrieving messages
- SMTP for sending messages

These protocols must be enabled in MS Exchange. Note that these protocols are not typically enabled by default.

**NOTE:** Make sure that the Agent E-Mail service can use the SMTP protocol to communicate with the mail store. SMTP is sometimes blocked by firewalls and virus protection software.

CAD uses a single e-mail account. However, it can (and typically will) have multiple distribution group addresses that direct e-mails to specific users. This e-mail account and the corresponding distribution lists must be configured manually by the mail store administrator. Routing information for the distribution list addresses can then be specified in Desktop Administrator.

## General Process for Configuring MS Exchange for Agent E-Mail

The following is the general procedure for configuring Agent E-Mail.

### *To configure Agent E-Mail:*

1. Configure a single e-mail account for Microsoft Exchange. This is typically performed using Active Directory tools.
2. Create one or more distribution groups with the new e-mail account as the only member. These distribution groups can then be published by the company for external use by customers. E-mail sent to these groups is routed to the Agent E-Mail e-mail account. Examples of distribution lists are:
  - sales@example.com

- marketing@example.com
  - support@example.com
3. Create one or more E-Mail CSQs in CCX Administrator.
  4. Associate the E-Mail CSQs with the appropriate e-mail agents in CCX Administrator.
  5. Configure CAD's connection to the mail store (IMAP and SMTP) using Desktop Administrator.
  6. Associate the distribution group e-mail addresses with the E-Mail CSQs.

### Configuring MS Exchange 2003

Use the following procedures as a guideline for configuring MS Exchange 2003.

**NOTE:** Since installations of MS Exchange 2003 can be configured differently, the location of some nodes might be different than what is displayed in these procedures. It is recommended that you consult your MS Exchange 2003 documentation for more complete and up-to-date instructions.

#### Configuring IMAP and SMTP

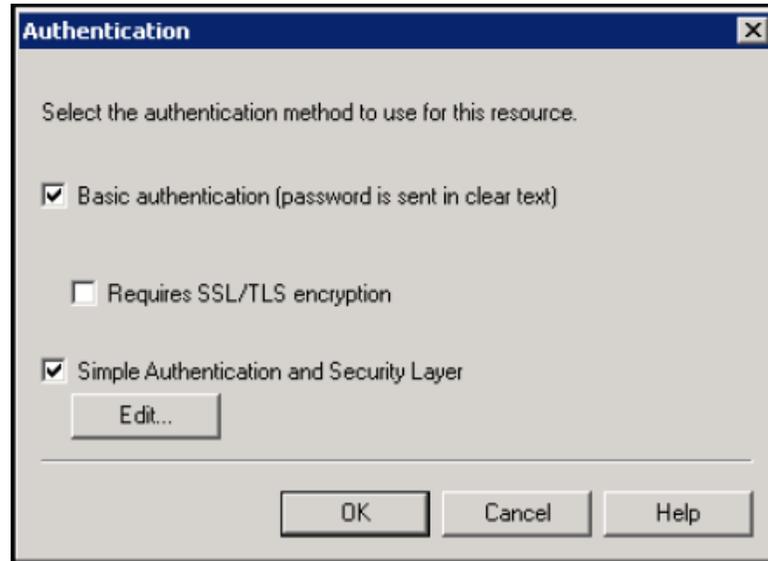
MS Exchange enables you to set up virtual IMAP and SMTP servers. The EEM product makes use of these virtual servers to ensure that the connection to the mail store uses the appropriate settings.

##### *To set up an IMAP virtual server:*

1. Launch Microsoft Exchange System Manager.
2. In the left navigation pane, select the Servers > Protocols > IMAPV4 node.
3. From the menu, choose Action > New > IMAPV4 Virtual Server. The New IMAPV4 Virtual Server Wizard appears.
4. Enter the information requested by the wizard to create the new virtual server. When you click Finish, the new virtual server is listed in the navigation pane under Servers > Protocols > IMAPV4.
5. Right-click the server name and choose Properties. The server properties window appears.

6. Select the Access tab, and click Authentication. The Authentication window appears (Figure 14).

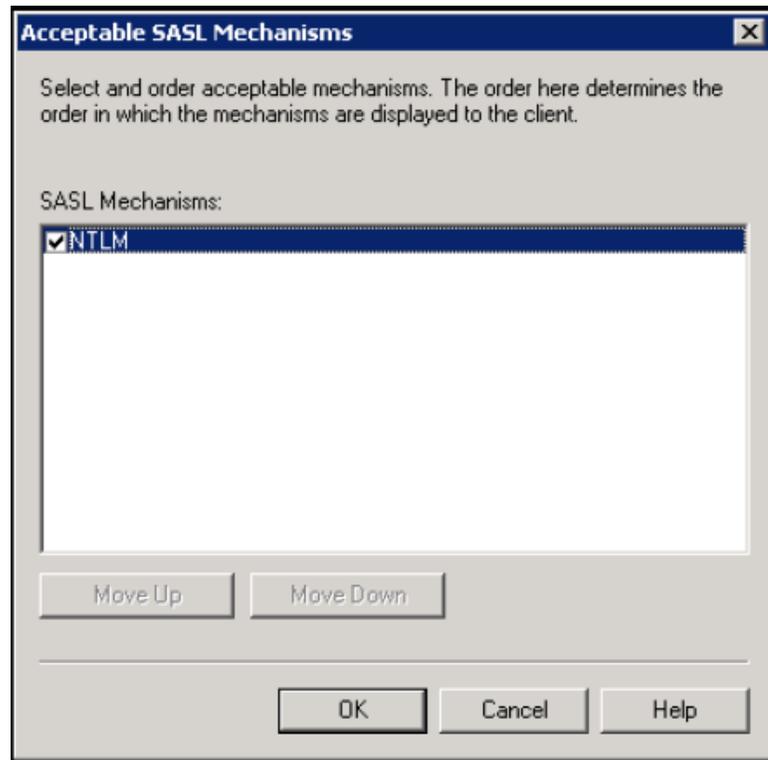
Figure 14. Authentication window



7. Configure the window as shown in Figure 14.

8. With the Simple Authentication and Security Layer check box selected, click Edit. The Acceptable SASL Mechanisms window appears (Figure 15).

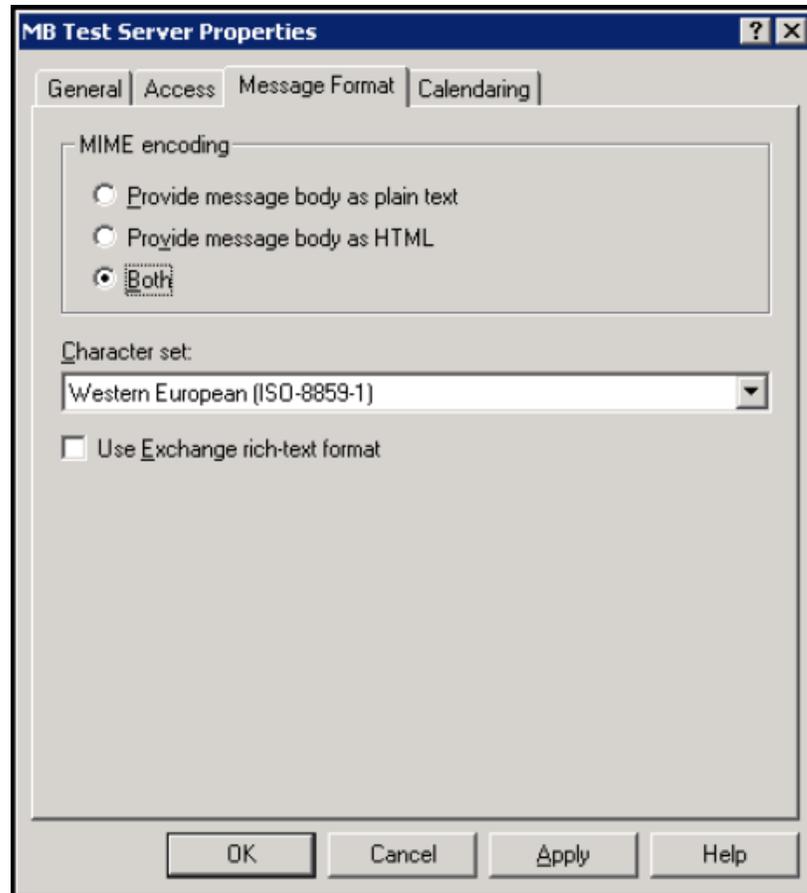
Figure 15. Acceptable SASL Mechanisms window



9. Configure the window as shown in Figure 15, and then click OK to close the window. Click OK again to close the Authentication window.

10. Select the Message Format tab, and complete the tab as shown in [Figure 16](#).

Figure 16. Message Format tab



11. Click OK to save your changes and close the window.
12. The new virtual server should be running. Right-click the server name to view a menu that includes the options Start and Stop. Click Start if the server is not already running.
13. If you are unable to start the server, select Start > Control Panel > Administrative Tools > Services and ensure that the Microsoft Exchange IMAP4 service is started.

**To set up an SMTP virtual server:**

1. Launch Microsoft Exchange System Manager.
2. In the left navigation pane, select the Servers > Protocols > SMTP node.

3. From the menu, choose Action > New > SMTP Virtual Server. The New SMTP Virtual Server Wizard appears.
4. Enter the information requested by the wizard to create the new virtual server. When you click Finish, the new virtual server is listed in the navigation pane under Servers > Protocols > SMTP.

**NOTE:** No special configuration is needed. The default settings in the Properties window are acceptable.

5. The new virtual server should be running. In the navigation pane, right-click the server name to view a menu that includes the options Start and Stop. Start is disabled and Stop is enabled if the server is running.
6. If you are unable to start the server, select Start > Control Panel > Administrative Tools > Services and ensure that the Microsoft Exchange SMTP service is started.

### **Creating a User**

Follow these steps to create the Active Directory user account that is used to receive customer e-mails.

#### ***To create a user:***

1. Launch Active Directory Users and Computers.

2. In the left navigation pane, right-click the appropriate domain and choose New > User. The New Object - User wizard appears (Figure 17).

Figure 17. New Object - User window 1

The screenshot shows a 'New Object - User' wizard window. At the top, it says 'Create in: p1.rd.ld/'. Below this, there are several input fields: 'First name:' with 'Example', 'Initials:' (empty), 'Last name:' with 'Emailaccount', and 'Full name:' with 'Example Emailaccount'. The 'User logon name:' section has a text box with 'exemailaccount' and a dropdown menu showing '@p1.rd.ld'. Below that, 'User logon name (pre-Windows 2000):' has a text box with 'RDP1\' and another with 'exemailaccount'. At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'.

3. Complete the name information for the new user, and then click Next. The next window in the wizard appears (Figure 18).

Figure 18. New Object - User window 2

New Object - User

Create in: p1.rd.ld/

Password: [masked]

Confirm password: [masked]

User must change password at next logon

User cannot change password

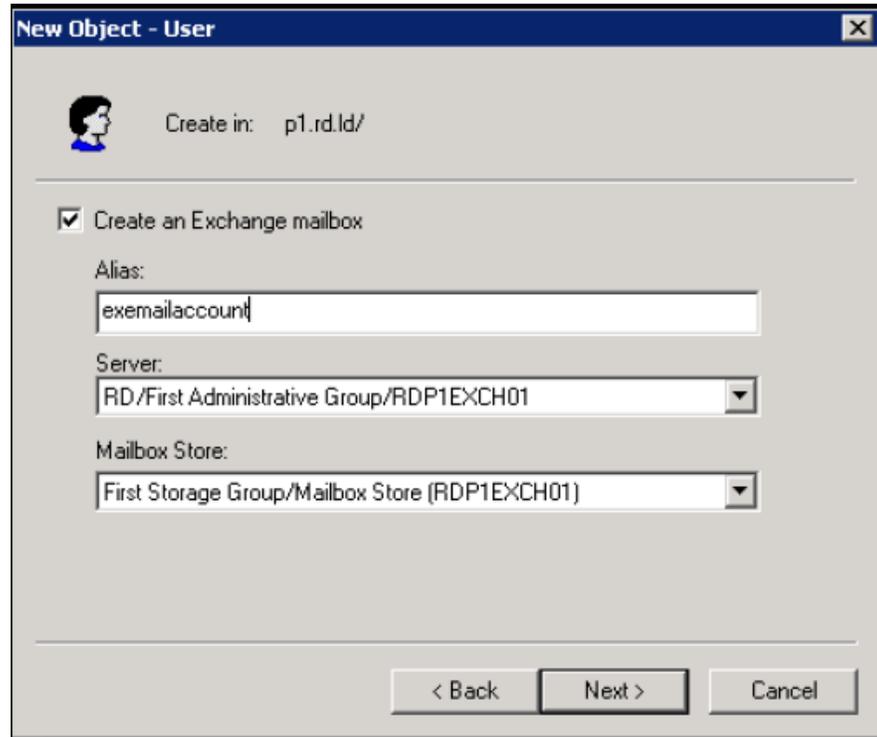
Password never expires

Account is disabled

< Back   Next >   Cancel

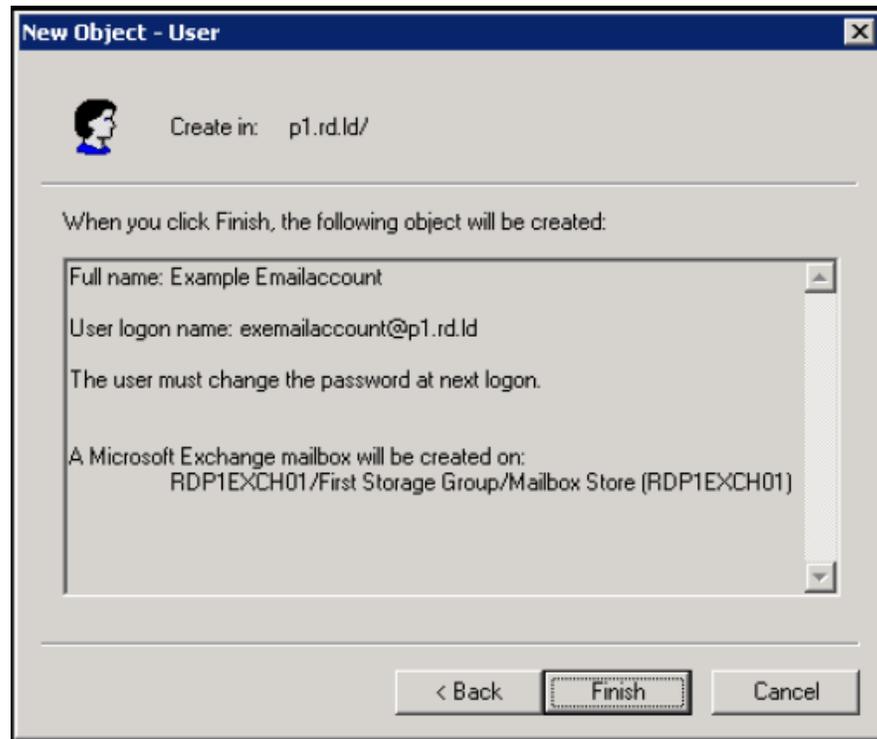
4. Create a password for the new user, and then click Next. The next window in the wizard appears (Figure 19).

Figure 19. New Object - User window 3



5. Select the Create an Exchange mailbox check box, complete the rest of the fields, and then click Next. The final window in the wizard appears (Figure 20).

Figure 20. New Object - User window 4



6. If all the information in the window is correct, click Finish. If you want to change anything, click Back to the appropriate window and enter your corrections. After you click Finish, the new user is listed under the Users node in the navigation pane.

### Creating Distribution Groups

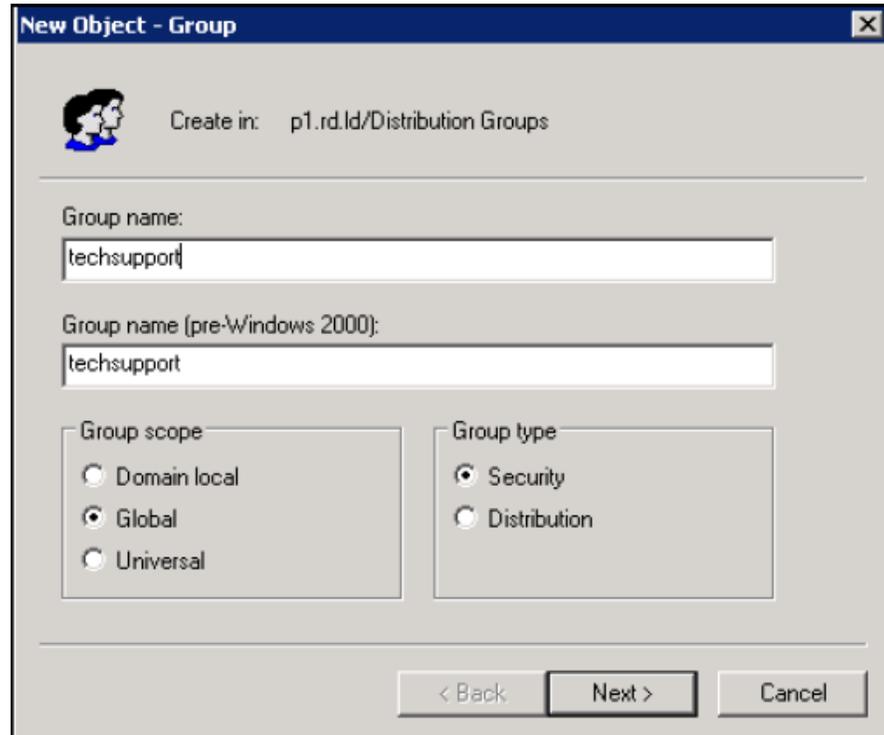
Follow these steps to create the distribution groups that will be used to route customer e-mails to the appropriate agent contact service queues. Each distribution group you create will contain only one user, the user you created in the previous section.

#### *To create a distribution group:*

1. Launch Active Directory Users and Computers.

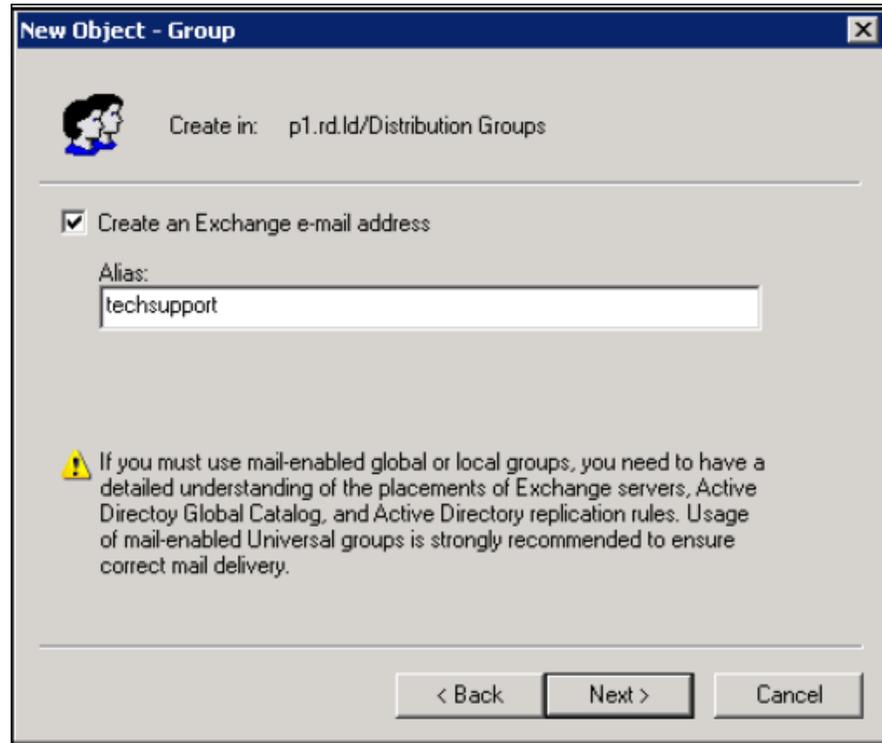
2. In the left navigation pane, right-click the Distribution Groups node and choose New > Group. The New Object - Group wizard appears (Figure 21).

Figure 21. New Object - Group window 1



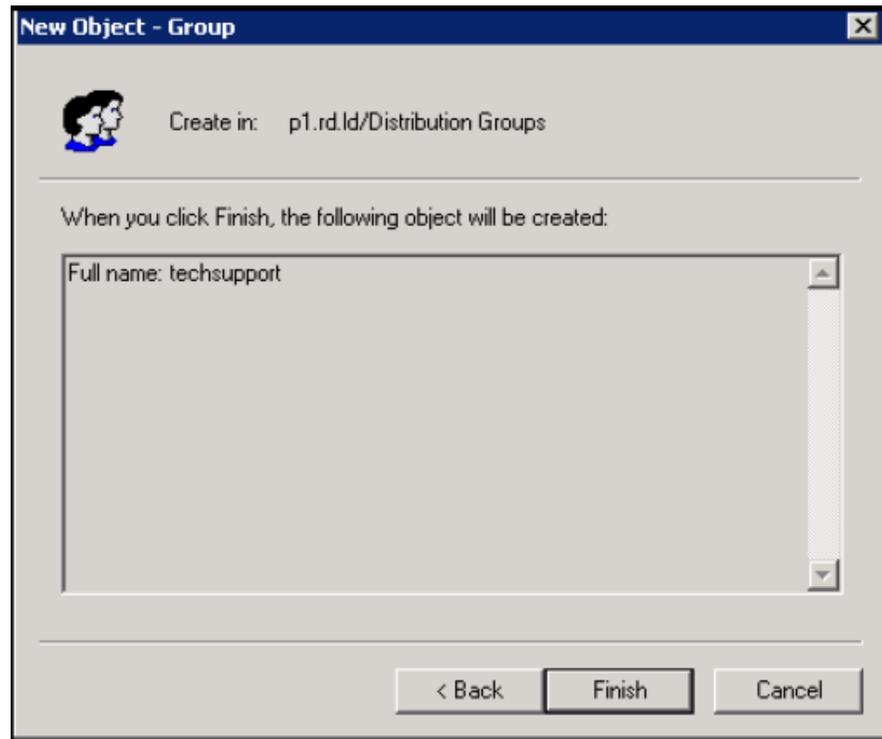
3. Enter a name for your distribution group and click Next. The next window in the wizard appears (Figure 22).

Figure 22. New Object - Group window 2



4. Select the Create an Exchange e-mail address check box, enter an alias for the distribution group, and click Next. The final windows of the wizard appears (Figure 23).

Figure 23. New Object - Group window 3



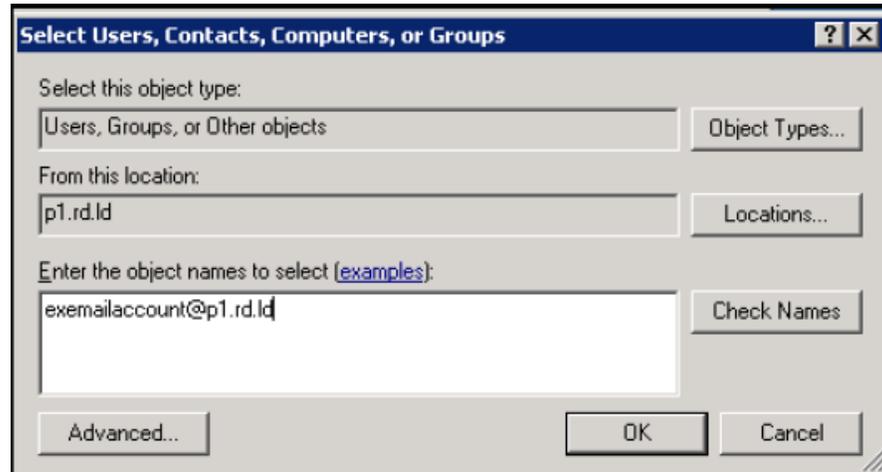
5. If all the information in the window is correct, click Finish. If you want to change anything, click Back to the appropriate window and enter your corrections. After you click Finish, the new distribution group is listed under the Distribution Groups node in the navigation pane.

**To add the user to the new distribution group:**

1. Select the Distribution Groups node in the left navigation pane, and then right-click the distribution group name in the right pane. Select Properties from the popup menu. The Properties window appears.

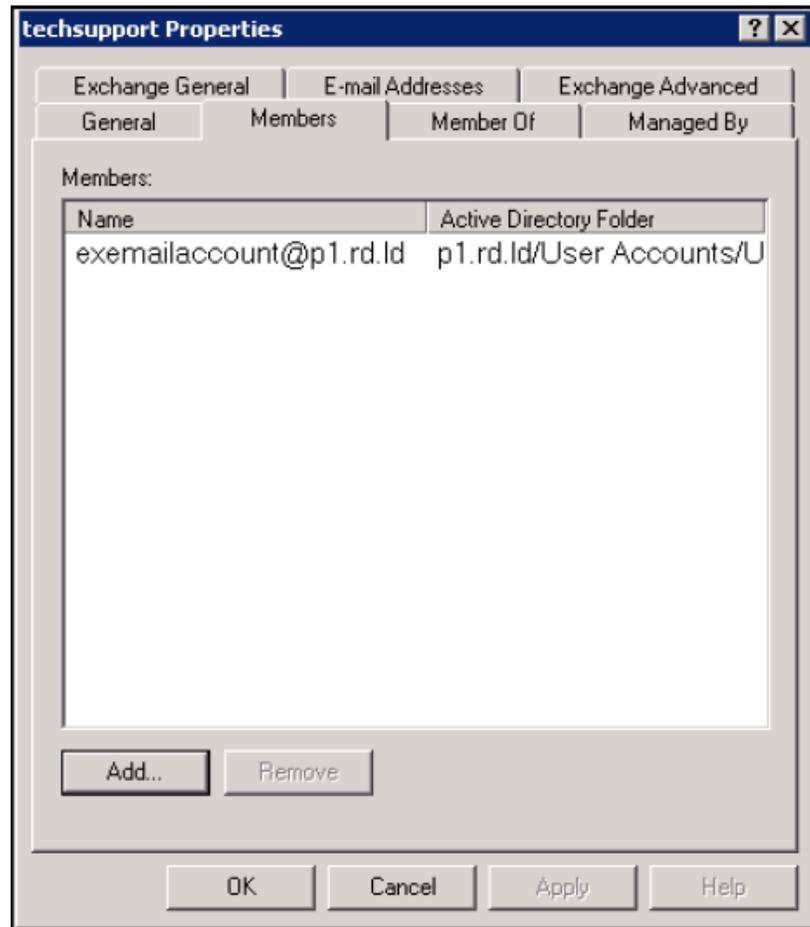
2. Select the Members tab, and click Add. The Select Users, Contacts, Computers, or Groups dialog box appears (Figure 24).

Figure 24. Select Users, Contacts, Computers, or Groups dialog box



3. Enter the e-mail address of the user and then click OK. The user is now listed on the Properties window's Members tab (Figure 25). Click OK again to close the window.

Figure 25. Distribution Group Properties window



4. Repeat steps 1–3 for each distribution group you created.

Once the distribution groups are configured, you can associate them with e-mail CSQs using Desktop Administrator. See the *Cisco Desktop Administrator User Guide* for more information on this process.

## Configuring MS Exchange 2007

Use the following procedures as a guideline for configuring MS Exchange 2007.

**NOTE:** Since installations of MS Exchange 2007 can be configured differently, it is recommended that you consult your MS Exchange 2007 documentation for more complete and up-to-date instructions.

### **Configuring IMAP and SMTP**

MS Exchange enables you to set up virtual IMAP and SMTP servers. The Agent E-Mail feature makes use of these virtual servers to ensure that the connection to the mail store uses the appropriate settings.

It is recommended that you have your MS Exchange administrator set up IMAP and SMTP virtual servers.

#### **IMAP Connections per User**

By default, the maximum number of IMAP connections per user in MS Exchange 2007 is 10. Every agent and the E-mail Service uses the same user ID, so this number is far too low. It is recommended that the number of IMAP connections per user is increased to 1,000.

#### ***To increase the maximum number of connections per IMAP user:***

1. Launch the Exchange Management Console.
2. Under the Server Configuration node, select Client Access.
3. On the POP3 and IMAP4 tab, right-click IMAP4 and select Properties. The IMAP4 Properties dialog box appears.
4. On the Connection tab, change the value for Maximum connections from a single user to 1000.
5. Click Apply, and then click OK.

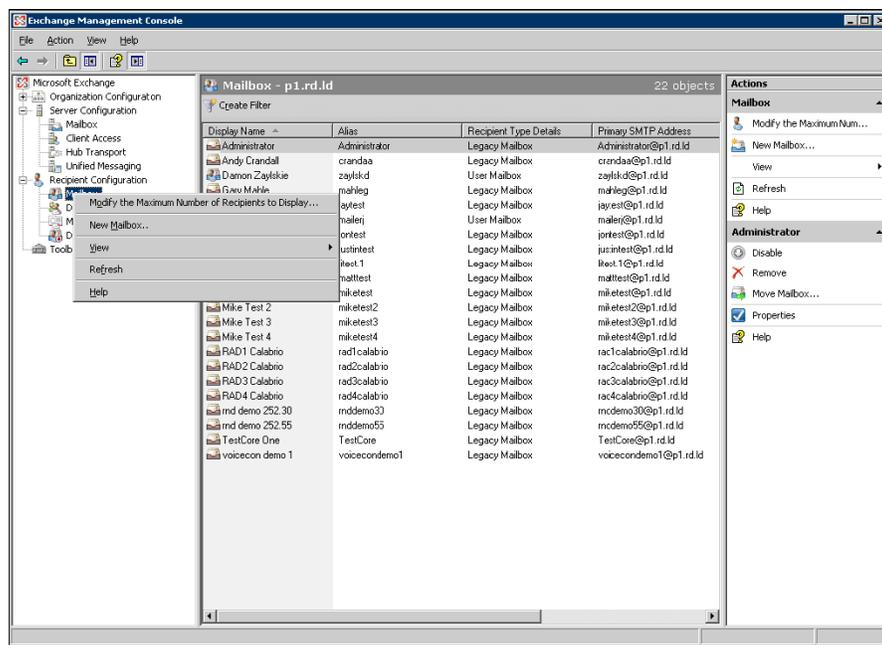
#### **Creating a User**

The following procedure is an example of how to create a user in MS Exchange 2007. For more in-depth information, see this page of the Microsoft Exchange Team Blog:

<http://msexchangeteam.com/archive/2006/09/05/428833.aspx>

**To create a user:**

1. Launch the Exchange Management Console.
2. In the left navigation tree pane, select the Recipient Configuration > Mailbox node (Figure 26)..

**Figure 26. Exchange Management Console**

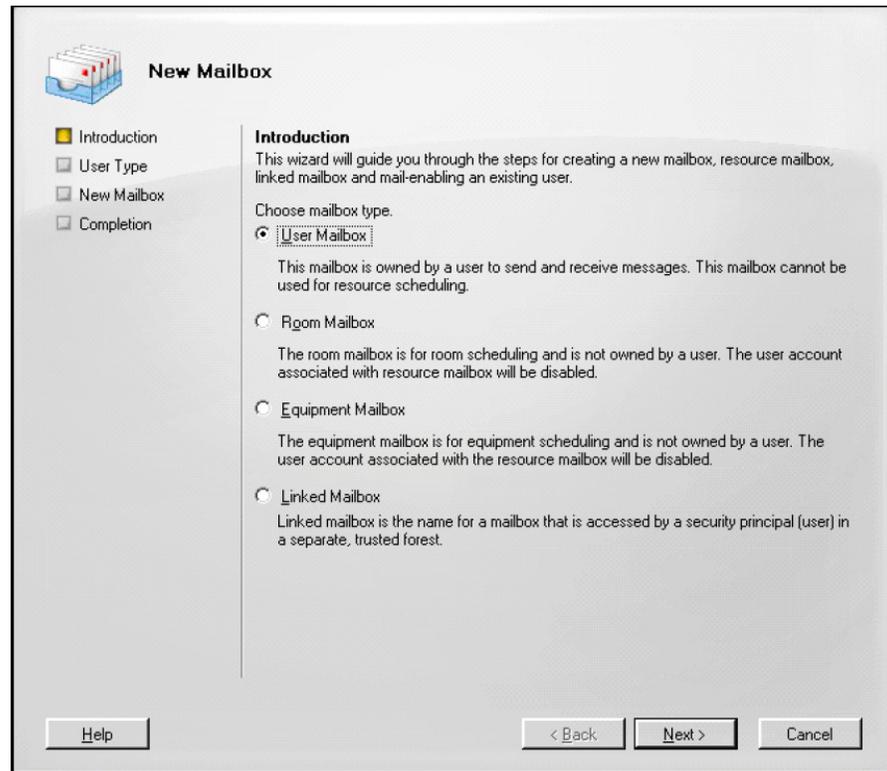
When you select the Mailbox node, three panes are displayed. The center pane lists all existing accounts for both MS Exchange 2003 and MS Exchange 2007. The Recipient Type Details column indicates the type of account:

- Legacy = MS Exchange 2003
- User = MS Exchange 2007

You cannot share accounts between the Exchange 2003 and 2007 servers. You must setup a separate account for each server, and the account must have a unique name across both servers.

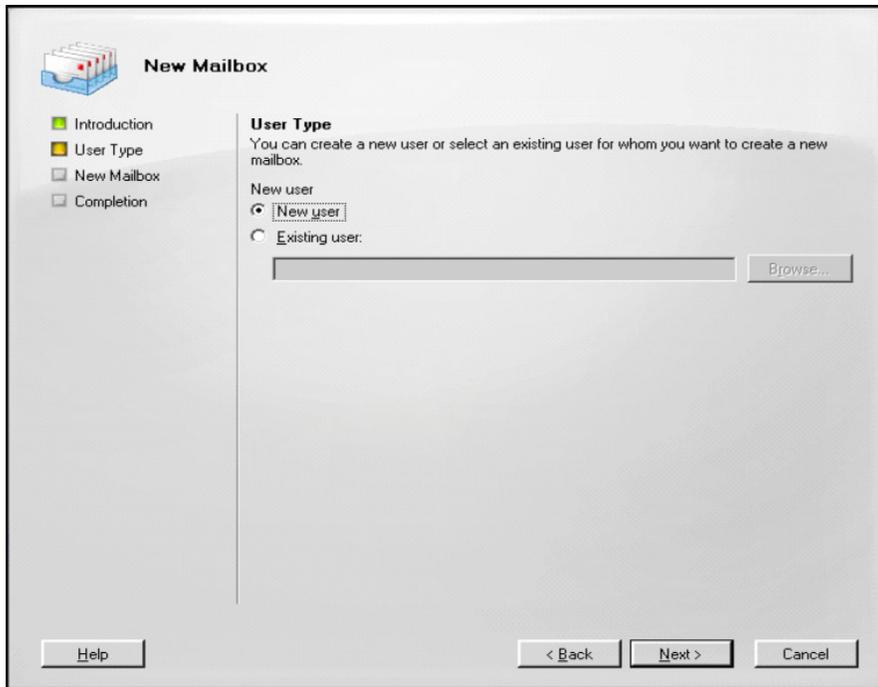
3. Right-click the Mailbox node and from the popup menu, choose New Mailbox. The New Mailbox wizard appears (Figure 27).

Figure 27. New Mailbox wizard window 1



4. Select New User and click Next.

Figure 28. New Mailbox wizard window 2



5. New User is selected. If you want to migrate an account from MS Exchange 2003, select Existing User and then browse to the account name. Bear in mind that if you do this, the account will no longer be available in MS Exchange 2003.

- Click Next. The User Information window of the wizard appears (Figure 29).

Figure 29. New Mailbox wizard window 3

**New Mailbox**

- Introduction
- User Type
- User Information**
- Mailbox Settings
- New Mailbox
- Completion

**User Information**  
Enter the user name and account information.

Organizational unit:  
p1.rd.id/Users

First name: jaytest2007      Initials: JRS      Last name: Sillars

Name:  
jaytest2007 JRS. Sillars

User logon name (User Principal Name):  
jaytest2007 @p1.rd.id

User logon name (pre-Windows 2000):  
jaytest2007

Password: .....      Confirm password: .....

User must change password at next logon

7. Enter the user information for the new account and click Next. The Mailbox Settings window of the wizard appears (Figure 30).

Figure 30. New Mailbox wizard window 4

**New Mailbox**

- Introduction
- User Type
- User Information
- Mailbox Settings**
- New Mailbox
- Completion

**Mailbox Settings**  
Enter the alias for the mailbox user, and then select the mailbox location and policy settings.

Alias:

Server:

Storage group:

Mailbox database:

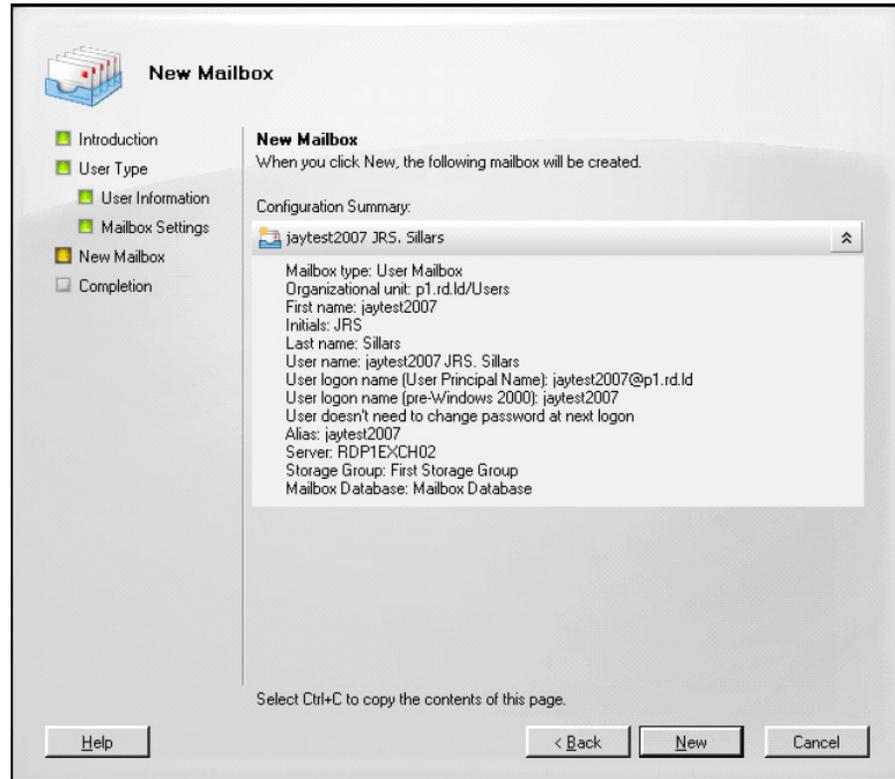
Managed folder mailbox policy:

Exchange ActiveSync mailbox policy:

Messaging records management is a premium feature and requires an Exchange Enterprise Client Access License (CAL).

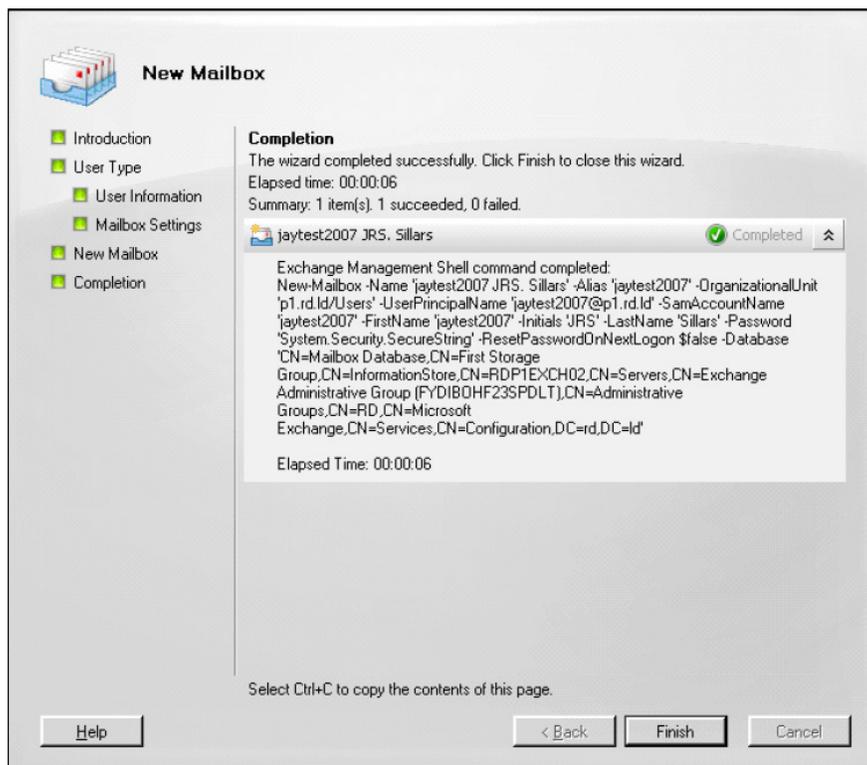
8. Accept the defaults, or configure the mailbox settings as desired, and then click Next. A window containing the summary of the new mailbox settings appears (Figure 31).

Figure 31. New Mailbox wizard window 5



9. If the settings are not correct, click Back and correct the errors. If the settings are as you desire, click New. The final window of the wizard appears (Figure 32).

Figure 32. New Mailbox wizard window 6



10. Click Finish to close the wizard and create the new mailbox.

### Creating Distribution Groups

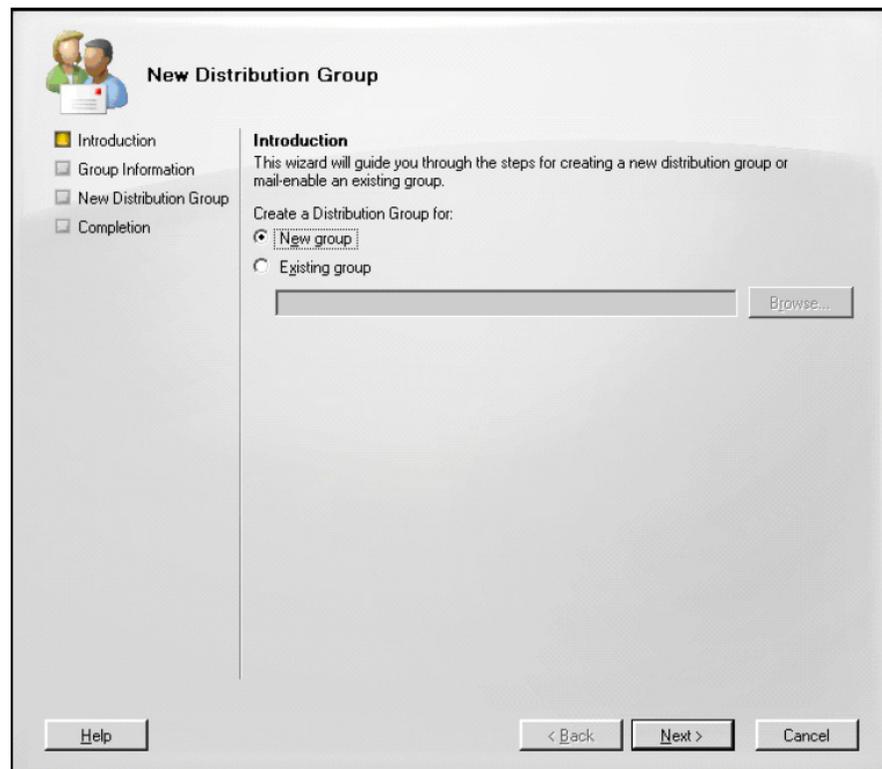
By default, MS Exchange 2007 rewrites the recipient address (SMTP to) in incoming e-mail to the primary e-mail address for the account. This does not work well with Agent E-Mail because this feature keys off the recipient address for its routing decisions.

As a workaround, distribution groups can be used instead of e-mail address aliases. Customers then send e-mail to a distribution group, which then gets routed to the Agent E-Mail e-mail account. The address of the distribution group is preserved in the To field of the e-mail, so routing can be based on that.

In Cisco Desktop Administrator, use the distribution group address to associate e-mails with an e-mail CSQ.

**To create a distribution group:**

1. Launch Exchange Management Console.
2. In the left navigation pane, select the Distribution Group node.
3. Right-click the Distribution Group node and select New Distribution Group from the popup menu. The New Distribution Group wizard appears (Figure 33).

**Figure 33. New Distribution Group wizard window 1**

4. Select New Group and then click Next. The Group Information window appears (Figure 34).

Figure 34. New Distribution Group wizard window 2

**New Distribution Group**

- Introduction
- Group Information
- New Distribution Group
- Completion

**Group Information**  
Enter account information for the distribution group.

Group type:

Distribution  
 Security

Organizational unit:  
p1.rd.lid/Users

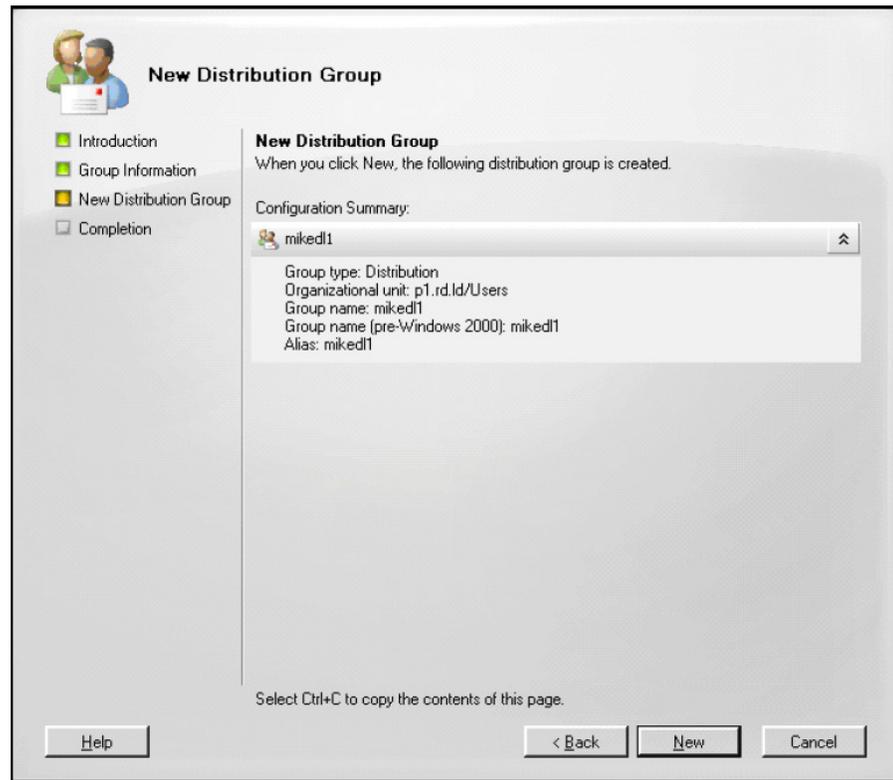
Name:  
miked1

Name (pre-Windows 2000):  
miked1

Alias:  
miked1

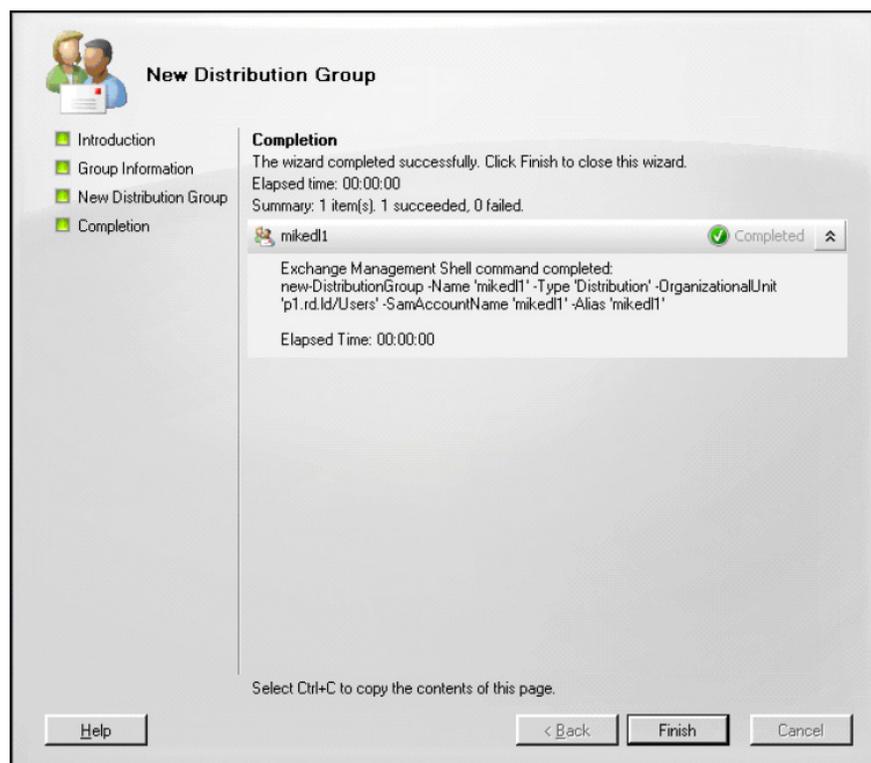
5. Select Distribution as the group type, complete the required information for the new group, and then click Next. The final window in the wizard appears (Figure 35).

Figure 35. New Distribution Group wizard window 3



- If the settings are not correct, click Back and correct the errors. If the settings are as you desire, click New. The final window of the wizard appears (Figure 36).

Figure 36. New Distribution Group wizard window 4



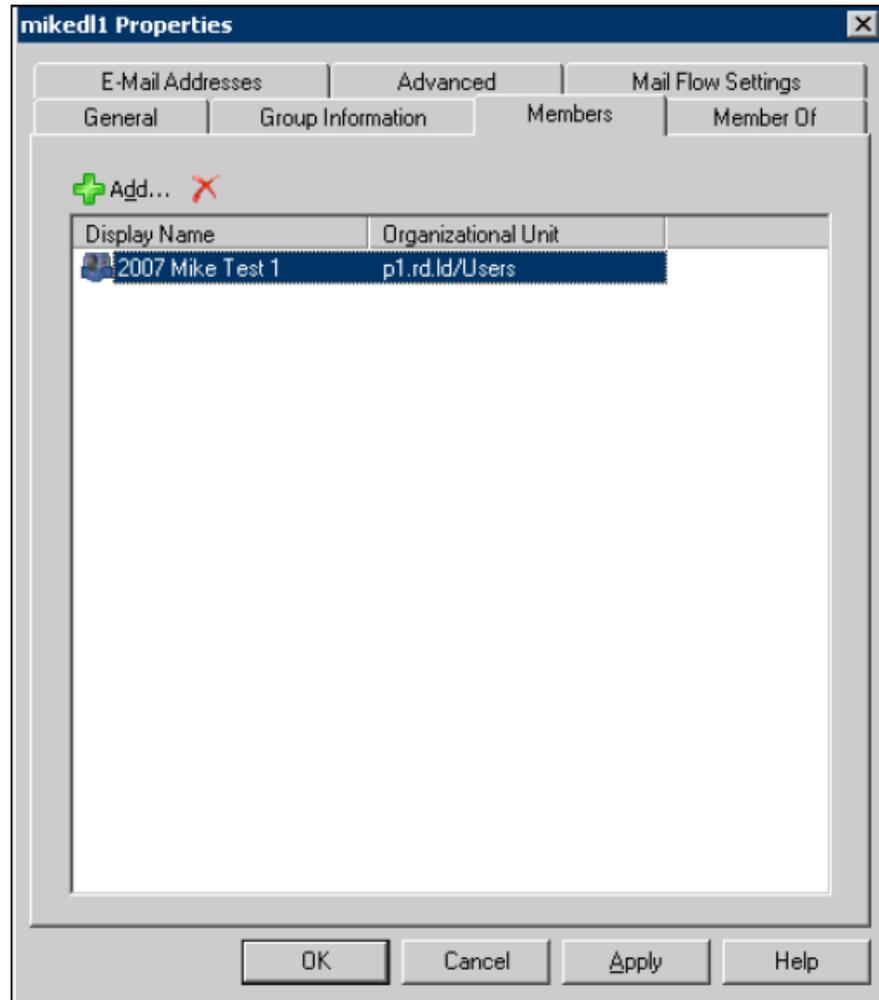
- Click Finish to create the new distribution group and close the wizard. The new distribution group is now listed under the Distribution Group node.

**To add the Agent E-Mail e-mail address to the new distribution group:**

- Launch Exchange Management Console.
- In the left navigation pane, select the Distribution Group node. The distribution groups are listed in the center pane.
- Double-click the distribution group. The Properties window appears. Select the Members tab.

- Click Add and select the Agent E-Mail e-mail account. The account is added to the distribution group (Figure 37)..

Figure 37. Distribution Group Properties window



- Click Apply to save your changes, and then OK to close the Properties window.

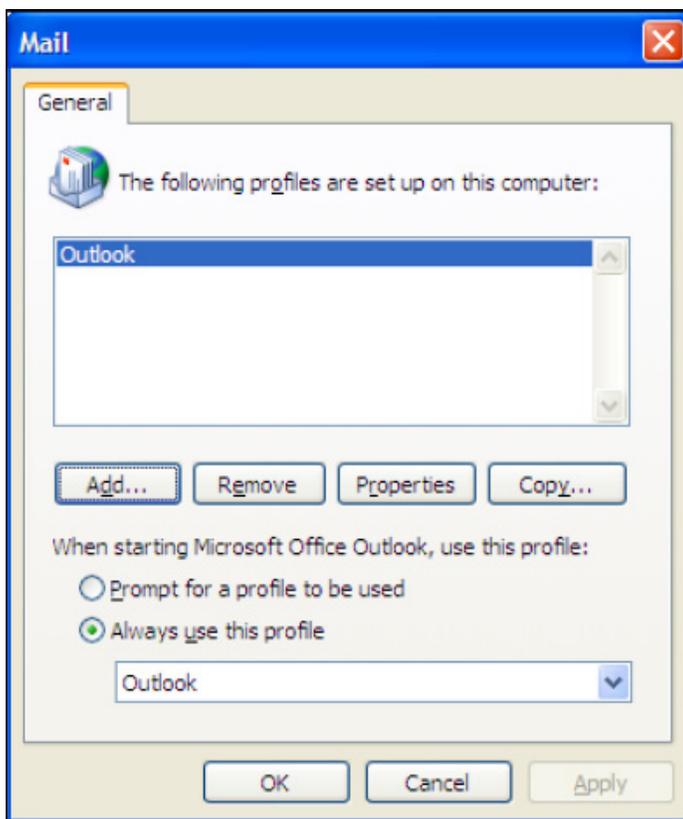
### Testing Access to the Agent E-Mail Account

The new e-mail account can be accessed using an IMAPv4-capable e-mail client, such as Microsoft Outlook 2003. Follow these steps to test access to the account.

**To test access to the Agent E-Mail e-mail account:**

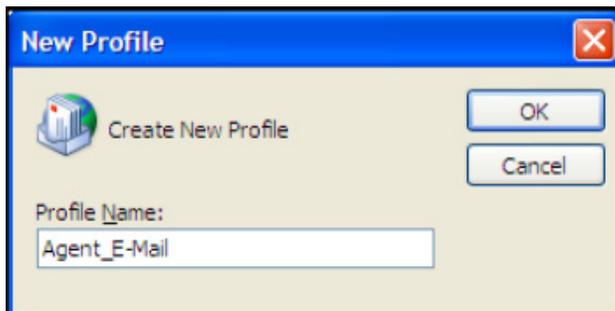
1. In Control Panel, start the Mail utility. The Mail Setup—Outlook window appears.
2. Click Show Profiles. The Profiles window appears (Figure 38).

Figure 38. Mail Profiles window



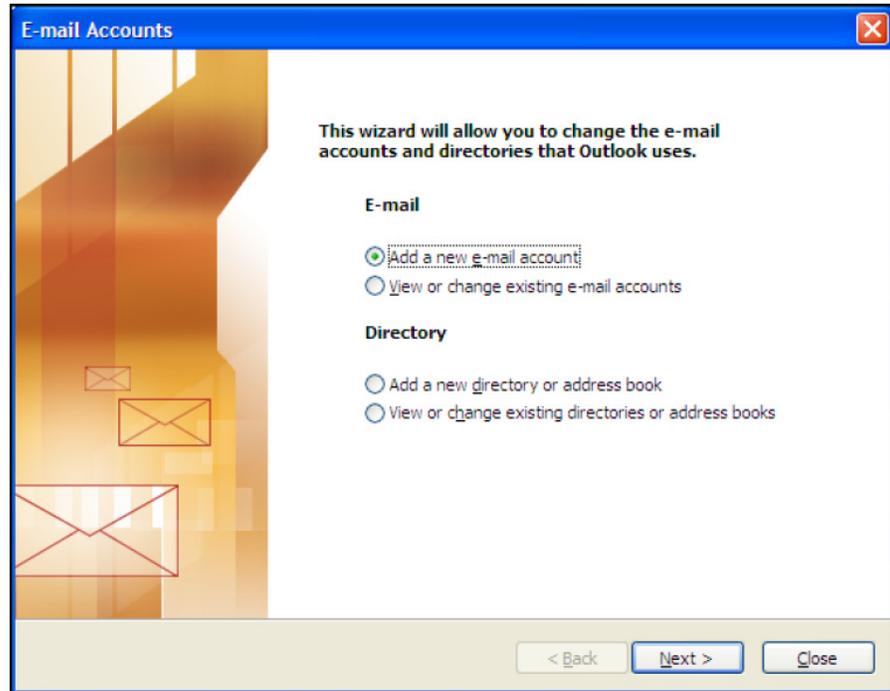
3. Click Add.The New Profile dialog box appears (Figure 39).

Figure 39. New Profile dialog box



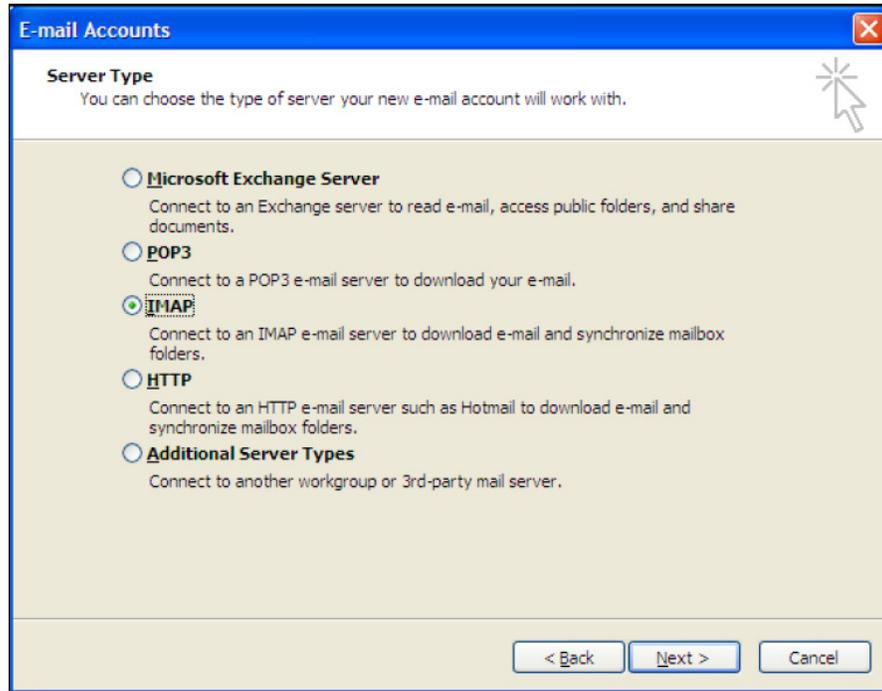
4. Enter the name of the Agent E-Mail account and click OK. The E-Mail Accounts wizard appears (Figure 40)..

Figure 40. E-Mail Accounts wizard window 1



5. Select Add a new e-mail account and then click Next. The Server Type window appears (Figure 41).

Figure 41. E-Mail Accounts wizard window 2



6. Select IMAP and then click Next. The Internet E-Mail Settings (IMAP) window appears (Figure 42).

Figure 42. E-Mail Accounts wizard window 3

The screenshot shows a Windows-style dialog box titled "E-mail Accounts". Inside, the "Internet E-mail Settings (IMAP)" section is active, with a note stating "Each of these settings are required to get your e-mail account working." The form is divided into three sections:

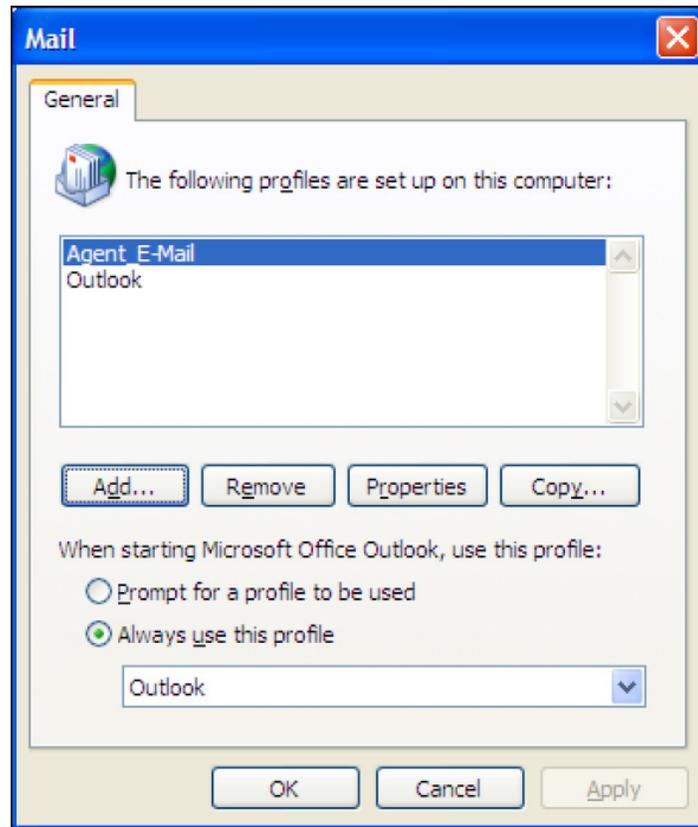
- User Information:** "Your Name" is "agent-email" and "E-mail Address" is "agent-email@p1.rd.id".
- Server Information:** "Incoming mail server (IMAP)" is "10.192.252.18" and "Outgoing mail server (SMTP)" is "10.192.252.18".
- Logon Information:** "User Name" is "agent-email", "Password" is masked with asterisks, and the "Remember password" checkbox is checked.

At the bottom, there is a "Log on using Secure Password Authentication (SPA)" checkbox (unchecked) and a "More Settings ..." button. Navigation buttons "< Back", "Next >", and "Cancel" are at the very bottom.

7. Enter the required information for the Agent E-Mail account. If you have changed the SMTP and/or IMAP port numbers to something other than the defaults, click More Settings and configure the information on the Advanced tab.

8. Click Next and then Finish to create the new e-mail account profile. The new profile is now listed on the Mail Profiles window (Figure 43).

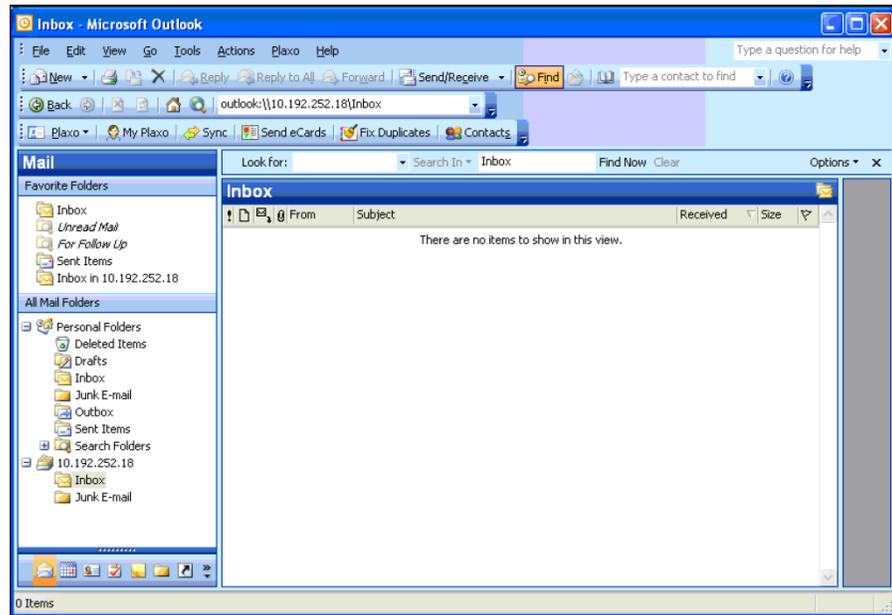
Figure 43. Mail Profiles window displaying the new profile



9. When you launch MS Outlook, you will be prompted for a profile to use. Select your new profile from the Choose Profile dialog box and click OK.

10. The Outlook inbox is displayed. Note that by default the Agent E-Mail account has two folders, Inbox and Junk E-Mail (Figure 44).

Figure 44. MS Outlook Inbox



## Converting Recordings from RAW to WAV Format

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Recordings made by supervisors are archived as RAW voice data packets; they can only be reviewed using the Supervisor Record Viewer. However, if you wish to permanently save selected recordings as WAV files, you can use either of two methods:

- Using the “Play and Save” button in Supervisor Record Viewer and saving the recording to a selected folder
- Using the Unified CCX raw2wav.exe command line utility

See the *Cisco Supervisor Desktop User Guide* for information on saving recordings as WAV files through Supervisor Record Viewer.

### Using the Unified CCX raw2wav Utility

This utility is located in the C:\Program Files\Cisco\Desktop\bin folder. It must be run from this location in a command window on the computer that hosts the Recording service (RPServer.exe).

Each RAW format recording is comprised of the following files:

- <name>.to.raw, containing data sent to the agent phone
- <name>.from.raw, containing data sent from the agent phone

You need use only one of the file pair when running the utility. The utility finds the other file and combines the two files into one WAV file named <name>.wav.

The naming convention used for <name> is as follows:

```
<YYYYMMDD>_<HHMMSS>_<counter>_<extension>_<agent ID>
```

where:

|             |  |
|-------------|--|
| <YYYYMMDD>  | Date the file was recorded   |
| <HHMMSS>    | Time the file was recorded   |
| <counter>   | Counter that is reset every time the agent logs in. It is incremented sequentially starting from 00000 every time a recording of that agent is made during that session. |
| <extension> | The extension of the agent recorded  |
| <agent ID>  | The ID of the agent recorded   |

The utility looks in the registry to find the location of the RAW files. If this information is not in the registry, the utility assumes that the location is the folder C:\Program Files\Cisco\Desktop\_Audio. The utility writes the converted WAV files to a folder it creates located at C:\Program Files\Cisco\Desktop\_wav.

The utility syntax is:

```
raw2wav.exe <filename>
```

where <filename> is either the <name>.to.raw or <name>.from.raw file.

### Running Unified CCX raw2wav in a Batch File

You can use the Unified CCX raw2wav utility from a batch file that iterates through a wildcard-specified set of source files.

If the utility finds a WAV file with a name identical to one that is about to be created, the conversion is not executed.

**NOTE:** If the utility is halted prematurely, the WAV file being written at that time might be corrupted.

A batch file is a text file with a BAT extension. You can put DOS commands into this file and then run the file as if it were an executable.

For example, the following series of DOS commands can be put into a batch file called convert.bat:

```
c:\
cd c:\program files\cisco\desktop\bin
for %%c in (..\..\desktop_audio\*.raw) do Unified CCX raw2wav
"%%~nc%%~xc"
```

These DOS commands cause all the RAW files in the folder C:\Program Files\Cisco\Desktop\_audio to be converted to WAV format and placed in the folder C:\Program files\Cisco\Desktop\_wav, leaving the original RAW files in the Desktop\_audio folder.

Additional lines can be added to the batch file to copy the files to another folder or file server.

**NOTE:** The utility has a feature that prevents it from reconverting files that are already present in the Desktop\_wav directory, so the batch file does not have to explicitly check to see if the files have already been converted.

If you want the batch file to run automatically on specific days at a specific time, the Windows “at” command can be used.

For example, if you want convert.bat to run automatically every 13th and 23rd day of the month at 1:46 pm, do the following:

1. Put convert.bat in the C:\Program Files\Cisco\Desktop\bin folder.
2. Open a command window and enter the following DOS command:  

```
at 1:46p /every:13,23 cmd /c "c:\program  
files\cisco\desktop\bin\convert.bat" ^> c:\splkconvert.txt
```

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# Removal

# 4

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## Removing CAD 7.0 Desktops

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*To remove a CAD application:*

1. From the Start menu, click Settings, then Control Panel.
2. Double-click Add/Remove Programs.
3. From the list, select the application you wish to remove and click Add/Remove. The application is removed.

## Rolling Back Client-Side Service Releases

There are two types of service releases that can be applied to the Unified CCX server, the service release (SR) and the engineering special (ES), which is an update to an SR. Only one type, the SR, is applied to the CAD clients. When an ES is applied to the Unified CCX server, an SR equivalent might or might not be applied to the CAD clients. As a result, the numbering of SRs on the server and on the clients can become out of step with each other.

The following chart illustrates a hypothetical series of SRs and ESs applied to a configuration.

| Unified CCX Server | CAD Clients  |
|--------------------|--------------|
| Main Release       | Main Release |
| SR1                | SR1          |
| ES1                | SR2          |
| ES2                | SR3          |

If ES2 is removed from the Unified CCX server, that server reverts to the SR1 release level. (ESs are cumulative, so when ES2 is removed, so is ES1.) However, the CAD clients cannot roll back from SR3 (the equivalent to ES2 on the server) to SR1. Instead, SR3 must be removed from the CAD clients so that they revert to the main release, and then SR1 applied again.

**NOTE:** If the client desktop is not rolled back to the server SR level, the user sees an error message that the client and server are running incompatible versions and will not start.

The client-side SR1 can be applied via True Update the next time the client application is started, or installed individually on each client desktop.

### **To roll back a CAD client-side SR:**

1. Roll back the SR on the Unified CCX server to the desired SR or ES. See your Unified CCX documentation for this procedure.

**NOTE:** It is recommended that SRs are rolled back on the Unified CCX server first in order to avoid True Update issues.

2. On the client computers, use the Windows Add or Remove Programs Control Panel to remove the client-side SR. The SR is removed and the client applications are rolled back to the main release version. The next time the

client application is started, True Update detects that an SR is present on the Unified CCX server and automatically updates the client application to the current SR.

