UCSA

Cisco Unified Communications System Administration

Version 1.1

Student Guide

Table of Contents

Course Introduction

Overview

The aim of this course is to produce competent administrators of the Cisco Unity and Personal Assistant products. If you are a Cisco Unity system administrator, this two-day course is all you will need to become a competent administrator of your system. For system engineers, it is the initial class in a two-class series, the other being Cisco Unified Communications System Engineer. As an initial class, it lays a successful foundation for participation in the Engineer course because a student must understand the products' features and how to use them before being able to install, configure, maintain and troubleshoot them. The class partially prepares a student to take the Cisco Unity exam (9E0-805).

Outline

The Course Introduction includes these topics:

- Course Objectives

- Learner Skills and Requirements

- Learner Responsibilities

- General Administration

- Course Roadmap

- Learner Introductions

- Course Material and Additional Information Locations

Module Objectives

This section lists the module objectives.

Module Objectives

Upon completing this module, you will be able to:

- **Understand the course expectations**
- **Describe the course**
- **Describe the course prerequisites**
- **Understand the overall course objectives**
- **Identify where to find additional help and information**

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Upon completing this module, you will be able to:

- Understand the course expectations.

- Describe the course.

- Describe the course prerequisites.

- Understand the overall course objectives.

- Identify where to find additional help and information.

Course Objectives

This section provides details about the course objectives

Course Objectives

Upon completion of this course, you will be able to perform the following tasks:

- List the minimal set of features of integration between a telephone switch and a Cisco Unity voice mail.
- Correctly identify the standard features of a Cisco Unity system.
- Correctly identify the standard features of a Personal Assistant system.
- Efficiently manage a Unity subscriber account over the telephone and using the desktop tools, ViewMail for Outlook and Cisco Unity Assistant.
- Efficiently manage a Personal Assistant account using both the telephone and the desktop tools provided.

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- The first objective will be covered in the Unified Communications Integration lesson.

- The second and third objectives will be covered in the Unified Communications Systems Overview module.

- The last two objectives will also be covered in Unified Communications Systems Overview module.

- The first objective will be covered in the General Setup module.

- The second objective will be covered in the General Setup module, too.

- The next five objectives will be covered in the Subscribers: A Complete Reference module.

Course Objectives

Upon completion of this course, you will be able to perform the following tasks:

- Create and use Internet Subscribers.
- Choose the correct actions that Cisco Unity performs when a subscriber account is deleted.
- Choose the correct actions that Personal Assistant performs when a subscriber account is deleted.
- Correctly choose those actions that a subscriber managing their messaging account using the Cisco Unity Assistant can accomplish.
- Correctly choose those actions that a subscriber managing their account using Personal Assistant rules can accomplish.
- Choose the correct settings to use to build a call handler that performs a variety of tasks (takes a message for delivery to a subscriber, delivers information, transfers a call to a particular extension, etc).
- Choose the correct settings to use to build an interview handler.

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■ The first three objectives will be covered in the Subscribers: A Complete Reference module.

■ The next two objectives will be covered in the Using Your Cisco Unified Communications Systems module.

■ The last two objectives will be covered in the Call Handlers and Interview Handlers lesson.

Course Objectives

Upon completion of this course, you will be able to perform the following tasks:

- **Use the Cisco Unity Status Monitor correctly.**
- **Use the Personal Assistant Server Status page correctly.**
- **Describe how diagnostic traces, Unity reports and logs are used to develop historical information about how Unity is doing its job.**
- **Describe how diagnostic traces, call history information and system logs are used to develop historical information about how Personal Assistant is performing.**
- **Identify which Cisco Unity report to use to develop further information on the problem.**
- **Identify when to use the correct Subscriber report to check message activity, distributions lists, storage usage and message traffic.**

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■ These objectives will be covered in the Unified Communications System Maintenance module.

■ These objectives will be covered in the Cisco Unified Communication Systems Reporting lesson.

Learner Skills and Knowledge

This section lists the course prerequisites.
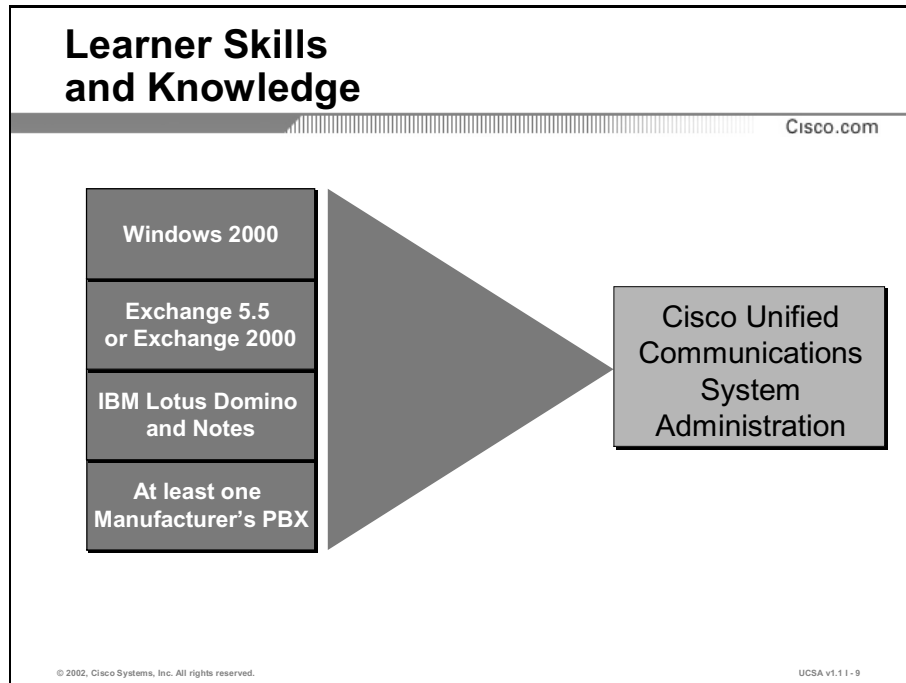
To get the most out of the course, you must have a basic familiarity with Microsoft Windows®
2000 operating system, either Microsoft's messaging package, Exchange (v5.5 or 2000) or IBM
Lotus' Domino and at least one manufacturer's telephone switch (PBX). Because this course
will not focus on Microsoft Windows® 2000 operating system, Microsoft Exchange 5.5,
Exchange 2000 or IBM Lotus Domino you must possess some understanding of them before
starting this course. Knowing the range of features that a PBX can provide will help you to
understand how Cisco Unity (or any voice mail system for that matter) works with it.

Learner Responsibilities

This section discusses the responsibilities of the learners.
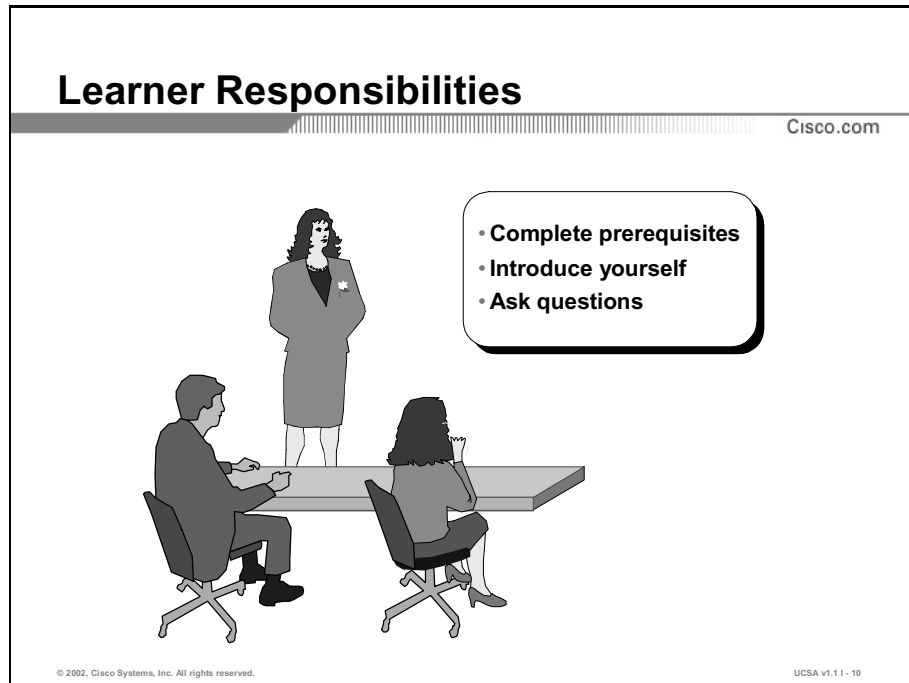
To take full advantage of the information presented in this course, you must have completed the prerequisite requirements.

In class, you are expected to participate in all lesson exercises and assessments.

In addition, you are encouraged to ask any questions relevant to the course materials.

If you have pertinent information or questions concerning future Cisco product releases and product features, please discuss these topics during breaks or after class. The instructor will answer your questions or direct you to an appropriate information source.

General Administration

This section lists the administrative issues for the course.

General Administration

Class-Related

- **Sign-in sheet**
- **Length and times**
- **Break and lunch room locations**
- **Attire**

Facilities-Related

- **Course materials**
- **Site emergency procedures**
- **Rest rooms**
- **Telephones/faxes**

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The instructor will discuss the administrative issues noted here so you know exactly what to expect from the class.

- Sign-in process.

- Starting and anticipated ending times of each class day.

- Class breaks and lunch facilities.

- Appropriate attire during class.

- Materials you can expect to receive during class.

- What to do in the event of an emergency.

- Location of the rest rooms.

- How to send and receive telephone and fax messages.

Course Roadmap

This section covers the suggested flow of the course materials.

Course Roadmap

Cisco.com

Day 1	Day 2
Course Introduction	**Lab Exercise # 4**
Product Overview	**System Customization: Call Handlers & Interview Handlers**
Features	
Console Tour	**Lab Exercise # 5**

A M (Day 1 and Day 2 AM rows above)

Lunch

Day 1	Day 2
System Setup	**Lab Exercise #6**
Lab Exercise # 1	
Preparing for Subscribers	
Lab Exercise # 2	**System Maintenance**
Adding and Deleting Subscribers	**Summary**
Lab Exercise # 3	

P M (Day 1 and Day 2 PM rows above)

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The schedule reflects the recommended structure for this course. This structure allows enough time for the instructor to present the course information and for you to work through the laboratory exercises. The exact timing of the subject materials and labs depends on the pace of your specific class.

Learner Introductions

This is the point in the course where you introduce yourself.

Learner Introductions

- **Your name**
- **Your company**
- **Job responsibilities**
- **Windows 2000 experience**
- **Exchange experience**
- **Domino/Notes experience**
- **PBX experience**
- **Your Expectations**

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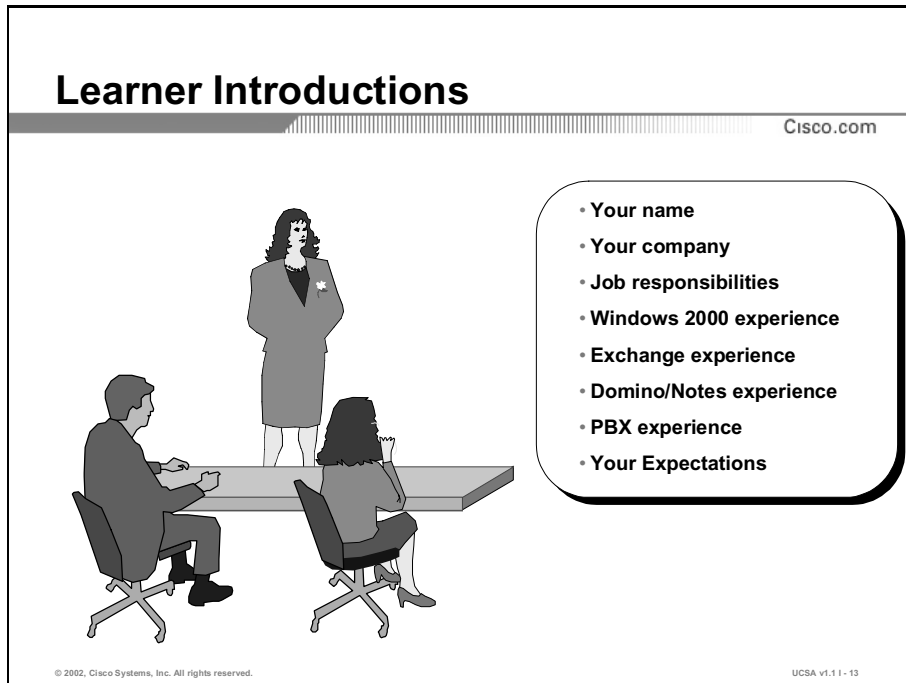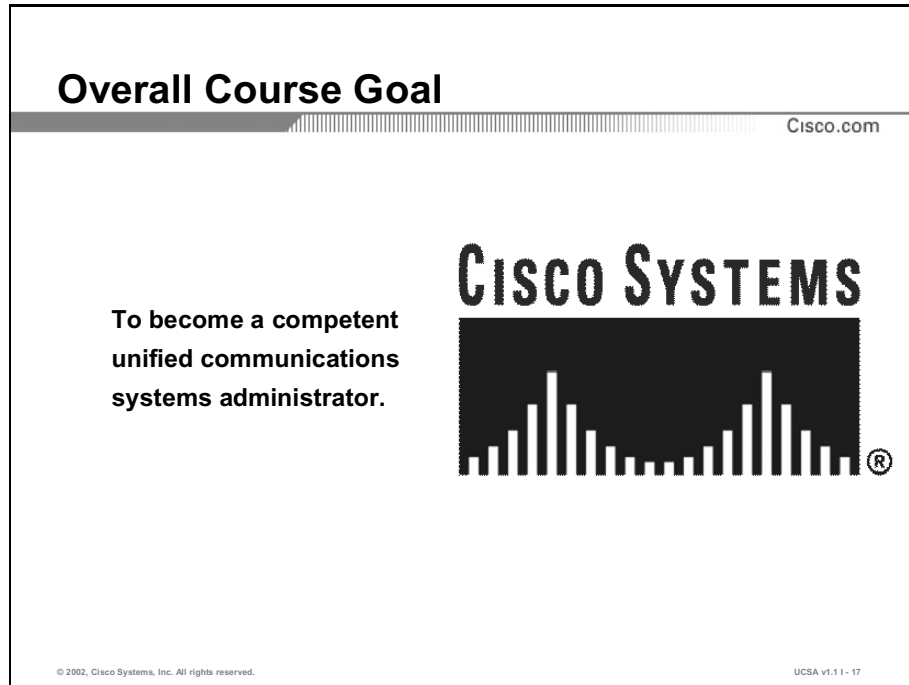
Prepare to share the following information:

- Your name.

- Your company.

- Your job responsibilities

- A profile of your experience with Windows 2000, Exchange, Domino/Notes and telephone switches.

- What you would like to learn from this course.

Overall Course Goal

This section provides the overall course goal. The task objectives administrators must accomplish to attain that goal were listed earlier in this introduction.

Overall Course Goal

To become a competent unified communications systems administrator.

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Our goal in presenting this course is to equip student to administer a Cisco Unity or Personal Assistant system in as self-sufficient a manner as possible. Cisco and its partners are very willing to provide whatever level of support is needed or desired by their customers, but we are all aware that end users respond best to service that is quick, efficient, and effective. Well-trained personnel help to meet these goals.

Course Materials

- **Documentation**
  - **On-line**
    - **Cisco Unity Field Help**
    - **System Administration Online Documentation**
  - **PDF files of all Cisco Unity Guides available on Cisco.com**
- **Student Guide**
- **Cisco Unity and Personal Assistant systems**

On-line documentation can be found in many locations and forms.

Field Help- This is found in the Cisco Unity System Administrator and can be accessed by clicking the question mark icon. It provides context-sensitive help.

Online Documentation- This is found in the Cisco Unity System Administrator and can be accessed by clicking the book icon. The documentation found here is also context sensitive and is taken directly from the *Cisco Unity System Administration Guide*.

All Cisco Unity documentation is available in PDF files on Cisco.com.

The Student Guide follows the presentation by the instructor, elaborates on key issues, includes lab activities, and meets the objectives set forth in the course material.

Having a system available close at hand for practice and experimentation is critical in learning the tasks associated with administering the system. For that reason, a running Cisco Unity and Personal Assistant system are provided for your use.

Cisco Documentation

As you proceed through the course, you may want to print a copy (or have one available electronically) to refer to of one or more of the user assistance manuals that are available on the Cisco.com website. Keep them handy as you complete the course, so that you can quickly find additional information whenever you need it. Here's a list of the manuals you should have access to:
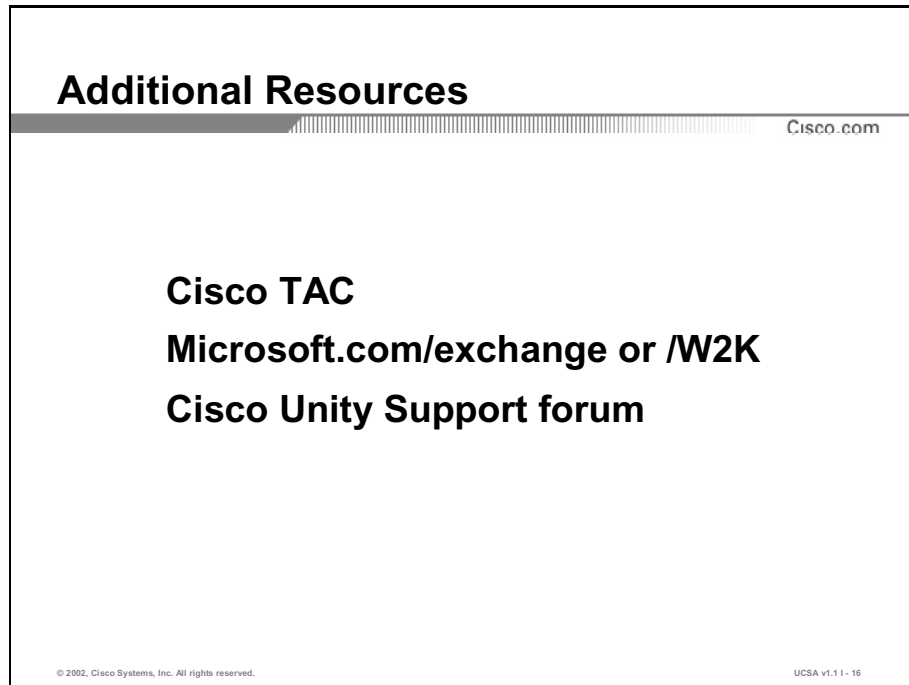
■ Cisco Unity System Management Guide

— The *Cisco Unity System Management Guide* contains information appropriate for system administrators. It gives a broad overview of tasks that must be accomplished when setting up and administering a system. It also gives procedural information, telling you how to do the things mentioned in the overview.

■ Cisco Unity User Guide

— The *Cisco Unity User Guide* contains information useful to all subscribers on a Cisco Unity system. It provides an introduction to the features available on the system and step-by-step instructions on how to use each of those features.

- Cisco Personal Assistant Administration Guide

  — The *Cisco Personal Assistant Administration Guide* provides information useful for technicians who must install a Cisco Personal Assistant system and integrate it with a Cisco CallManager IP-PBX.

- Cisco Personal Assistant User's Guide

  — The *Cisco Unity Personal Assistant User's Guide* provides information useful to end users of Personal Assistant systems. Topics include: how to use PA to make and forward calls and access voice mail; how to set up destinations for incoming calls, a Personal Address book, caller groups, and rules for incoming calls; and how to customize PA for personal use.

Additional Resources

Additional Resources

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools. For Cisco.com registered users, additional troubleshooting tools are available from the TAC website.

Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information and resources at anytime, from anywhere in the world. This highly integrated Internet application is a powerful, easy-to-use tool for doing business with Cisco. Cisco.com provides a broad range of features and services to help customers and partners streamline business processes and improve productivity. Through Cisco.com, you can find information about Cisco and our networking solutions, services, and programs. In addition, you can resolve technical issues with online technical support, download and test software packages, and order Cisco learning materials and merchandise. Valuable online skill assessment, training, and certification programs are also available.

Customers and partners can self-register on Cisco.com to obtain additional personalized information and services. Registered users can order products, check on the status of an order, access technical support, and view benefits specific to their relationships with Cisco.

To access Cisco.com, go to the following website: http://www.cisco.com

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Technical Assistance Center

The Cisco TAC website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

Contacting TAC by Using the Cisco TAC Website

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC website: http://www.cisco.com/tac

P3 and P4 level problems are defined as follows:

P3—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.

P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC website to quickly find answers to your questions.

To register for Cisco.com, go to the following website:

http://www.cisco.com/register/

If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at the following website:

http://www.cisco.com/tac/caseopen

Contacting TAC by Telephone

If you have a priority level 1(P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to the following website:

http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml

P1 and P2 level problems are defined as follows:

P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.

P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.

Unity Support Forum

The Unity Support Forum is moderated by Cisco Unity personnel The Unity Support Forum provides answers to all types of questions about Cisco Unity. The poster need not be a Cisco Unity reseller, technician or customer of Cisco to post questions. The Unity Support Forum is located at:

http://forums.cisco.com/eforum/servlet/NetProf?page=Voice_and_Video_discussion

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Summary

This section summarizes the things you have learned in this module.

Summary

Upon completing this module, you should be able to:

- **Describe the course expectations**
- **Describe the course**
- **Describe the course prerequisites**
- **Describe the overall course objectives**
- **Identify where to find additional help and information**

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Upon completion of this module you should be able to:

- Describe the course expectations

- Describe the course

- Describe the course prerequisites

- Describe the overall course objective

- Identify where to find additional help and information

Cisco Unified Communications System Administration (UCSA) v1.1

An Overview of a Cisco Unified Communications System

Module Overview

This module provides an introduction to Cisco unified communications systems. Before learning to administer Cisco Unity and Cisco Personal Assistant efficiently and effectively it is important to understand the environment they inhabit and operate within. Understanding how calls are routed through the systems and what can be done with them as they are routed will be crucial to your ability to administer Cisco's unified communications system.

Upon completing this module, you will be able to:

- Describe how calls are routed between Cisco servers and telephone switching equipment

- Describe the flow of information between Cisco servers and telephone switching equipment

- Describe the features available in Cisco Unity 4

- Describe the features available in Cisco Personal Assistant 1.3

Outline

The module contains these lessons:

- Call Flow Overview

- Unified Communications Integration

- Cisco Unity Features

- Cisco Personal Assistant Features

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Call Flow Overview

Lesson Overview

This is a high-level conceptual view of how callers are processed by Cisco Unity and Cisco Personal Assistant.

Importance

It is very important that system administrators of both Cisco Unity and Cisco Personal Assistant understand how calls will flow through the unified communications systems. Once you know how calls flow through the systems, you will be able to modify that flow or troubleshoot problems with it as necessary.

Objectives

Upon completing this lesson, you will be able to:

- Describe how an outside caller interacts with Cisco Unity

- Describe how a subscriber interacts with Cisco Unity

- Describe how an outside caller interacts with Personal Assistant

- Describe how a subscriber interacts with Personal Assistant

Learner Skills and Knowledge

To fully benefit from this lesson, you must have these prerequisite skills and knowledge:

- General knowledge of features provided by telephone switching equipment

- General knowledge of Cisco Unity features

- General knowledge of Personal Assistant features

Outline

This lesson includes these sections:

- Overview

- Cisco Unity Outside Caller Call Flow

- Cisco Unity Subscriber Call Flow

- Cisco Personal Assistant Outside Caller Call Flow

- Cisco Personal Assistant Subscriber Call Flow

- Summary

Cisco Unity Outside Caller Call Flow
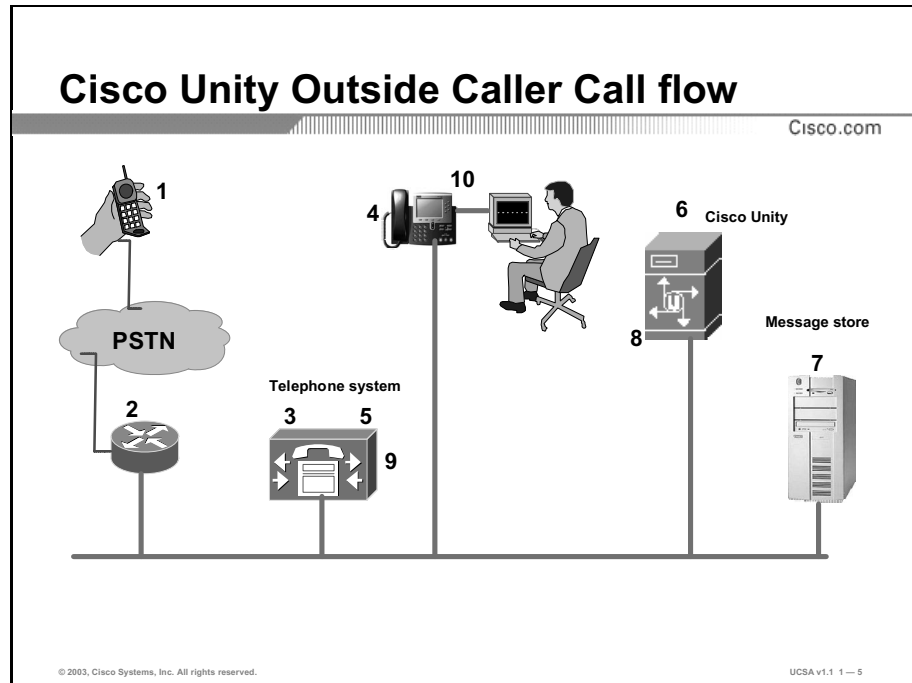
An outside caller is someone who is not identified as a Cisco Unity subscriber, generally a customer who wants to reach a person at a place of business. A Cisco Unity subscriber who calls in from a phone other than their defined office extension will also be treated as an outside caller until they sign in and identify themselves. This is an example of how a call from an outside caller might flow through the system.

Step 1   The outside caller dials a phone number from their cell phone. The phone number dialed is a Direct Inward Dial number that belongs to a Unity Subscriber.

Step 2   The Public System Telephone Network routes the caller to the office communication equipment.

Step 3   The DID number is programmed to ring a phone extension. Based on DID information provided by the PSTN, the business telephone system sends the incoming call to the telephone that it is programmed to connect that DID number to.

Step 4   The telephone rings four times but the subscriber does not answer the phone because he is busy "instant messaging" his manager.

Step 5   The telephone system has been programmed to forward any unanswered calls to voice mail after four rings. The telephone system forwards the outside caller to the voice mail system.

Step 6   Cisco Unity receives the call and the extension of the subscriber to take a message for. Cisco Unity has a list of subscriber extensions and the e-mail aliases to send messages to. Cisco Unity records a message, addresses it to the subscriber's alias and sends it to the message store server.

Step 7   The message store server receives the message and stores the message for the subscriber.

Step 8   Cisco Unity, monitoring events in the message store, notices a new voice mail message for the subscriber and sends the Message Waiting Indicator ON code to the telephone system for the subscriber's extension.

Step 9   The telephone system lights the lamp at the subscriber's telephone set.

Step 10   The telephone now displays a message-waiting indicator to alert the subscriber of a new message.

Cisco Unity Subscriber Call flow
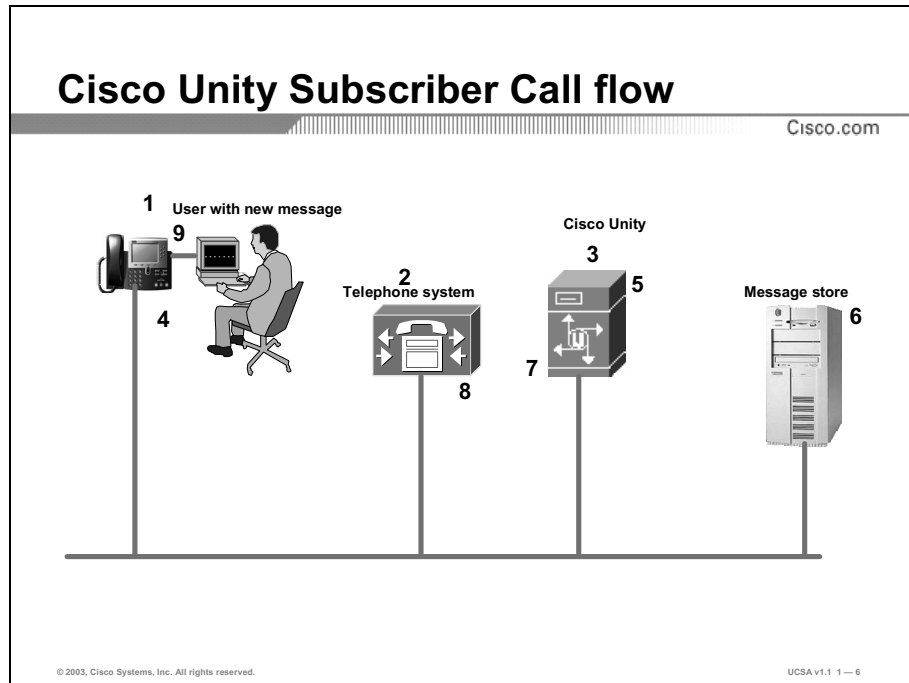
A Cisco Unity subscriber is a person who has a user account on the Cisco Unity system. Each subscriber account has a Profile page that store specific information about that subscriber such as the extension, security code, recorded name and the e-mail alias to send messages to. In this example:

Step 1   The subscriber notices the message waiting indicator on their telephone and calls the voice mail system to retrieve messages.

Step 2   The Telephone system directs the call and the caller information (the telephone extension) to the Cisco Unity system.

Step 3   Cisco Unity receives the call and the extension of the telephone from the telephone system. Cisco Unity recognizes the extension from its list of subscribers, and accesses the subscriber's e-mail message store to retrieve the voice message. Cisco Unity asks the subscriber to enter their password. After the password is entered Cisco Unity will offer to play the message for the subscriber.

Step 4   The subscriber chooses to listen to the message, Cisco Unity plays it and then offers a menu of actions to take with the message, i.e. save as new, delete, or forward. The subscriber presses the digit 3 to delete the message and hangs up the phone.

Step 5   Cisco Unity verbally confirms the message is deleted to the subscriber and sends the subscribers delete message command to the message store server. (The message will be deleted or moved to the deleted items folder based on settings in the subscriber's account.)

Step 6   The message store deletes the message.

Step 7   Cisco Unity sends the Message Waiting Indicator OFF code to the telephone system.

Step 8 The telephone system receives the Message Waiting Indicator OFF code and turns off the Message Waiting Indicator on the phone.

Step 9 The Telephone Message Waiting Indicator is off.

Cisco Personal Assistant
Outside caller Call Flow

Cisco Personal Assistant
Outside Caller Call Flow
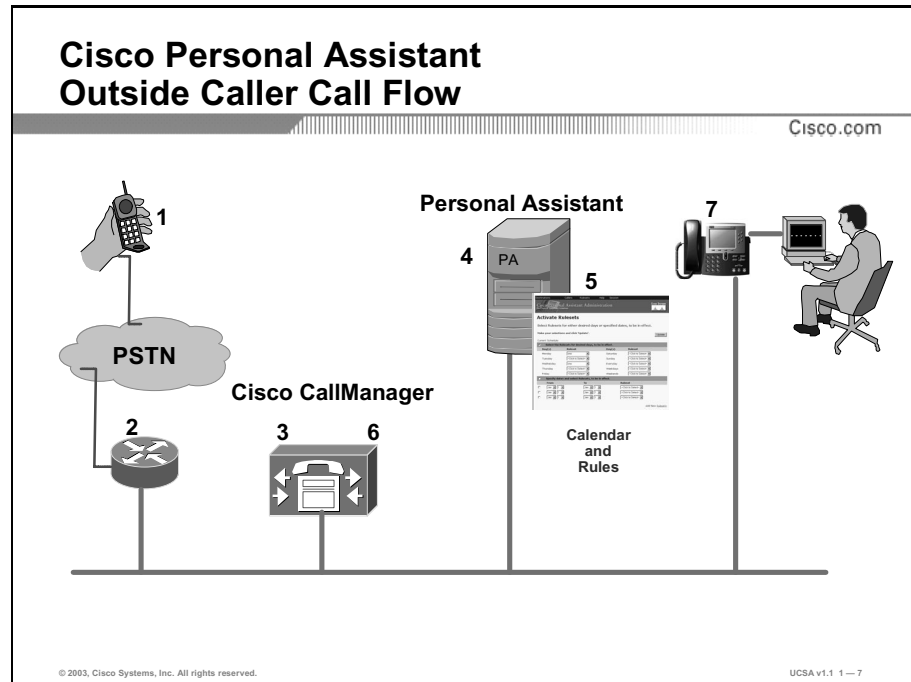
Cisco Personal Assistant is a complex, call processing system that makes connecting calls to the right telephone number at the right time easy. As callers enter the system Cisco Personal Assistant has a list of instructions on how to handle calls on a per subscriber basis. In this example:

Step 1   The outside caller dials a phone number from their cell phone. The phone number dialed is a Direct Inward Dial number that belongs to a Cisco Personal Assistant Subscriber.

Step 2   The Public System Telephone Network routes the caller to the office communication equipment. Cisco Personal Assistant only integrates with Cisco CallManager.

Step 3   Cisco CallManager has been set up to route the DID call to Cisco Personal Assistant's media ports.

Step 4   Cisco Personal Assistant receives the call and the DID information.

Step 5   Cisco Personal Assistant checks the subscriber's transfer rules and the current date and time so it can correctly process the call based on previous instructions the subscriber has given Cisco Personal Assistant. At that time the rules indicate the subscriber wants all calls sent to the desk phone.

Step 6   Cisco Personal Assistant sends an initiate transfer sequence to the Cisco CallManager along with what extension to transfer to.

Step 7   The subscriber receives the call at their desk.

Cisco Personal Assistant Subscriber Call Flow
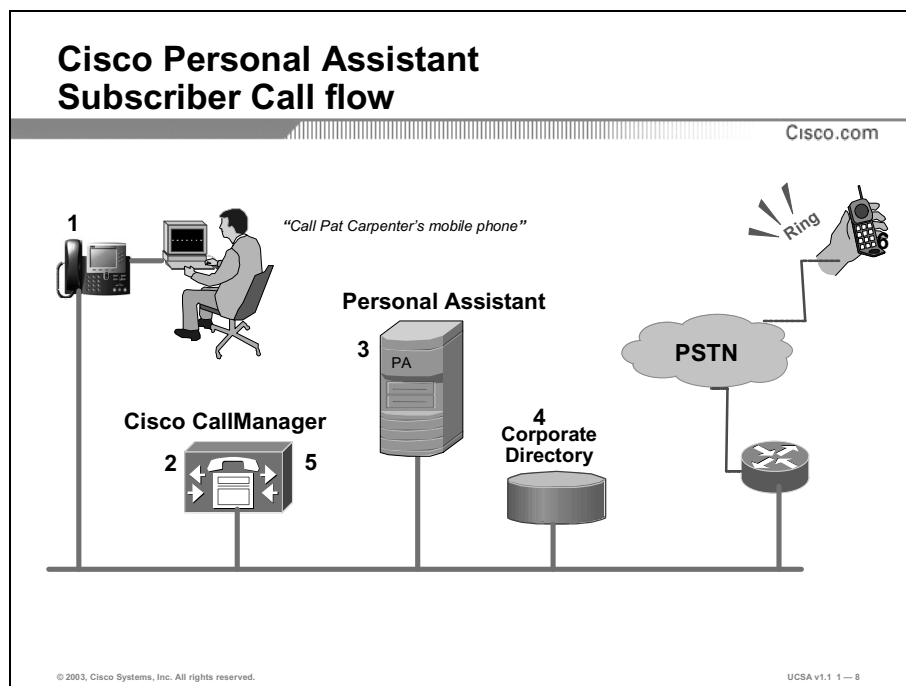
A subscriber to Personal Assistant has an account with various components that the subscriber uses to control when and where their incoming calls are sent. It also allows a subscriber to use Speech Recognition and the Corporate Directory (or Personal address book) or have Personal Assistant dial a telephone number for the subscriber by just saying the name of the user. In this example:

Step 1 The subscriber wants to call Pat Carpenter on Pat's mobile number. The subscriber picks up the handset and dials the extension of Cisco Personal Assistant.

Step 2 Cisco CallManager makes the connection between the subscriber's phone and an available Media Port on Cisco Personal Assistant.

Step 3 The Personal Assistant requires the subscriber to logon, then Cisco Personal Assistant asks the subscriber would they want to do. In response to this question, the subscriber says "*Call Pat Carpenter's mobile phone*"

Step 4 Cisco Personal Assistant performs the speech recognition and looks for a "match" in the corporate directory, where it finds an entry for Pat's mobile phone. Cisco Personal Assistant then sends the transfer initiate sequence to Cisco CallManager and the telephone number to be connected to.

Step 5 Cisco CallManager receives the request and the phone number and connection to the appropriate office communications equipment and sends Pat's mobile number to the PSTN.

Step 6 Pat Carpenter's mobile phone rings, Pat answers the phone and all is well.

Summary

Next Steps

After completing this lesson, go to:

■ Unified Communications Integrations

References

For additional information, refer to these resources:

■ *Cisco Unity System Administration Guide*

■ *Cisco Personal Assistant Administration Guide*

Unified Communications Integrations

Lesson Overview

This lesson describes what a Cisco Unity integration is, what the features of a Cisco Unity integration are and what the basic Cisco Unity integration methods are. This lesson also describes a Cisco Personal Assistant/CallManager integration.

Importance

It is very important that system administrators of both Cisco Unity and Cisco Personal Assistant understand how servers the unified communications systems exchange information with telephone switching equipment. Once you know how calls flow through the systems and the information that is being passed, you will be able to troubleshoot problems with it as necessary.

Objectives

Upon completing this lesson, the learner will be able to:

■ Describe what a communications integration is

■ Describe what features constitute Cisco Unity integration.

■ Describe the different methods of integrating Cisco Unity to a telephone system.

■ Describe the integration of Cisco Personal Assistant and Cisco CallManager.

Learner Skills and Knowledge

To fully benefit from this lesson, you must have these prerequisite skills and knowledge:

■ General knowledge of features provided by telephone switching equipment

■ General knowledge of Cisco Unity features

■ General knowledge of Personal Assistant features

Outline

This lesson includes these sections:

■ Overview

■ Communications Integration Description

■ Attributes of an Integration

■ Available Telephone Switch Integrations

■ Supported Telephone Systems

■ Cisco CallManager and Cisco Personal Assistant Integration

■ Summary

Communications Integration Description

Information Sent Between the Phone System and Cisco Unity

3. After the caller leaves you a message Cisco Unity sends the Lamp On code to the phone system

4. You see the lit lamp and call to check messages

2. Data about who to take message for

4. Data about who is calling

2. The telephone system forwards the call to your voice mail box by sending data about the call

PBX

3. Data about whose lamp to turn on

Cisco Unity

1. A subscriber calls you at your desk, but you are on the phone

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A communications integration means that the phone system and the voice messaging system send information to each other in a predetermined format. In a business office, when a telephone is added to the phone system, the telephone technician needs to enter specific information for that new phone. They enter the extension people will dial to reach this phone, what numbers can be dialed by a user at that extension, where callers should be forwarded to when that extension is busy or does not answer, and much more information than we need to cover here. This information is used by the phone system so when you call a person, their phone rings and they can answer the call. This information is also used by the voice messaging system. When you are on the phone and someone calls you, the phone system sends the call to the forwarding destination; in this case it is the voice messaging system. When the phone system sends the call to the voice messaging system, it also sends information about who called and why the call is being forwarded. When the voice messaging system gets the call and the information, it can react to the call in the correct way. In this way when someone calls you at your desk they are routed either to you or your voice mail message and the opportunity to leave you a message. After they leave you a message, the voice messaging system sends information to the phone system telling it to light the lamp on your desk phone.

Attributes of An Integration

Attributes of an Integration

Cisco.com

- **Call Forward to Personal Greeting**
- **Easy Message Access**
- **Message Waiting Indication**

Call Forward to Personal Greeting

Easy Message Access

PBX   Message Waiting Indication

Cisco Unity

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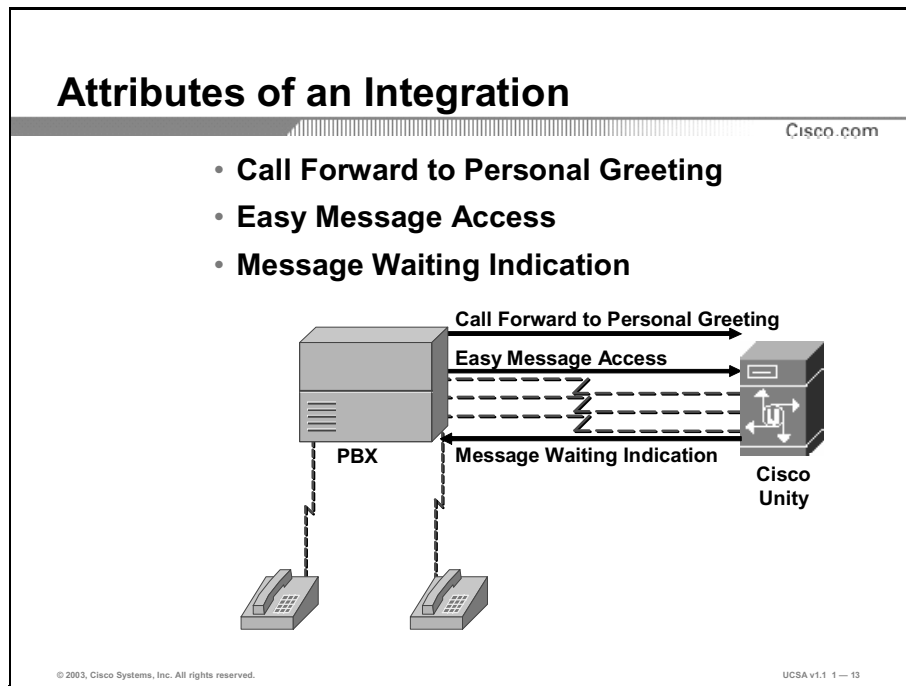
A Cisco Unity voice processing system connects to a telephone switch, also known as a PBX or private branch exchange, to provide automated attendant, audiotext, and voice mail service to subscribers. The way in which the systems cooperate and share information determines the level of service subscribers receive. A telephone system must provide the three following telephone system features for Cisco Unity to qualify the phone system as an integration, the features are:

Automatic Call Forward to Personal Greeting - Any incoming calls that are routed to an unanswered or busy extension are automatically forwarded to the subscriber's mailbox in the voice mail system so callers can leave a message. This corresponds to arrow #2 in the previous slide.

Easy Message Access - The voice processing system recognizes subscribers when they dial in, saving them from having to enter their personal ID. With this feature, subscribers should set a password on their voice mailbox. This corresponds to arrow #4 in the previous slide.

Message-Waiting Indicators (MWI) - Message-waiting indicators alert end users that they have a new message in their voice mailbox. Indicators can be a light on the phone (blinking or steadily lit), a word on the LCD panel of a phone, a message-waiting ring on the phone, or a stutter dial tone. This corresponds to arrow #3 in the previous slide.

More information regarding the integration between a telephone system and the Cisco Unity system is shared in the Unified Communications System Engineer course. For now, you should know the names of the integrations and know that the integration you use depends on the phone system you have.

Telephone system integrations

Telephone Switch Integrations

- **Cisco CallManager (v3.0, v3.1, 3.2, or 3.3)**
- **In-Band Dual-Tone Multi-Frequency (DTMF)**
- **SMDI**
- **PBXLink**
- **SIP**

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The information shared between the telephone system and Cisco Unity is the common information we discussed earlier. The type of integration the telephone system supports determines how the information is sent back and forth. The five integration types are: Cisco CallManager IP, DTMF, SMDI, PBXLink, and SIP. More detail about how each integration functions will be covered in the Unified Communications System Engineer course.

Supported Telephone Systems

Supported Telephone Systems

•**Alcatel 4400**	**(DTMF)**
•**Avaya Definity G3**	**(DTMF)**
•**Avaya Definity Gx**	**(PBXLink)**
•**Avaya Definity ProLogix**	**(DTMF)**
•**Cisco CallManager 3.0, 3.1, 3.2, 3.3**	**(IP)**
•**Cisco SIP Proxy Server**	**(SIP)**
•**Centrex**	**(SMDI)**
•**Ericsson MD-110**	**(SMDI)**
•**Intecom E14 Millenium**	**(SMDI)**
•**Matra 6500**	**(DTMF)**
•**Mitel SX-200, SX-2000**	**(DTMF) ONS**
•**NEC NEAX 2000, 2400**	**(SMDI) MCI**
•**Nortel Meridian 1**	**(PBXLink)**
•**Siemens 9751 9006i**	**(DTMF)**
•**Siemens Hicom 300**	**(DTMF)**

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This is a list of the telephone systems that have been qualified to integrate with Cisco Unity 4.0:

■ Alcatel 4400 (DTMF)

■ Avaya Definity G3 (DTMF)

■ Avaya Definity Gx (PBXLink)

■ Avaya Definity ProLogix (DTMF)

■ Cisco CallManager 3.0,3.1,3.2,3.3 (IP)

■ Cisco SIP Proxy Server (SIP)

■ Centrex (SMDI)

■ Ericsson MD-110 (SMDI)

■ Intecom E14 Millenium (SMDI)

■ Matra 6500 (DTMF)

■ Mitel SX-200,SX-2000 (DTMF) ONS

- NEC NEAX 2000, 2400   (SMDI) MCI

- Nortel Meridian 1   (PBXLink)

- Siemens 9751 9006i   (DTMF)

- Siemens Hicom 300   (DTMF)

Cisco Call Manager and Cisco Personal Assistant Integration
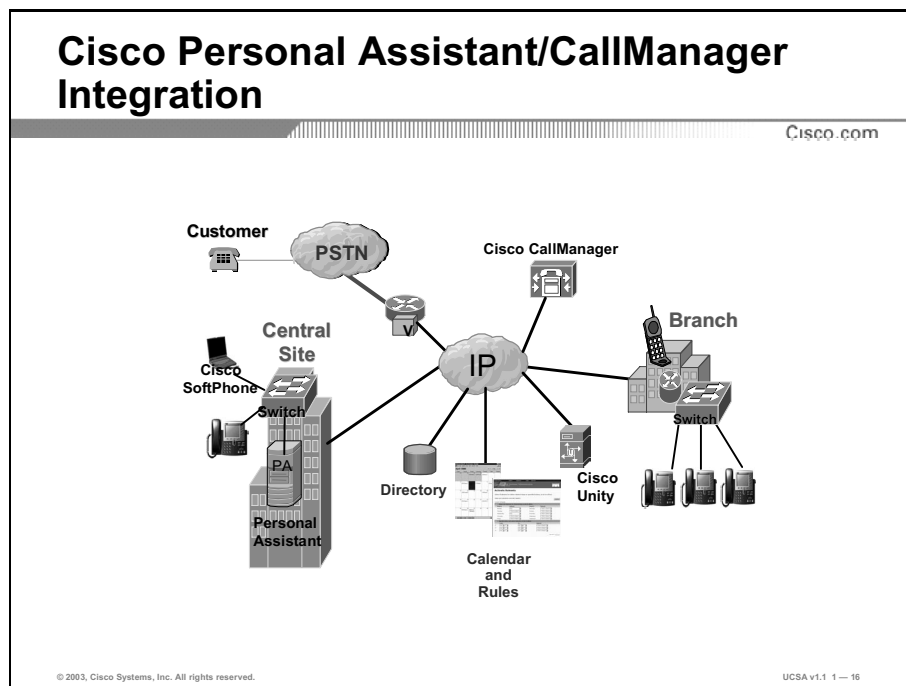
Cisco Personal Assistant integrates with Cisco CallManager via Media points. Cisco CallManager passes calls to Cisco Personal Assistant through the use of CTI route points. These are structures that must be built at the CCM console.

Cisco Personal Assistant will then perform a look up for the user from the corporate directory. The directory must be Lightweight Directory Access Protocol (LDAP)-compliant (Exchange 2000 Active Directory or Exchange 5.5 Directory Service).

If the user has routing rules, or call forwarding configured, Cisco Personal Assistant then routes the caller to the appropriate destination through Cisco CallManager.

The destination of the routed call could be a mobile phone, home phone, or any other phone that can be dialed from the Cisco CallManager.

Summary

Next Steps

After completing this lesson, go to:

■   Cisco Unity Features

References

For additional information, refer to these resources:

■   Various *Cisco Unity Telephone Switch Integration Guides*

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Cisco Unity Features

Lesson Overview

This lesson provides an overview of the features of a Cisco Unity system.

Importance

Cisco Unity administrators must know what the system features are so that they can implement as much of the system's capacity as is required and possible. It is also important to know the difference between the standard and optional features so that the correct licensing can be purchased to implement optional features at the level required by corporate messaging needs.

Objectives

Upon completing this lesson, you will be able to:

- Describe what features are available on every Cisco Unity features

- Describe the new Cisco Unity 4.0 features

- Describe the optional features that can be added to Cisco Unity

Learner Skills and Knowledge

To fully benefit from this lesson, you must have these prerequisite skills and knowledge:

- General knowledge of Cisco Unity product

Outline

This lesson includes these sections:

- Overview

- Cisco Unity Standard Features

- Cisco Unity Optional Features

- Summary

Cisco Unity Standard Features

Cisco Unity Standard Features

Voice Mail

Automated Attendant

Audiotext Application

System Administrator

Cisco Personal Communications Assistant *

* = New 4.0 Feature

Voice Mail

Voice mail allows outside callers and internal users (called subscribers) to leave detailed, private messages 24 hours a day, seven days a week. The recorded message is left in the caller's own voice with no intermediary, which eliminates misunderstood and inaccurate written messages and captures the tone of the caller's voice. Subscribers gain access and listen to their messages from any touchtone phone.

Research has shown that only one third of all business calls achieve direct contact, yet 40 percent of all messages are "one way" messages that don't require a dialog. Voice mail saves time by allowing a person to leave a message immediately, even if the person he or she is trying to reach is away or on the telephone. Voice mail allows a company to better manage its communications and its employees' time.

Automated Attendant

Cisco Unity's automated attendant greets your customers professionally and courteously, leaving them with a positive impression about your organization. By guiding callers through the system in a friendly and timely fashion, Cisco Unity's automated attendant makes the messaging process as effortless as possible. Cisco Unity always gives the caller the option to press a touchtone at any time during the voice mail conversation to speak to an operator.

If the system is using the automated attendant feature and the caller enters a subscriber's extension number, the extension rings. If the subscriber picks up the handset, the call is connected. If there is no answer or if the extension is busy, the call is routed to the subscriber's voice mailbox.

If a caller doesn't know the extension, he or she may be able to search the directory of subscribers. If one match is found, the system connects the caller directly to the extension. If more than one match is found, the caller can choose the appropriate extension.

Audiotext Application

Opening Greeting
"Hello, thank you for calling your company... you may enter the extension of the person ...or
- for a Dir. of Employees, press 1...,
- for job listings, press 2....,
- For the home work hot line and community announcements and, press 3....,
- for the Operator, press 0"
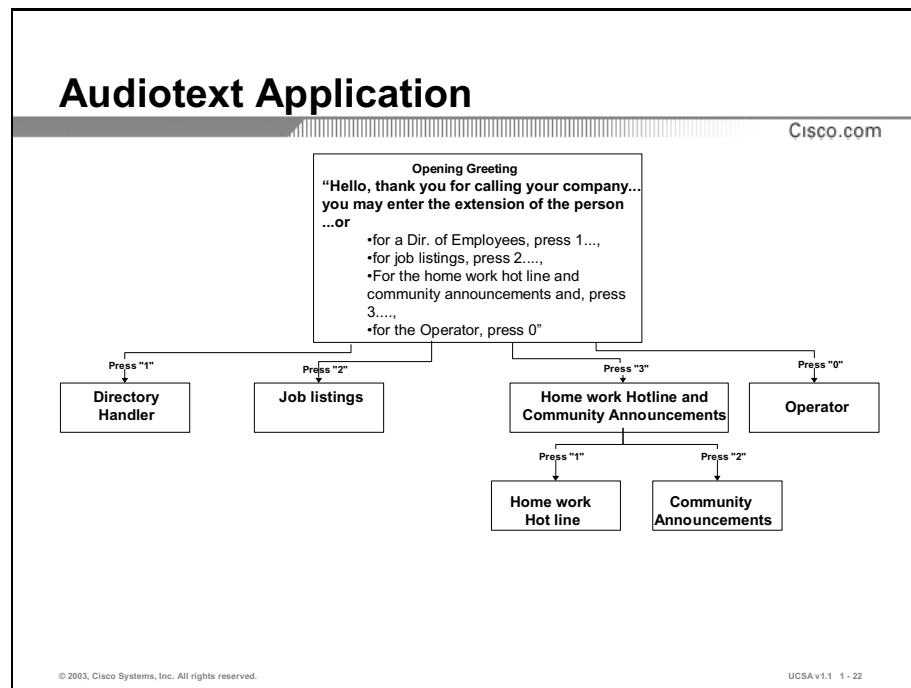
Audiotext Application

Call handlers are the building blocks of the Cisco Unity system. A call handler is a set of call processing instructions that tells the system what to do when a call reaches that particular system ID. All of the entities on a Cisco Unity system, whether they are subscribers, the operator, opening greeting, or some other user-defined box, are call handlers. Some of them are special cases, so they look different than a standard call handler, but they are call handlers just the same.

You can use call handlers to set up specialized call routing, create one key dialing menus, or provide announcements of prerecorded information. Your call handlers can be as simple or as complex as you wish. One of the simplest applications is the delivery of prerecorded information (called an audiotext application).

When you use the automated attendant to answer incoming calls, you're really making use of a call handler. The Opening box, where callers first dial in, can be very simple, or it can take advantage of some powerful features, such as *one-key dialing*.

With one-key dialing, you can provide a menu of choices for incoming calls. Callers press one touchtone to route their call to the department or service they want. In the background, the one-key dialing menu routes the call to a system ID, whether it is to another menu, an extension, or any other system ID. One-key dialing is a shortcut to any listed system ID.

Here's an example of an opening greeting call handler that uses one-key dialing to offer a menu of choices:

"Thank you for calling your company, you may enter the extension of the person you are trying to reach at any time. For a directory of employees, press 1; for job listings, press 2; for the Homework Hotline and Community Announcements, press 3; and for the Operator, press 0 or stay on the line and someone will be with you momentarily."

In this example, pressing the touchtone 1 would route the caller to the "spell by name" Cisco Unity directory. Pressing the touchtone 2 routes the caller to a call handler that is setup to play a list of Job opportunities. Pressing the touchtone 3 routes the caller to a call handler that is setup to offer a second layer of menu choices. In this example, there are 2 choices in that call handler. So when someone wants to check the homework hotline then they press the touchtone 3 while the opening greeting is playing and then in the next call handler they will hear the second menu of choices and be able to press the indicated touchtone that routes them to the homework hotline list.
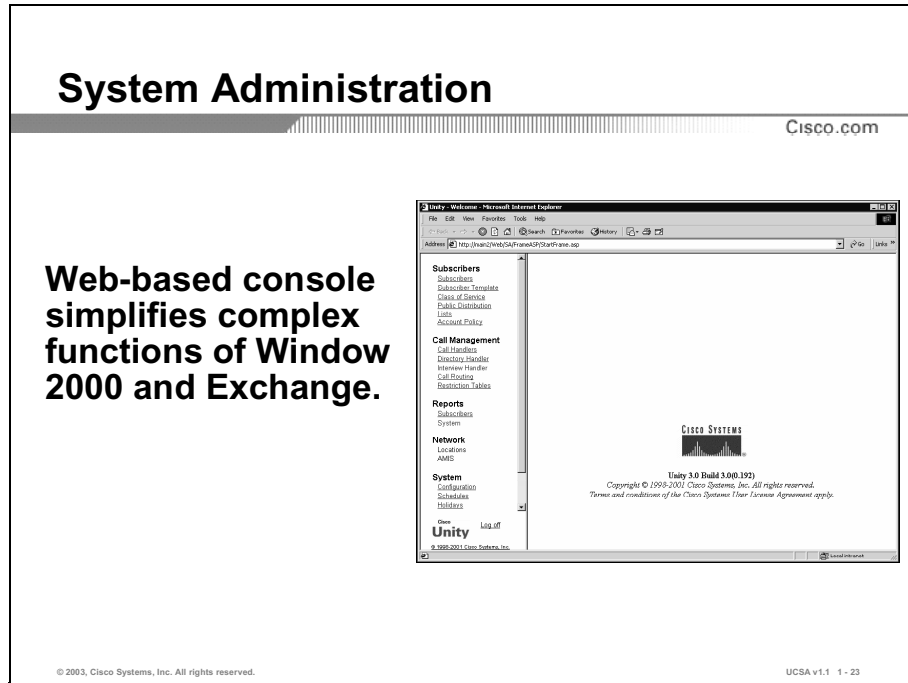
System Administration

The Cisco Unity System Administrator provides a single point of administration. The Cisco Unity System administrator is designed to be easy to use and simplifies the complex functions of Windows 2000 and Exchange. It is an HTML interface using Microsoft's Internet Information Server (IIS) to serve up Active Server Pages (ASP). ASPs are dynamic HTML structures. Normally, the code that causes a web page to display is static; that is, the page has one set of contents. In Cisco Unity, many of the screens can hold a wide variety of data. For instance, the Subscriber pages can hold data on any of the subscribers (up to 7,500 on the largest servers) on the system.

Cisco Personal Communications Assistant—Unity Inbox

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Cisco Personal Communications Assistant (CPCA)

CPCA is a feature that is enabled or disabled by modifying the Class Of Service (COS) of a subscriber. This is a browser interface that has two components, one of the components is the Cisco Unity Inbox. This interface is a web browser interface that allows a Cisco Unity subscriber to collect and send voice mail messages without using the telephone. This is a web session that is accessed with Internet Explorer. Cisco Unity can be configured to send a Simple Message Transfer Protocol (SMTP) type of notification to an Email alias with an attached link to access the Cisco Unity PCA Inbox.

Cisco Personal Communications Assistant—Unity Assistant

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- **Easy to use**
- **Leverages what users already know**
- **Leverages the power of the desktop client**
- **Subscribers can also make changes through the telephone**

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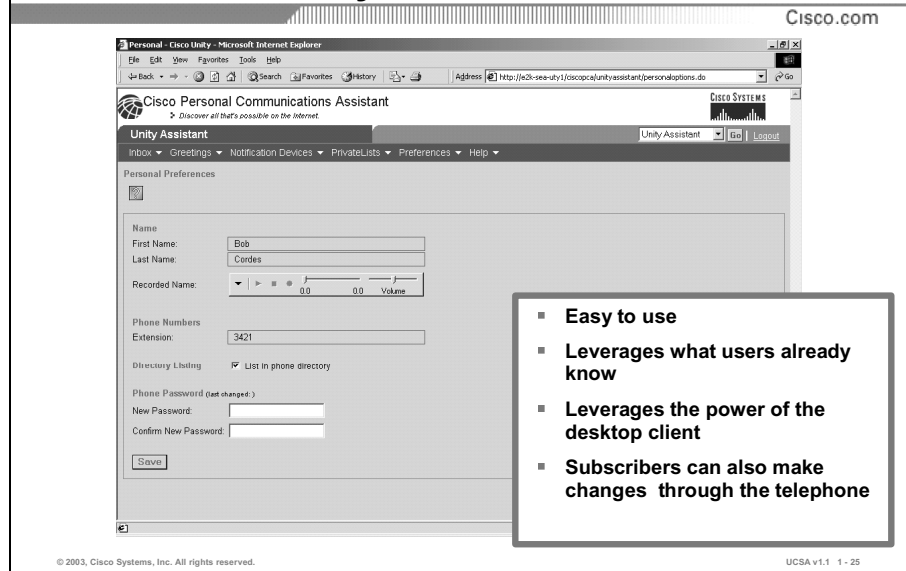
Cisco Unity Assistant

The Cisco Unity Assistant (CUA) is the second component of CPCA. Most voice mail systems allow users to change the settings of the their voice mail account via a conversation available only over the telephone. Cisco Unity offers a fully functional telephone conversation for all users. In addition, Cisco Unity also offers Cisco Unity Assistant. A subscriber can do most of the day-to-day maintenance of their account via a web browser. You enable a subscriber to use CUA by modifying their Class of Service on the Licensed Features page. Once enabled, a subscriber can record their own greetings either over the telephone or using a microphone on a multimedia PC, change their call transfer and screening options, change a wide variety of message settings concerning notification, playback and addressing, and change a variety of personal settings including their recorded name, telephone password, and directory listing. The ability to change some of these settings is dependent on settings that can be made on a number of Cisco Unity administration pages.

RSA enhanced security

Cisco Unity Greeting Administration *

FlexLM software security *

Live Reply *

* = New 4.0 Feature

RSA security or Enhanced Phone Security

You can set up Cisco Unity subscriber accounts to use a secure logon method known as two-factor user authentication. Cisco Unity works with the RSA SecurID system to provide this method of enhanced phone security. The RSA SecurID system is made up of three major components: RSA SecurID authenticators, the RSA ACE/Server, and the RSA ACE/Agent. With the RSA SecurID system, each authorized Cisco Unity subscriber is assigned an RSA SecurID authenticator. Every 60 seconds, the authenticator generates and displays a new, unpredictable number—known as a secure ID or token code—that is unique to the subscriber. RSA offers authenticators as hardware, software, and smart cards. Each Cisco Unity subscriber who has an authenticator must have a user account on the ACE/Server. You use the RSA Database Administrator program on the ACE/Server to create and maintain the user accounts. A user account contains the RSA alias and PIN, and information about the user authenticator. By using the information in a user account, the ACE/Server generates the same secure ID as the user authenticator. In the Cisco Unity Administrator, you assign subscribers to a class of service for which enhanced phone security is enabled. By default, Cisco Unity uses a subscriber Exchange alias as the subscriber RSA alias. When logging on to Cisco Unity over the phone, subscribers enter an ID as usual. Then, instead of a password, subscribers enter a passcode, which is a number that combines the subscriber PIN and the secure ID displayed on the subscriber authenticator. Cisco Unity uses the ID to look up the user RSA alias and sends the RSA alias and passcode to the ACE/Agent installed on the Cisco Unity server. The ACE/Agent encrypts the RSA alias and passcode and sends it to the ACE/Server. The ACE/Server looks up the user account, then validates the passcode by using the information stored in the account. The ACE/Server returns a code to the ACE/Agent, which in turn passes it along to Cisco Unity.

Cisco Unity Greeting Administration

Cisco Unity Greeting Administration (CUGA) is a new feature in Cisco Unity 4.0. It allows any subscriber who is the owner of a call handler or who is a member of a Distribution list specified as the owner of the call handler to rerecord that call handler greeting over the phone (without using the System Administration console). This is done with a new conversation component, called the Greetings Administrator The Cisco Unity system administrator sets up a way for subscribers to access the Greetings Administrator conversation. The administrator must define how secure they want to make Greetings Administration access. This can be done with a simple 1-key dialing entry from any call handler greeting or a call routing rule configured to use Dialed Number Identification Service (DNIS) The owner of the call handler needs the following information to use the Cisco Unity Greetings Administrator:

■ The phone number or call handler caller input to dial for access to the Cisco Unity Greetings Administrator.

■ The ID of the call handler owner.

■ The password of the call handler owner.

■ The extension of the call handler.

Once a subscriber has this information they can access the Greetings Administration conversation. This is a simple conversation that allows a caller to use touch tones to control greetings and the handset of the phone to record and play back the greetings.

Flex LM

Flex LM is the version of license control used in Cisco Unity 4.0. Prior to version 4.0 the licensing was controlled by a security dongle that was attached to the server either via a parallel or Universal Serial Bus (USB) port. Cisco Unity now uses a software file licensing method that removes the need for the external device. When you purchase Cisco Unity the software license is the control component that will insure you have all the features and capacity you paid for while controlling your ability to make duplicate copies of Cisco Unity. Each Cisco Unity requires a separate and unique license file. The file is obtained from Cisco and added to the Cisco Unity system as part of the install process. It may be changed at any time as part of an update/upgrade process.

Live Reply

Live Reply is a new feature in Cisco Unity 4.0 that allows a user to be immediately transferred to the subscriber that left the message they are listening to. Live Reply is a Class of Service controlled feature. When it is enabled, subscribers listening to messages by phone can act on a subscriber message by pressing 4-4 to have Cisco Unity call the subscriber immediately. Cisco Unity dials the extension of the subscriber who left the message only when:

■ The subscriber who left the message is homed on the same Cisco Unity server as the subscriber attempting to reply.

■ The Transfer Incoming Calls to Subscriber's Phone setting for the subscriber who left the message is set to ring an extension or another number. (The Transfer Incoming Calls to Subscriber's Phone field is on the Subscribers > Subscribers > Call Transfer page in the Cisco Unity Administrator.)

Cisco Unity 4.0 Standard Features (cont.)

Cisco.com

Flex Stack *

12 and 24 hour clock support *

Cisco Unity Server Preparation Assistant (CUSPA) *

Cisco Unity Installation and Configuration Assistant (CUICA) *

* = New 4.0 Feature

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Flex Stack

Flex Stack is a new feature that allows subscribers using the telephone user interface (TUI) to have their messages played back to them according to message type and order the messages where recorded in. This feature can be set at a per user level, so each subscriber can choose what order they want their messages played back to them during the TUI message playback session. The Cisco Unity system administrator can set this up for each user or based on Class of Service subscribers can set the Flex Stack order themselves with CPCA.

12-24 hour clock support

Based on the needs of a given subscriber in a given application, the Cisco Unity system administrator can set the subscriber account up to use a twelve hour AM/PM time format or a twenty four hour "military" time format. Cisco Unity would use that time format when a subscriber using the TUI is checking messages and Cisco Unity states when a message was left or when the subscriber is setting up a message delivery schedule.

Cisco Unity Server Preparation Assistant (CUSPA)

The Cisco Unity Server Preparation Assistant is a new Cisco Unity 4.0 tool developed to help simplify the process of making a server ready for Cisco Unity software installation. CUSPA checks the server for all Windows components and applications needed by Cisco Unity and provides semi-automated installation for whatever is missing.

Cisco Unity Installation and Configuration Assistant (CUICA)

The Cisco Unity Installation and Configuration Assistant is a launch pad for the various wizards that must be run to complete Cisco Unity software installation and configuration. These wizards currently include: Cisco Unity Permissions Wizard, Cisco Unity Setup Program, Cisco Unity Install License File Wizard, Cisco Unity Service Configuration Wizard, Cisco Unity Message Store Configuration Wizard, and the Unity Telephony Integration Manager. The CUICA interface enforces dependencies by guiding the installer through the wizards in this order. The interface also provides the installer with updated status as each wizard is successfully completed.

DVD Installation

Cisco Unity needs 10 CDs for all its software. The software can be shipped either on 1 DVD or 10 CD-ROMs. Because the computer industry is moving toward making DVD drives the standard on all PC platforms, Cisco Systems Inc. offers the option to its customers to take advantage of the computer resources available. When presented with the choice to insert one DVD or put in the disk labeled CD1 and then insert the discs labeled CD2 thru CD 10 as needed, the simpler, streamlined method seems destined to be the favorite. CD sets of Cisco Unity will still be available to accommodate those servers that do not have a DVD drive installed.

Multiple Directory Handlers

Cisco Unity 4.0 has one default Directory handler. Subscribers are listed in it as long as a subscriber's profile has the following three components:

- A correctly spelled text name

- The recorded name of the subscriber

- The List in Phone Directory box checked

All subscribers meeting those requirements will be listed in the default Directory handler. Prior to Cisco Unity 4.0 there was only one spell by name Directory handler available. In Cisco Unity 4.0 you can build as many Directory handlers as you need. You can choose the subscribers that will be available in each Directory handler based on local Unity server, Location, Class of Service membership, Distribution List membership, or Dialing Domain membership. This would allow an administrator to provide segmented directories for

departments, branch offices, outside sales people or whatever other classification makes sense in a particular corporate setting.

Session Initiation Protocol SIP

SIP is the Internet Engineering Task Force's (IETF) standard for multimedia calls over IP. SIP is a peer-to-peer, ASCII-based protocol that uses requests and responses to establish, maintain, and terminate calls (or sessions) between two or more end points. Cisco Unity accepts calls from a proxy server and direct invites from a SIP-enabled end point (for example, a SIP IP phone). Cisco Unity relies on a proxy server or call agent to authenticate calls. SIP uses a request/response method to establish communications between various components in the network and to ultimately establish a conference(call or session) between two or more endpoints. A single call may involve several clients and servers. Users in a SIP network are identified by a unique phone or extension number.

A unique SIP address, which is similar to an e-mail address and uses the format sip:<userID>@<domain>. The user ID can be either a user name or an E.164 address. When a user initiates a call, a SIP request typically goes to a SIP server (either a proxy server or a redirect server). The request includes the caller's address (From) and the address of the called party (To).

Additional EMEA Voice Board Support

Cisco Unity supports 2 new voice boards; the D/120JCT-LS and D/120JCT-Euro revision 2 cards and theD/41JCT-LS and D/41JCT-Euro cards.

To make Cisco Unity 4.0 integrate with more European circuit-switched telephone systems, these new voice boards have been added to the list of supported voice boards. Different voice boards are necessary because varying voltages and wiring patterns are used in different parts of the world. The *Cisco Unity Installation Guide* provides an appendix on voice boards that gives technical and setup information.

Digital Networking

In Cisco Unity, networking is the general term for messaging between a Cisco Unity server and other messaging systems. There are several forms of networking, all dependent on the kind of servers involved as targets for messages. Digital networking is available as a standard feature; all other forms are optional. If an organization has multiple Cisco Unity servers and they all have access to the same global directory, then digital networking allows messages to pass between servers easily. If these servers are attached to a networked telephone switch, then it would be possible for outside callers to search the directory of any Cisco Unity server they call in to, select a subscriber on any other Unity server and be transferred to that person directly.

Cisco Unity Optional Features

Cisco Unity Optional Features

Unified Messaging

    View Mail for Outlook

    View Mail for Notes

Integrated Faxing - integrate with popular 3rd party fax servers (Exchange only)

Text to Speech

Localized versions

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Unified Messaging

Cisco Unity delivers unified messaging via ViewMail for Outlook (VMO) and ViewMail for Notes (VMN), This allows better access to, and management of, all of a subscriber's messages—e-mail, voice mail, and fax. VMO integrates with the Microsoft desktop clients; Outlook 98, 2000 or Outlook XP. ViewMail for Notes is an IBM Lotus developed client software package that allows Unified messaging features on the Lotus Notes client. Cisco Unity provides an intuitive graphical user interface accessible from any networked PC. With just a click of the mouse, subscribers can access e-mail, voice mail, and fax messages, and reply to, forward, or save them in public or personal folders within Exchange/Outlook. The icons accompanying those messages make it easy to distinguish between e-mail, voice, and fax communications, saved and new messages, and the priority (normal, urgent, private) with which they were sent. Faxes can be viewed on screen and printed from any networked PC, or forwarded to any fax machine from a touchtone telephone. Subscribers can download all types of messages and work with them off line, and apply Inbox Assistant rules to streamline communications management. Cisco Unity unites traditionally disparate communications methods so employees can work more efficiently.

Integrated Faxing

Integrated Faxing: Fax integration comes with Cisco Unity Unified Messaging. With one of the approved Fax server/software solutions Cisco Unity can be configured to call you, send a numeric page or a text page to alert you of a new fax. When you are using the TUI Cisco Unity can be configured to state how many new faxes you have and offer to send them to a fax machine telephone number you specify. The third party fax solutions that are qualified for Fax Integration with Cisco Unity are:

- Captaris RightFax Version 6 or higher

- Esker FaxGate Version 7 or higher

- FAXCOM for Exchange Version 6.19 or higher

- Fenestrae FAXination Version 4 or higher

- Interstar LighteningFax Version 5.5 or higher

- Omtool Fax Sr. Version 3 or higher

- Optus FACSys Version 4.5 or higher

- TOPCALL

Text-to-speech

Text-to-speech: Cisco Unity's text-to-speech engine reads the text portion of e-mail messages to subscribers over the telephone. This is a Class of Service option that is controlled by the System Administrator. Text-to-speech is available for up to 36 sessions based on the platform you use. Cisco Unity supports the RealSpeak engine only (The TTS3000 speech engine is no longer supported or needed). The RealSpeak engine is now available in many languages; its speech is regarded as among the best, if not the best, in the speech synthesis field.

Cisco Unity 4.0 Localized Components

Language	Prompts	SA/Status Monitor/VMO/CPCA	TTS3000	RealSpeak	Documentation
ENU (US)	ENU	ENU	ENU	ENU	ENU
ENG (UK)	ENG	ENU	ENG	ENG	ENU
ENA (AUS)	ENA	ENU	ENG	ENG	ENU
ENZ (New Zealand)	ENZ	ENU	ENG	ENG	ENU
FRA (French)	FRA	FRA	FRA	FRA	FRA
DEU (German)	DEU	DEU	DEU	DEU	DEU
JPN (Japanese)	JPN	JPN	JPN	JPN	JPN
NLD (Dutch)	NLD	ENU	NLD	NLD	ENU
NOR (NOR)	NOR	ENU	N/A	N/A	ENU
ESO (Colombian Spanish)	ESO	ENU	ESP	ESP	ENU
ESP (Euro Spanish)	ESP	ENU	ESP	ESP	ENU
Chinese Mandarin (CHS)	CHS	ENU	N/A	N/A	ENU
Taiwan Mandarin (CHT)	CHT	ENU	CHS	CHS	ENU
Italian (ITA)	ITA	ENU	N/A	N/A	ENU
Portuguese Brazilian (PTB)	PTB	ENU	ENU	ENU	ENU
Swedish (SVE)	SW	ENU	N/A	N/A	ENU
Danish (DAN)	DAN	ENU	N/A	DAN	ENU
Korean (KOR)	KOR	ENU	N/A	ENU	ENU

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Localized Versions

Cisco Unity's system architects designed it to be easily localized into whatever languages
market demand drives. It is available in English with several different prompt sets, depending
on the locale of the server. It is also available in fully localized versions for French, German
and Japanese. In a fully localized version, all prompts, administrative interfaces, text-to-Speech
engines and documentation are in the native language with prompts spoken by a native
language speaker. Partially localized versions are available in Dutch, Norwegian, two varieties
of Spanish, two varieties of Chinese, Italian, Brazilian Portuguese, Swedish, Danish and
Korean. Partially localized versions always have the prompts, recorded by a native language
speaker, and often have text-to-speech engines in the native language. The administrative
interfaces and documentation of partially localized versions are presented in English.

Networking

The main goal of networking in Cisco Unity is to deliver messages from a Cisco Unity server to a target server and from the target to a Cisco Unity server. The experience a user has is very simple; they leave a message for someone who is a subscriber on the system and it gets delivered. They do not need to know what type of server the subscriber resides on, and if it is a server other than Cisco Unity, what communications protocols and software setup are used to make that message transfer. All of that is transparent, as it should be.

AMIS Networking

Audio Messaging Interchange Specification (AMIS) is used when the target message server is another voice mail server supporting the AMISa (analog) specification. AMIS networking can be used to assist customers in migrating their legacy voice mail systems to an IP telephony solution. The industry-standard protocol provides a way for disparate voice mail systems to exchange messages. The protocol uses DTMF to address and control format, and analog voice to transfer messages. The originating system sets up the call, establishes a connection over the telephone network, and sends data frames as DTMF tones and voice data as audio to the destination system. The destination system sends response frames as DTMF tones. For each subscriber that is located on another voice mail system you will add an AMIS subscriber to Cisco Unity. These subscribers will be accessible through the Cisco Unity directory. An AMIS subscriber has similar attributes to an Exchange custom recipient. AMIS subscribers do not impact Exchange licensing counts. An AMIS subscriber's message store resides on the other voice mail system.

Voice Profile for Internet Messaging (VPIM)

Voice Profile for Internet Messaging (VPIM) networking in Cisco Unity allows different voice messaging systems to exchange voice, fax, and text messages over the Internet or any TCP/IP network. VPIM is a digital standard based on the SMTP and Multi-purpose Internet Mail Extension (MIME) protocols. Voice, text, and fax messages are transferred digitally between target servers. VPIM networking may allow organization to save long-distance charges on messages between target servers because those messages are traveling over a TCP/IP network rather than over more costly PSTN lines, as they do in AMIS networking.

Bridge Networking

Cisco Unity uses Bridge Networking to talk to remote Octel messaging systems. Cisco Unity sends VPIM messages to a Bridge server via IP and it, in turn, talks to the OctelNet nodes using Octel's analog networking protocol. The Bridge Server does this via analog lines connected to a Brooktrout TR114 4 port card installed and configured inside the Bridge server. Up to 24 analog ports can be configured per Bridge server. The messages are delivered in real time via these analog ports to the target OctelNet nodes so, 100 hours of messages takes 100 hours of port transmission time.

Summary

Cisco.com

Upon completion of this lesson, you should be able to :

- **Describe Cisco Unity standard features**
- **Describe new Cisco Unity 4.0 features**
- **Describe Cisco Unity optional features**

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Next Steps

After completing this lesson go to:

■ Cisco Personal Assistant Features

References

For additional information refer to these sources:

■ *Cisco Unity System Administration Guide*

■ *Cisco Unity 4.0 Design Guide*

■ Cisco Unity White papers

Cisco Personal Assistant Features

Lesson Overview

This lesson provides an overview of the standard and optional features of a Personal Assistant system.

Importance

Cisco Personal Assistant administrators must know what the system features are so that they can implement as much of the system's capacity as is required and possible. It is also important to know the difference between the standard and optional features so that the correct licensing can be purchased to implement optional features at the level required by corporate messaging needs

Objectives

Upon completing this lesson, you will be able to:

- Describe the standard features of a Cisco Personal Assistant

- Describe the optional features that can be added to Personal Assistant

Learner Skills and Knowledge

To fully benefit from this lesson, you must have these prerequisite skills and knowledge:

- General knowledge of Cisco Personal Assistant

Outline

This lesson includes these sections:

- Overview

- Cisco Personal Assistant Standard Features

- Cisco Personal Assistant Optional Features

- Summary

Cisco Personal Assistant Standard Features

Follow Me

The Follow Me feature is a special rule type that will immediately redirect all callers to an alternate destination (phone), over a specified period of time.

Name Dialing

Name dialing is a powerful Personal Assistant (PA) Voice Recognition tool that allows PA users to simply say who they want to be transferred to. Name Dialing can also be configured for outside callers to be able to say a person's name and be transferred to that person.

Name Synchronization

Name Synchronization allows users to synchronize their personal address book with their Exchange contact list. Just as with personal address book, the contact list may contain business associates or friends of the user not normally listed in the corporate directory. By synchronizing them, the contacts become part of the personal address book and can be then accessed by Cisco Personal Assistant for verbal dialing through speech recognition or rules-based routing.

Mail Browse

Cisco Personal Assistant also allows access to Cisco Unity through verbal commands. The user is able to access Cisco Unity, listen to, send, skip over, save, or delete messages using voice commands.

Cisco Personal Assistant User Web Administration
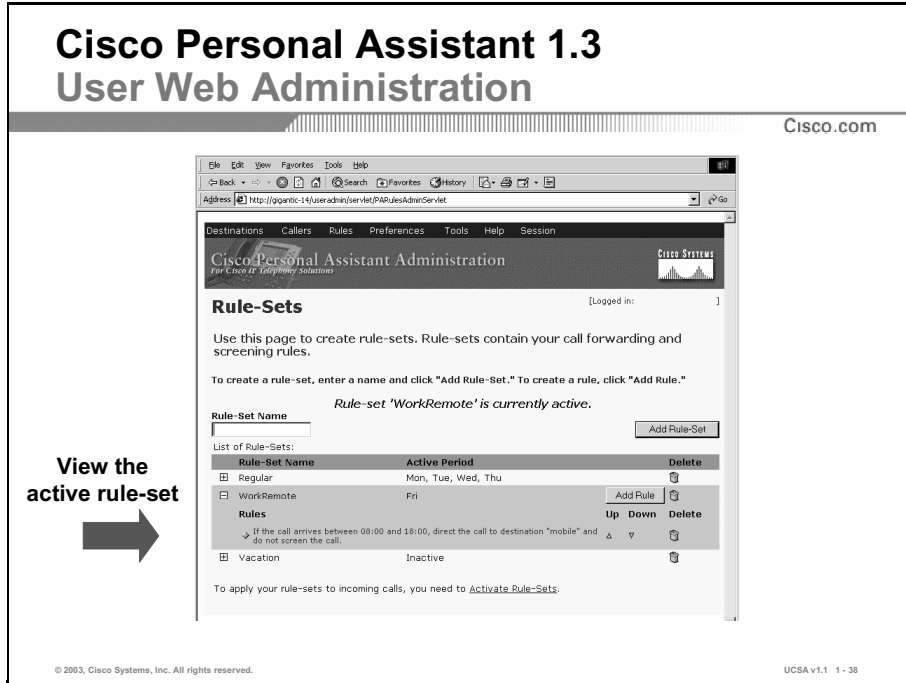
Cisco Personal Assistant Web based administration comes in two forms, one is the user interface and the other is the administrator's. A PA enabled user can:

- Create and modify destinations (phone numbers and e-mail-based paging addresses where a user wants to be reached)

- Create and modify destination groups for multiple number reach

- Create and modify callers in Cisco Personal Assistant address book

- Create and modify groups of callers

- Create and modify rules and rule sets

- Activate rule sets

- Create and modify dial rules

- Test call-forwarding rules

- Test dial rules

- Turn on/off call forwarding and screening capabilities

- Turn on/off authentication when calling from a personal destination

- Set Cisco Unity mailbox number

- Create nicknames to simplify name-dialing

- Select time zone

- Set name dialing preference for speech recognition

- Set name dialing preference for automatic additions to the personal address book

- Reset spoken name

- Select call-pickup timeout

- View name of user currently logged in.

- Select language/locale for GUI and speech recognition engine (North American English, U.K. English, French, French Canadian, or German)

Web based System Administration

PA System Administrators can use the Web administration interface to:

- Set central Cisco Personal Assistant system call-in number

- Load balance calls

- Configure Cisco Personal Assistant redundant servers

- Configure Cisco Personal Assistant to access LDAP directory

- Configure Cisco Personal Assistant to access Microsoft Exchange 5.5 and Exchange 2000

- Configure one or more languages/locales

- Provide information, warning, and error messages

- Provide system and error reporting

- Manage Cisco Personal Assistant system control center

Rules Based Routing

Cisco Personal Assistant 1.3
Call Routing Examples

If someone from my project team calls, send the call to my office phone. If I don't answer, forward the call to my mobile phone.

If my manager calls, check my calendar. If I'm not in a meeting send the call to my office phone, else send to voice mail and page me.

If my customer calls, send the call to my mobile phone.

Between 5–8pm, forward calls to my home office.

Cisco Unity Voice Messaging

Check My Calendar

IP Network

Ring

Ring

Ring

Ring

Ring

Directory

Mobile Phone

UCSA v1.1 1 - 36

The Cisco Personal Assistant Rules-Based Routing is a powerful tool that allows users to redirect calls to their phone based on certain rules. The rules can be set by a schedule (time of day, day of week, or range of dates), and/or calls from certain individuals or group of individuals. These can be redirected to: mobile phones, home phones, voice mail, or can even try more than one destination. The rules are created through the Web Administration feature by the user, and can be activated/deactivated by voice commands over the phone.

Speech Recognition

Cisco Personal Assistant 1.3
Speech Recognition Examples

Cisco.com

Dial Personal Assistant from your office, SAY "Call Mary Lane"

Dial Personal Assistant from your office, SAY "Conference John Smith" and add additional names

Dial Personal Assistant from your car, SAY "Conference Project Team"

Browse your Unity voice mail with voice commands, SAY "Retrieve messages."

Dial Personal Assistant from an alternate office, SAY "Follow Me" and all calls will forward to that number.

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The Speech Recognition feature allows callers to speak commands to Cisco Personal Assistant.

This would include dialing a person by telling Cisco Personal Assistant to "call John"; activating or deactivating a predefined Rule Set; accessing, listening to, and deleting Cisco Unity voice or e-mail messages; even sending an e-mail page to a colleague.

Cisco Personal Assistant also allows a user to work within Cisco Unity through verbal commands. The user is able to access Cisco Unity, listen to, send, skip over, save or delete messages using voice commands.

Cisco Personal Assistant Optional Features
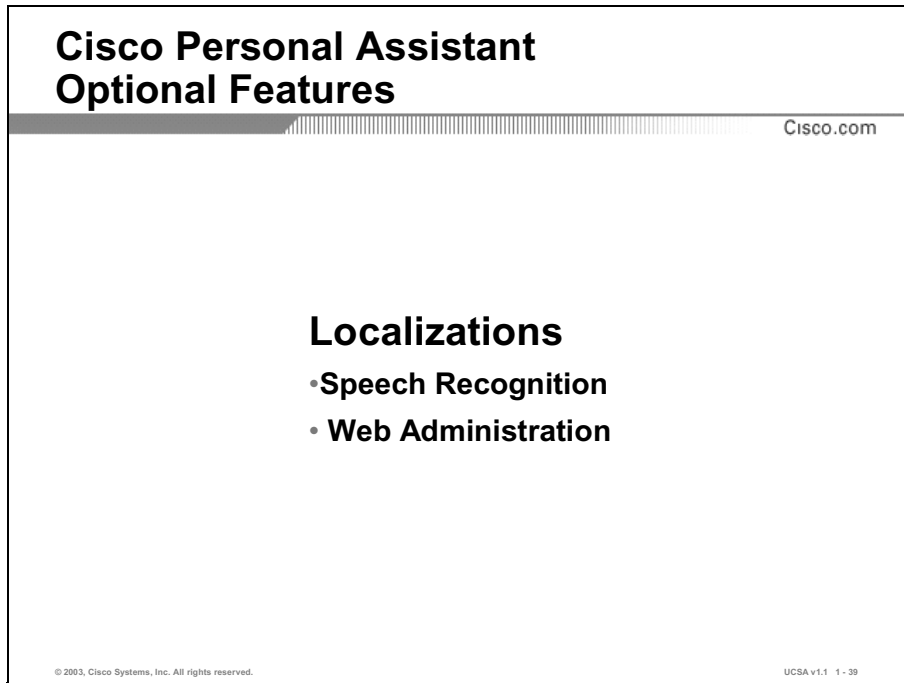
Localizations

Cisco Personal Assistant is now available in a localized format for the follow languages:

French (full)

German (full)

French Canadian (TUI & ASR only)

UK English (TUI & ASR only)

In a full localization, the telephone user interface (TUI) also known as the conversation, automatic speech recognition (ASR), and the web-based administrative interfaces are all available in the targeted language. This is the case with English, French and German. The French-Canadian and UK English localizations take care of the TUI and ASR.

IP Phone Productivity Services

Cisco Personal Assistant 1.3
IP Phone Productivity Services

Log in to any IP Phone* in CallManager cluster for access

From any desk, co-worker's office, conference room, or lobby phone

License is free with PA

*Cisco IP Phone models 7940 and 7960

UCSA v1.1 1 - 40

IP Phone Productivity Services brings the power of Cisco Personal Assistant to Cisco's 7940 and 7960 IP display phones. The CalendarView feature allows users to view their appointment calendar by day or by week. They can respond to meeting requests or change their responses. As a reminder, they can be notified of upcoming appointments by phone display or pager.

The MailView feature allows users to access their voice mail and e-mail messages in their Cisco Unity mailbox without dialing the voicemail server. They can listen to, then reply to, forward or delete their voice mail messages. They are able to read, forward, or delete their e-mail messages as well as see whether the message is read or unread.

Also available with IP Phone Productivity Services is the ability to synchronize the personal address book with the Microsoft Exchange contact list through the 7960 IP phone display. One may also activate and deactivate rulesets, or confirm a certain rule set is active.

Summary

Summary

Upon completion of this lesson, you will be able to perform the following tasks:

- **Describe Cisco Personal Assistant standard features**
- **Describe Cisco Personal Assistant optional features**

UCSA v1.1 1 - 41

Next Steps

After completing this lesson go to:

■ Using Your Cisco Unified Communications Systems

References

For additional information refer to these sources:

■ *Cisco Personal Assistant Administration Guide*

■ *Cisco Personal Assistant Installation Guide*

■ *Cisco Personal Assistant Features data sheet*

Using Your Cisco Unified Communications System

Module Overview

As an administrator of a Cisco Unity or Personal Assistant system, you will be providing services directly to end users of the system. Understanding what features are available and how those features are provided is a beginning step in providing that service. The next step is learning to use Cisco Unity and Personal Assistant in the various modes of interaction so that you will have first hand experience with the interfaces your customers will be using. Using Cisco Unity and Personal Assistant proficiently over the telephone and at the desktop will prepare you for responding quickly, accurately, and completely to end user questions and requests.

Upon completing this module, you will be able to:

- Manage a Cisco Unity subscriber account over the telephone and at the desktop

- Manage a Personal Assistant subscriber account over the telephone and at the desktop

Outline

The module contains these lessons:

- Using Cisco Unity

- Using Cisco Personal Assistant

Cisco Unified Communications System Administration (UCSA) v1.1

Using Cisco Unity

Lesson Overview

This is an overview of using and managing a Cisco Unity subscriber account.

Importance

Cisco Unity administrators must know how to use the Cisco Unity system features so that they can implement those features for the users they will be supporting. It is also crucial to understand how to use the features in order to maintain and troubleshoot the system.

Objectives

Upon completing this lesson, the learner will be able to:

- Describe how Cisco Unity handles calls.

- Use the telephone user interface.

- Use ViewMail for Outlook or Domino.

- Use Cisco Personal Communications Assistant

Learner Skills and Knowledge

To fully benefit from this lesson, you must have these prerequisite skills and knowledge:

- General knowledge of a Cisco Unity system integrated with a PBX

- General knowledge of basic Cisco Unity features

- Use of client messaging software

- Use of a web browser

Outline

This lesson includes these sections:

- Overview

- How Cisco Unity Handles Calls

- Using the Telephone User Interface

- ViewMail for Outlook / Domino

- Cisco Unity Personal Communications Assistant

- Summary

How the System Handles Calls

This section describes the behavior of a Cisco Unity system as it answers telephone calls.

How the System Handles Calls

- **Behavior dependent on who is calling**
  - **Outside Caller**
  - **Subscriber**

UCSA v1.1 2 — 3

When a call arrives at a business using a Cisco Unity system, the call first arrives at the telephone switch. The telephone switch (PBX) passes the call to Cisco Unity with whatever information it can pass along about the calling party. Based on the information received, a default Cisco Unity answers the call in one of two ways. If it determines that the person is not a subscriber, then it uses the standard Opening greeting. If it determines that the person is a subscriber, it begins the subscriber conversation. You will look at features of each of those conversations next.

Using the Telephone User Interface

This section provides information about the Cisco Unity conversation which is also known as the telephone user interface (TUI).

Outside Callers

Outside callers can be presented with a variety of options based on how the automated attendant is configured. Typically they will always have access to a directory of extensions, be able to route themselves to the operator and often will have a variety of one key dialing options. Which target a caller reaches depends on how the system was originally set up and what choices the caller makes as he or she enters the system.

If the system is not set up to use the automated attendant feature, or if the caller presses "0" or no touchtones at all, the caller is usually routed to the operator/receptionist. If the system is using the automated attendant feature and the caller enters a subscriber's extension number, the extension rings. If the subscriber picks up the handset, the call is connected. If there is no answer or if the extension is busy, the call is routed to the subscriber's voice mailbox. If a caller doesn't know the extension, he or she can search the directory of subscribers. If one match is found, the system may connect the caller directly to the extension. If more than one match is found, the caller can choose the appropriate extension.

Subscribers

Subscribers

Subscribers on a Cisco Unity system may:

- **Use the telephone user interface (TUI)**
- **Use a desktop client like Outlook (GUI) with ViewMail for Outlook**
- **Manage their own messaging account using IE and CPCA**

UCSA v1.1   2 — 5

When a subscriber calls the voice processing system for the first time and presses "*" and their extension number, the subscriber usually hears a special first-time subscriber conversation to enroll in the system. The system prompts the subscriber to record a voice name and a personal greeting and provides the opportunity to set a password.

Each subscriber sets his or her own personal password and is the only one who will ever know it. A system manager or subscriber using Cisco Unity Assistant (CUA) can see that a subscriber's box has a password set and when it was last changed, but has no way of knowing what it is. If a subscriber forgets his or her password, the system administrator or subscriber using CUA can delete the password and supply a new one, allowing the subscriber to get back into the voice mailbox and set a different one. Although it can be optional, all subscribers should set a password on their personal mailboxes.

The normal subscriber conversation proceeds through a series of four major actions each time a subscriber calls into the system. For each of the actions, subscribers may use full or brief menus for the actions. The subscriber can take the following actions:

Check New Messages

When the system tells a subscriber he or she has new messages it sorts the messages in a message stack. It offers the subscriber messages in the order they have been configured. Depending on the choices made when adding subscribers it can tell how many new and saved messages are in the stack, who the sender is, how long the message is, and what number message this is in the total stack.

Send a Message

Subscribers can quickly and easily send messages to other subscribers or distribution lists (such as all sales representatives). They simply enter the extension number or, if they don't know it, the first letters of another subscriber's name. Subscribers can pause while recording a message or start over.

Review Old Messages

Once listened to completely, a message changes from a new message to an old one. The system keeps old messages until a subscriber, or an administrator with sufficient authority, deletes them. Subscribers can review any of their old messages on the system. During that review they may redirect the message to another subscriber.

Change Setup Options

Subscribers have the option of changing setup options over the phone: greetings, transfer and delivery options, and personal options, such as their password, recorded name, spelled name, and directory listing.

View Mail for Outlook

This section describes the use of the View Mail for Outlook form in Cisco Unity for Exchange.
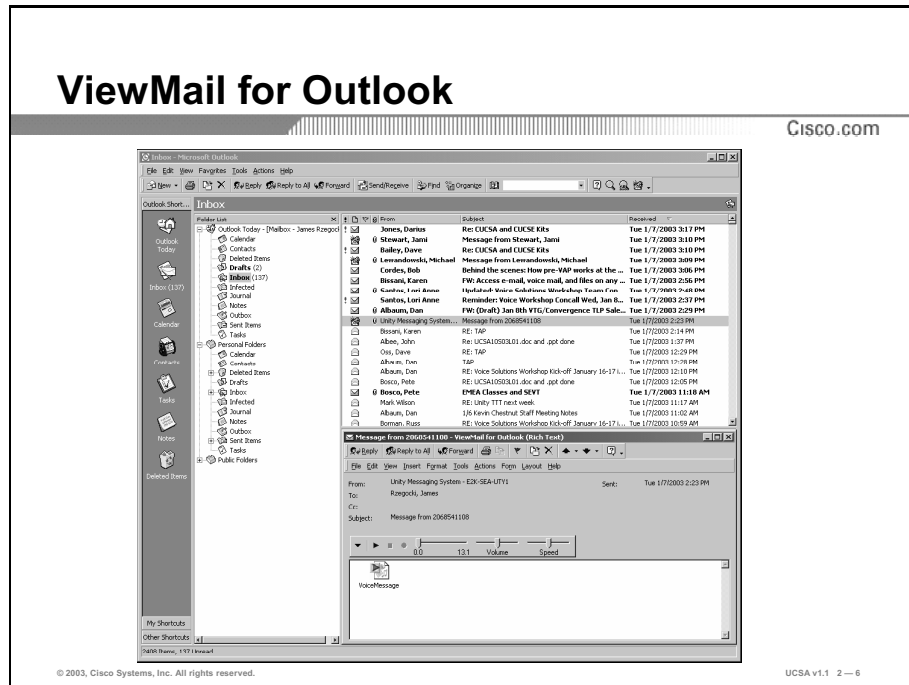
ViewMail for Outlook is a desktop interface available in a unified messaging installation to the subscriber through licensed features in Class of Service. ViewMail for Outlook is an Outlook form that is installed on the client workstation from Cisco Unity CD #1. The interface adds the ability to deal with voice mail to their standard desktop messaging client. Subscribers are able to listen to, send, reply to, or forward voicemails. The Media Master supports subscribers recording through their multimedia device or through their phone.

The View Mail for Outlook form can be used with Outlook 98, Outlook 2000, and Outlook XP. It cannot be used with Outlook Web Access because of OWA's lack of support for Outlook forms. The form presents the voice message to the user using the Media Master, an intuitive play/pause/record set of controls. In addition, the first control on the Media Master is the Options menu where users set their playback and recording devices and can copy and paste sounds. The Media Master control is an XML control used in every place in the Cisco Unity interface where the playing or recording of sound is needed. It is the same in the Administrator, the Cisco Unity Assistant, and the Cisco Unity Inbox.

View Mail for Notes Client

Cisco Unity with Lotus Notes Client
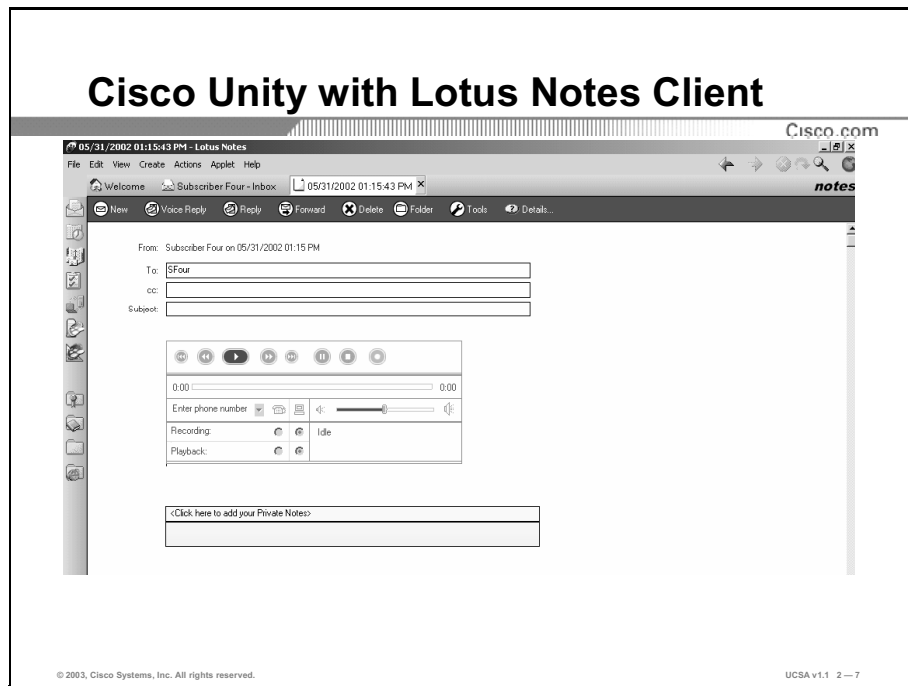
ViewMail for Notes is a desktop interface that allows unified messaging features for a IBM Lotus Notes user. IBM Lotus has provided a software suite of applications called Domino Unified Communications Services (DUCS). E-mail and voice mail are provided in one convenient location. The View Mail for Notes software is installed on the client workstation. The software is a Notes Mail form built and supported by IBM Lotus and obtained from IBM or an IBM reseller. The interface adds the voicemail function to the desktop. Subscribers are able to listen to, send, reply to, or forward voice mails. The client software supports subscribers recording through their multimedia device or through their phone.

Cisco Personal Communications Assistant

This section provides information about the use of the Cisco Personal Communication Assistant.

Cisco Personal Communications Assistant

- **Enabled by subscriber's Class of Service**
- **Browser-based subscriber setup options**
- **Browser-based In-Box**
- **HTTP://*ServerName*/CiscoPCA**

UCSA v1.1   2 — 8

The Cisco Personal Communications Assistant is available to subscribers through a licensed features in Class of Service. This easy to use web interface gives subscribers desktop access to manage their voicemail account through the use of Cisco Unity Assistant. From this interface subscribers can change their greetings, passwords, message notification devices and their schedules, create private lists, enable or disable call screening, and change their call transfer.

Consider the Cisco Unity Assistant (CUA) for "power" voice mail users. Some administrators are uncomfortable allowing subscribers to change their greetings and program message notification for other devices. With some training almost any subscriber will find the Cisco Unity Assistant a powerful tool in managing their voice messaging account.

The Cisco Personal Communications Assistant also supplies the Cisco Unity InBox that allows subscribers to access their voice mail messages via Internet Explorer.

Summary

Summary

Cisco.com

Upon completion of this lesson, you should be able to perform the following tasks:

- **Use the Telephone User Interface (TUI)**
- **Use View Mail for Outlook**
- **Use View Mail for Notes**
- **Use Cisco Personal Communications Assistant (CPCA)**

UCSA v1.1 2 — 9

Next Steps

After completing this lesson go to:

■ Using Personal Assistant

References

For additional information refer to these sources:

■ *Cisco Unity System Administration Guide*

■ *Cisco Unity Users Guide*

Using Cisco Personal Assistant

Lesson Overview

This lesson is an overview of using and managing a Cisco Personal Assistant account.

Importance

Cisco Personal Assistant Administrators must know how to use the Cisco Personal Assistant system features so that they can implement the system features for the users, the administrator will be supporting. It is also crucial to understand how to use the features in order to maintain and troubleshoot the system.

Objectives

Upon completing this lesson, the learner will be able to meet these overall objectives:

■ Use and manage a Cisco Personal Assistant account over the phone.

■ Manage a Cisco Personal Assistant account via the desktop.

Learner Skills and Knowledge

To fully benefit from this lesson, you must have these prerequisite skills and knowledge:

- General knowledge of Cisco Personal Assistant

- General knowledge of corporate messaging needs

- Use of a web browser

- Basic Cisco Unity features

Outline

This lesson includes these sections:

- Overview

- Using the Personal Assistant Telephone User Interface

- Using the Personal Assistant Web interface

- Summary

Using the Personal Assistant Telephone User Interface

This section describes how to use Personal Assistant over the telephone.
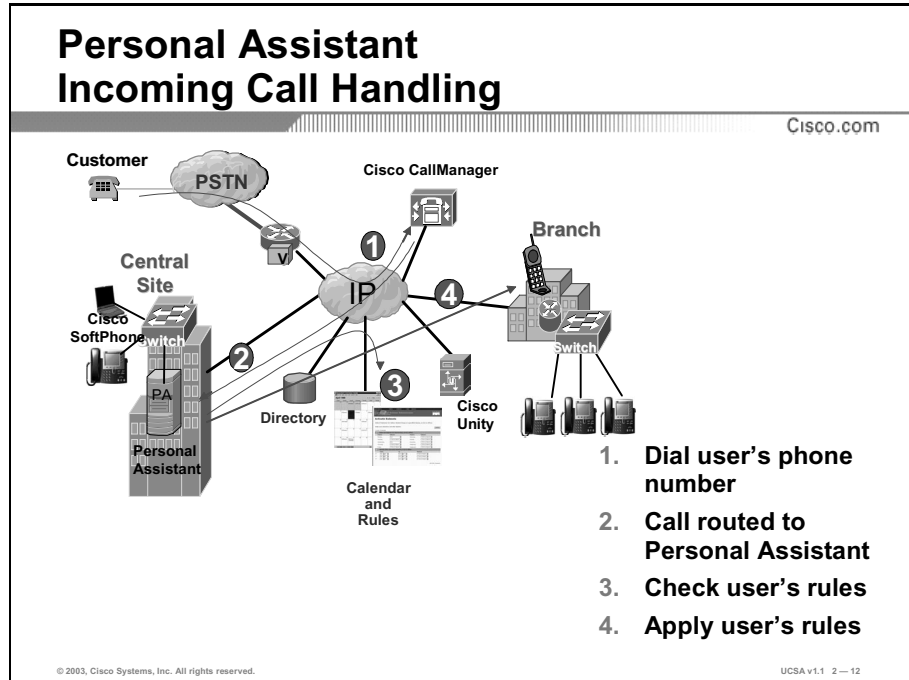
When a Cisco Personal Assistant enabled number receives a call from the PSTN, Personal Assistant retrieves user information from the LDAP directory. If the user has configured rules, the rules are initiated and the call is routed to the individual's mobile, home phone, Cisco Unity, etc. Calls can also be set up on a "follow me" where no rules lookup occurs and all calls are immediately send to an alternate location or device.

Rules-based call routing can be handled according to caller ID, date and time of day, or the user's meeting status based on the user's calendar.

Speech Recognition
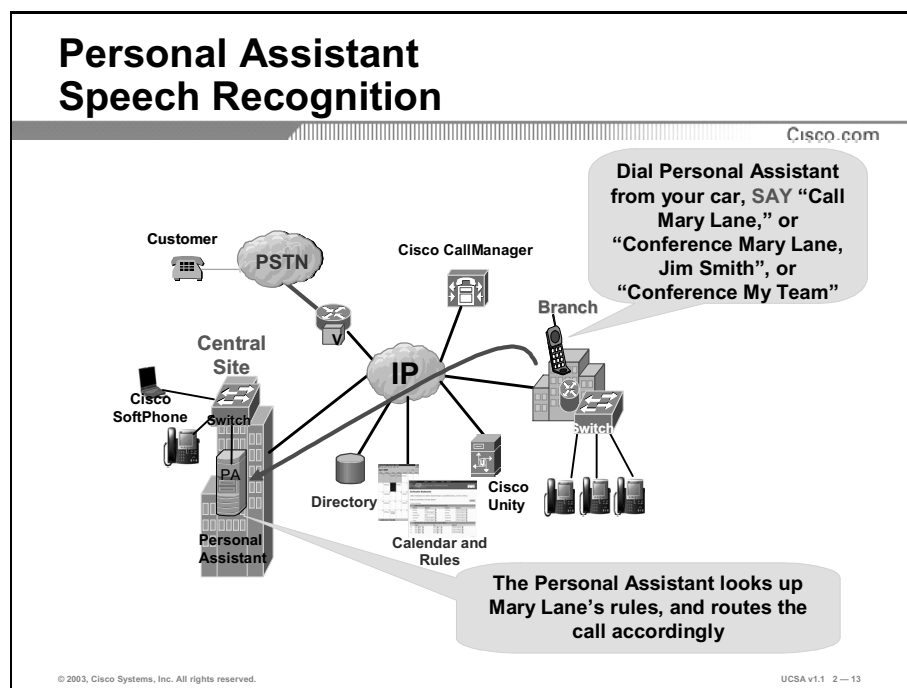
Cisco Personal Assistant with Speech Recognition allows users to give verbal commands for dialing individuals either through the corporate directory or a personal address book, set up conference calling, activate or deactivate rule sets, or use their voice mail account. When calling into Personal Assistant as a user you may be asked to enter your Personal Identification Number (PIN). The PIN was established for you in CallManager

Whether Cisco Personal Assistant will ask for you PIN depends on where you're calling from as well as your activity in Cisco Personal Assistant. If you are calling from a phone that PA does not recognize as belonging to you, you will be asked for your PIN. If you are going to activate rules-sets, Follow-me, or change call forwarding configurations, you will also be asked for your PIN.

Once logged in, the language you hear will be the one you established through the Cisco Personal Assistant Web Interface. If you did not establish a language, PA will use the default language established by the system administrator.

Speech-enabled directory dialing allows you to place a call through PA by saying a person's name or phone number aloud. For instance if you want to dial "Harriet Smith" you can say, "call"…, "get"…, "dial"…. or just the person's name "Harriet Smith".

PA-driven Voice Mail

Personal Assistant-Driven Voice Mail

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1. **Dial Personal Assistant number (JTAPI Route Point)**
2. **Call routed to Personal Assistant**
3. **Check voice messages**

Browse your Unity voice mail with voice commands, **SAY** "Retrieve messages."

UCSA v1.1 2 — 14
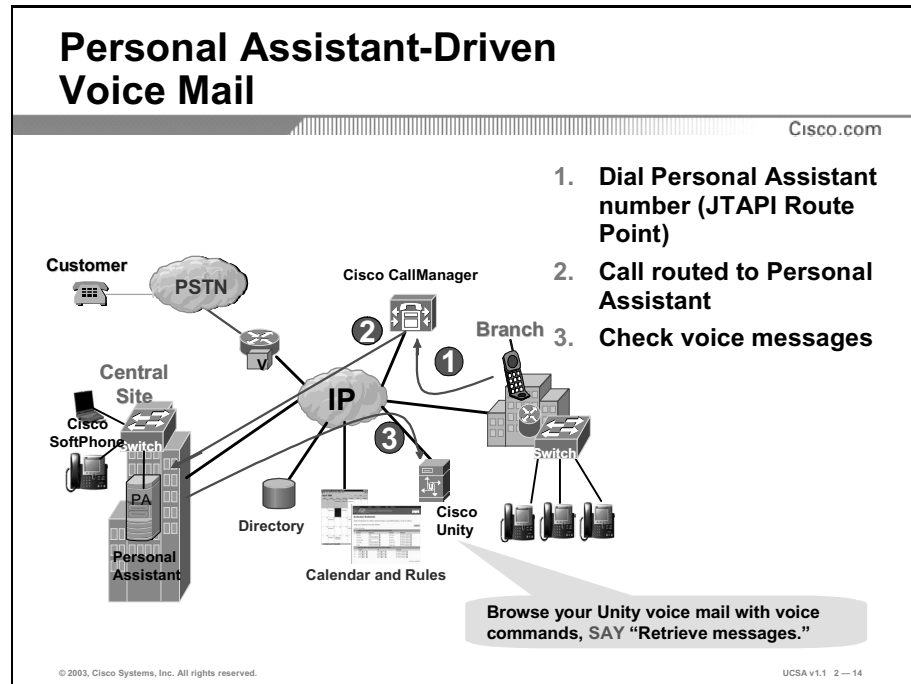
Personal Assistant's voice-recognition features allow you to access your Cisco Unity voice mail messages through spoken commands. Personal Assistant will also interpret touch-tone commands.

When dialing into Personal Assistant to access your voice-mail, Personal Assistant will first welcome you and then ask, "What would you like to do ?" At this point you could say, "Voice Mail" or "Check Messages". You will be prompted to enter your PIN, which is the one you set up with the Cisco CallManager. (If Personal Assistant cannot verify your PIN, you will be transferred to the Cisco Unity voice mail system and prompted to enter the password established with it.

Once logged in you can check messages, listen to message header information, find a message from a particular person, or send a message through voice commands such as, "List messages," "Read messages," and Send message to."

While listening to messages you can use voice commands to complete tasks such as list or read messages, skip messages, delete messages, and call back the sender of a message (if listed in the corporate directory). The voice-mail session is ended by the voice command "Good bye."

Using the Personal Assistant Web Interface

This section describes the use of the PA web-based interface.
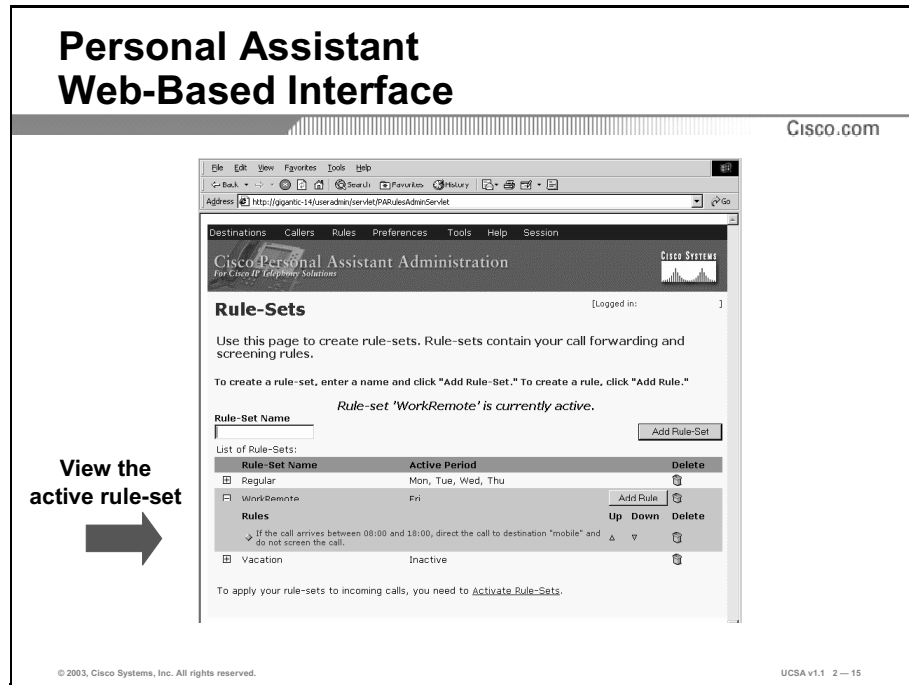
PA forwards and screens incoming calls according to rules you configure. You set up those rules using the PA web interface. The PA administrator gives end users the URL for the PA server. Users' password on the system is the same one used with CallManager.

The first time you use the web interface, you get a welcome screen. At the welcome page you set up your default language preference. On every visit after that you are taken to the Rule-Sets page. Rules tell PA where you want to receive calls and which calls you want to receive.

The web interface has two important links at the top; Destinations and Callers. In Destinations, you define where you wish to receive calls by name and number. The Callers link takes you to the screen where you define entries in your personal address book. Use the Destinations and Callers links to establish where calls can be directed to and who the people are that are important to you. Then use the Rule-Sets page to define when and how those people would be directed to the phone of your choice.

Summary

Summary

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Upon completion of this lesson you will be able to:

- **Use Cisco Personal Assistant**
- **Use Cisco Personal Assistant to retrieve and send Voice Mail**
- **Use the User Admin Web page**

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Next Steps

After completing this lesson go to:

■ Cisco Unified Communications Setup

References

For additional information refer to these sources:

■ *Cisco Unity User's Guide*

■ *Cisco Personal Assistant User's Guide*

Cisco Unified Communications System Administration (UCSA) v1.1

Cisco Unified Communications General Setup

Module Overview

Once a Cisco Unity system has been installed you must do some initial setup work before you start adding or importing subscribers. A number of tasks must be accomplished in this setup work, but there are any number of sequences you could use, given the HTML interface of the Cisco Unity administration screens. In this module, you will be introduced to the Unity administrative interface and learn an optimal procedure for setting up a Cisco Unity system in the shortest, most efficient manner.

Upon completing this module, you will be able to:

- Configure a Cisco Unity system using acknowledged best practices

Outline

The module contains these lessons:

- Using the Cisco Unity Administrator

- Cisco Unity System Setup

Cisco Unified Communications System Administration (UCSA) v1.1

Using the Cisco Unity Administrator

Lesson Overview

This lesson is an overview of the use of the Cisco Unity system administration tool.

Importance

Successful administration of a Cisco Unity system requires you to know some basic information about the product and the environment it inhabits. Some features of the software and its setup apply in a global manner. This lesson introduces you to the system administration interface, explains its layout, describes how security is implemented, shows how to access help files and other common tools, and gives an idea of the basic rules voice processing systems operate under.

Training Objectives

Upon completing this lesson, the learner will be able:

- Describe how the browser-based interface is set up and organized.

- Describe Cisco Unity Administration security.

- Access System Administration Help files.

- Use the Media Master controls for record and playback.

- Describe the use and functionality of call handlers.

- Understand the need for unique IDs and the concepts of voice processing.

Learner Skills and Knowledge

To fully benefit from this lesson, you must have these prerequisite skills and knowledge:

- General knowledge of browser-based interfaces

- Knowledge of Windows 2000 security procedures

- Knowledge of multimedia recording and playback

- Familiarity with voice mail systems

Outline

This lesson includes these sections:

- Overview

- The Cisco Unity Administrator

- Cisco Unity Administrator Security

- Using Onscreen Help

- Using Media Master

- What is a Call Handler?

- Voice Processing Basics

- Summary

Cisco Unity Administrator

Cisco Unity Administrator

Three Frames
- **Navigation Bar**
- **Title Strip**
- **Page Body**

Optimally viewed at:
- **1024 X 768 and 256 colors**

Title Strip
Command icons and Name of Record

Navigation Bar

links to pages, organized by section

Page Body
Page name at top

http://"Server Name"/Saweb

UCSA v1.1 3 — 3

The Cisco Unity Administrator is accessible using Internet Explorer 6.0 or later. The left hand navigation bar holds all the links to the different areas of administration. The title strip gives the title of the page, i.e. the name of the subscriber or call handler and the command icons to view, add, delete. The page body gives all the current information and settings. While the address of the console is dependant on your naming conventions, the default address of the Cisco Unity Administration start page is shown above.

Navigation Bar

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The Navigation Bar consists of five major areas:

- Subscribers
- Call Management
- Reports
- Network
- System

These categories contain links to all of the systems settings needed for a successful Cisco Unity setup.

Subscribers
Subscribers
Subscriber Template
Class of Service
Public Distribution
Lists
Account Policy

Call Management
Call Handlers
Directory Handlers
Interview Handlers
Call Routing
Restriction Tables

Reports
Subscribers
System

Network
Primary Location
Delivery Locations

System
Configuration
Schedules
Holidays
Licensing
Authentication
Integration
Ports

Unity Servers

Cisco
Unity   Log off

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Each Cisco Unity Administration page has three components: The left side houses the Navigation Bar, where most system navigation is done. The majority of the right side is the Page Body, which contains a wide variety of information fields containing system data. Finally, at the top right is the Title Strip, which includes the primary controls and the title of the current active page.

The Navigation Bar consists of five major areas: Subscribers, Call Management, Reports, Network, and System. These categories contain links to all system settings needed for a successful Cisco Unity setup. It also contains a link to all Unity servers on the network.

The best way to become familiar with the links contained in each category is to follow them and explore the Cisco Unity system console. Also, try to associate different actions in the system with a category. For example, adding a subscriber is intuitively covered in the Subscriber category.

Once you have used the Navigation Bar to find the correct Page Body, then you may use that page to customize data in the system for general setup. The different page bodies store all the system settings, such as subscribers, call handlers, reports, switch settings, and much more.

The Title Bar tells you where you are in the system. It also contains primary control icons used to find 🔍 , add ⊕ , delete ⊗ , and provide help ？ throughout the Cisco Unity Administration console. These icons are available once you leave the Cisco Unity start page. The icons are displayed in color. If any of them appear in grayscale, it is because performing that action is not possible in the current context.

Administration Security

Administration Security

- **IE uses Windows' Challenge and Response for SA access**
- **SA Permissions based on class of service (COS)**
- **Do not use the Install Account for customer access to the SA**
  - grant Administrative rights to customer accounts that manage the system
- **Use logoff link when exiting the SA**
- **Cisco Unity Administrator can (only when creating Cisco Unity accounts via the SA):**
  - **Create AD user Account**
  - **Create Exchange Mailboxes**
  - **Edit Unity specific attributes of Exchange Mailboxes**

Internet Explorer (IE) uses Windows 2000's Challenge and Response for System Administrator (SA) access. Netscape is not supported for SA access in Cisco Unity because it has not implemented a mechanism for supporting the Challenge and Response process in Windows.

SA permissions are based on a subscriber's class of service. Through class of service you can delegate the system administration tasks, or a portion of them, to other subscribers. A Cisco Unity administrator must also be a Cisco Unity subscriber.

By default, only 5 SA sessions and 20 Cisco Unity Assistant (CUA) sessions are allowed. Therefore we recommend using the logoff link (located at the lower left corner of the SA screen) when exiting the SA

The Cisco Unity for Exchange Administrator can (only when creating Cisco Unity accounts via the SA):

- Create a mail-enabled user account

- Edit the Unity-specific attributes of Exchange

The Cisco Unity for Domino Administrator can only modify existing Domino users. To add users in Cisco Unity for Domino you must first add them in the Domino database (Names.nsf) then import them into the Unity system.

Using On Screen Help
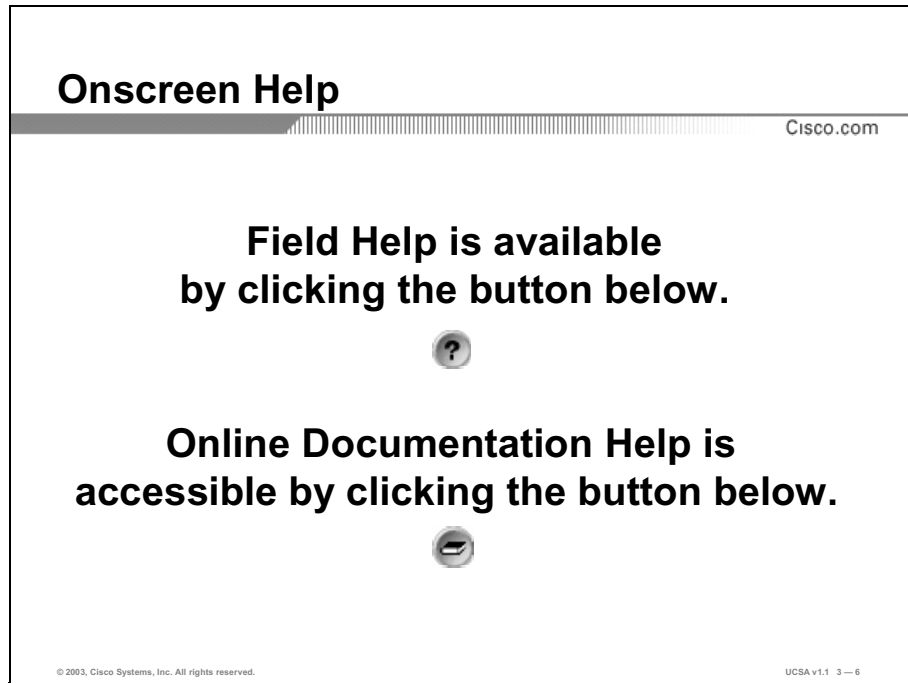
If you find that you need more information when you are working on the computer console, you can get help quickly by using one of the two Help options available to you at the console.

Field Help is always available by clicking this. The information contained there will usually describe what can be accomplished with the current field and what values can be entered in that field.

Clicking the Online Documentation button accesses the second Help system. Its help is just that, online documentation, accessed directly from the Unity console.

Using Media Master

Cisco.com

New
Paste
Paste from file...
Copy
Copy to file...

Playback Devices ▶
Recording Devices ▶

Options...

About...

Used in:

System Administrator

Personal Communications Assistant

ViewMail for Outlook

UCSA v1.1   3 — 7
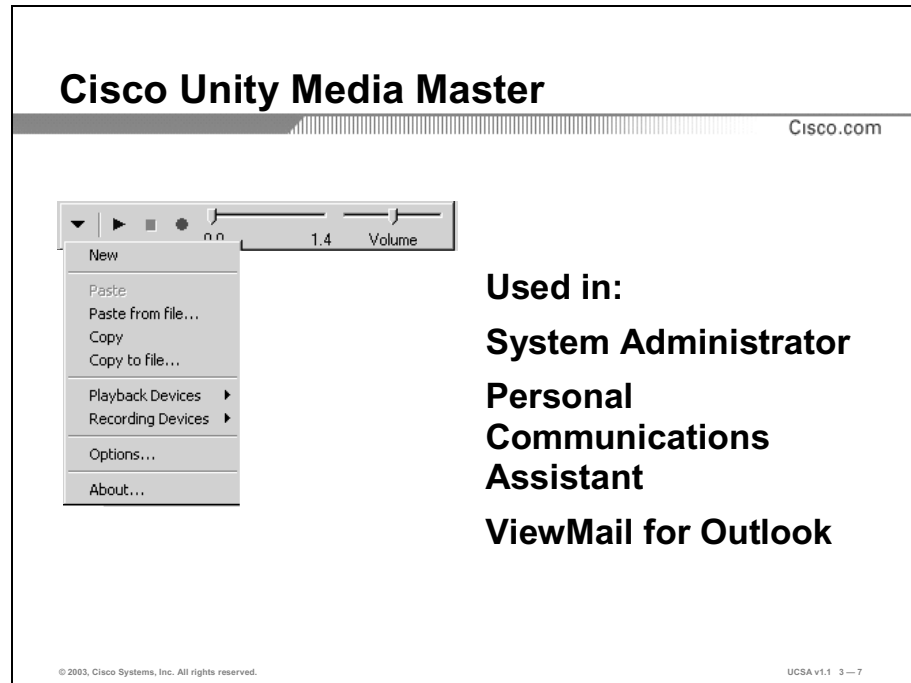
To record and play back voice, Cisco Unity uses the same interface consistently throughout the product. The pull down menu allows you to choose the phone or the PC speakers and microphone to record and playback voice. You may also copy and paste voice files. The **Options** selection is where to specify what telephone extension Cisco Unity dials to reach you, and the name of the Cisco Unity server that will dial the extension.

Voice Processing Basics

Everything Has an ID

Every part of the system has an ID, a unique identifier, associated with it. Subscribers, extensions, mailboxes, and everything else have a unique ID that identifies them to the system. Subscriber ID is usually matched with their physical extension. Subscribers without a physical extension will require a virtual extension. A call handler does not require a physical extension to be associated with it. They can be distinguished just by the name you give them.

The Goodbye Call Handler

This call handler is used at the end of a call cycle within the Cisco Unity system. A goodbye call handler is designed to be used with an audiotext application or to stop callers from being part of voice mail jail. It also ends a call gracefully instead of just hanging up.

The Opening Call Handler

The Opening box is a default call handler box used exclusively for automated attendant. The default greeting for this call handler is furnished by Cisco so you probably should rerecord the opening greeting to customize your Cisco Unity system.

The Operator Call Handler

The Operator box is a special call handler used exclusively for calls that go to the operator. The System ID of this box is usually 0. The extension that rings when 0 is pressed is dependent on what you put in the **Transfer** field. It can be any valid extension on your telephone system.

• **Special Call Handlers**
  – **Directory Handlers**
  – **Interview Handlers**
• **Caller Types**
  – **Outside Caller**
  – **Subscriber- recognized by entering "*"**

The Directory Call Handler

The default directory handler is used to search for subscribers in the Cisco Unity system. Its default extension is 555. This call handler will allow callers to search for subscribers by last name or extension. You can choose to let callers who know the name of the person they want to reach, but not their extension, search for the person's extension by pressing touchtones whose letters correspond to as many of the letters of his or her name as they wish to use. This allows callers to route themselves to extensions without burdening the operator or receptionist. It is possible to set this up to correspond to either first or last names. The Cisco Unity directory status of each subscriber is determined system wide but can be modified on an individual basis

Interview Handlers are specialized call handlers with up to 20 prerecorded questions for callers and can target the messages for different purposes such as customer orders and preliminary job interviews.

Caller types

There are two types of callers on a Cisco Unity system, either outside callers or callers who identify themselves as subscribers on the system by using a "*". Once the subscriber is identified as a subscriber, the subscriber conversation begins. This gives the subscriber the choices of listening to messages, sending messages, reviewing saved messages or changing their setup options.

Summary

This section summarizes the key points discussed in this lesson.

Summary

Upon completion of this lesson, you should be able to perform the following tasks:

- **Describe the Cisco Unity Administrator user interface**
- **Describe Cisco Unity System Administrator security issues**
- **Access on screen help**
- **Use the Media Master**
- **Describe a Call Handler**
- **Describe voice processing basics**

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Next Steps

After completing this lesson, go to:

■ Cisco Unity System Setup

References

For additional information, refer to these resources:

■ *Cisco Unity System Administration Guide*

Cisco Unity System Setup

Lesson Overview

This is a procedural overview of the tasks that must be performed to setup a Cisco Unity system.

Importance

Certain general settings must be configured on every Cisco Unity before any subscribers can be added. Learning to set up a Cisco Unity system efficiently and effectively is an important task for an administrator. This lesson provides you with the sequence of steps you will perform in the lab that follows it.

Objectives

Upon completing this lesson, the learner will be able to:

- Implement a best practice task list to set up a Cisco Unity System.

Learner Skills and Knowledge

To fully benefit from this lesson, you must have these prerequisite skills and knowledge:

■ General knowledge of browser-based interfaces

Outline

This lesson includes these sections:

■ Overview

■ Task List for Cisco Unity Setup

■ System Configuration Information

■ Entering System Schedules and Holidays

■ Verifying Licensing Information

■ What is a Unity Port?

■ Verifying Port Information

■ Changing the Opening Greeting

■ Configuring the Directory Handler

■ Configuring the Operator Handler

■ Summary

Task List for Cisco Unity Setup

This section provides information about the tasks that you must perform to set up a Cisco Unity system efficiently.

Cisco Unity System Setup

- **Set up system**
- **Prepare to add subscribers**
- **Manage Distribution lists**
- **Class of Service**
- **Subscriber templates**
- **Add subscribers**
- **Customize subscribers**
- **Back up the system**
- **Train users**
- **Run reports**

Get Oriented
Make Decisions
Customize
Prepare to add subscribers
Add Distribution Lists
Add subscribers
Customize Call Handlers
Back It Up!
Prepare Users
Go Live!

UCSA v1.1 3 — 13

The chart above gives you a framework of tasks that you must complete in order to have a working Cisco Unity system. As you covered the basics of voice processing, the different telephone switch integrations Cisco Unity supports and the basic features you should expect from Cisco Unity, you have been getting oriented to the system.

The next step is to do the general setup of the Cisco Unity system. This will cover the next two boxes in the flow chart, because you will be making decisions about the system and then customizing the system. The big question that comes to mind is, "Where do I start?" Keeping in mind that Windows 2000 and Exchange configurations are already complete, a great place to start is System Setup tasks.

System Configuration Information

This section provides information about Cisco Unity system configuration settings.

Configuration

- **Settings**
- **Software Versions**
- **Recordings**
- **Contacts**
- **Phone Languages**
- **GUI Languages**

Get Oriented

Make Decisions

Customize

Prepare to add subscribers

Add subscribers

Create distribution lists

Customize Call Handlers

Back It Up!

Prepare Users

Go Live!

UCSA v1.1 3 — 14
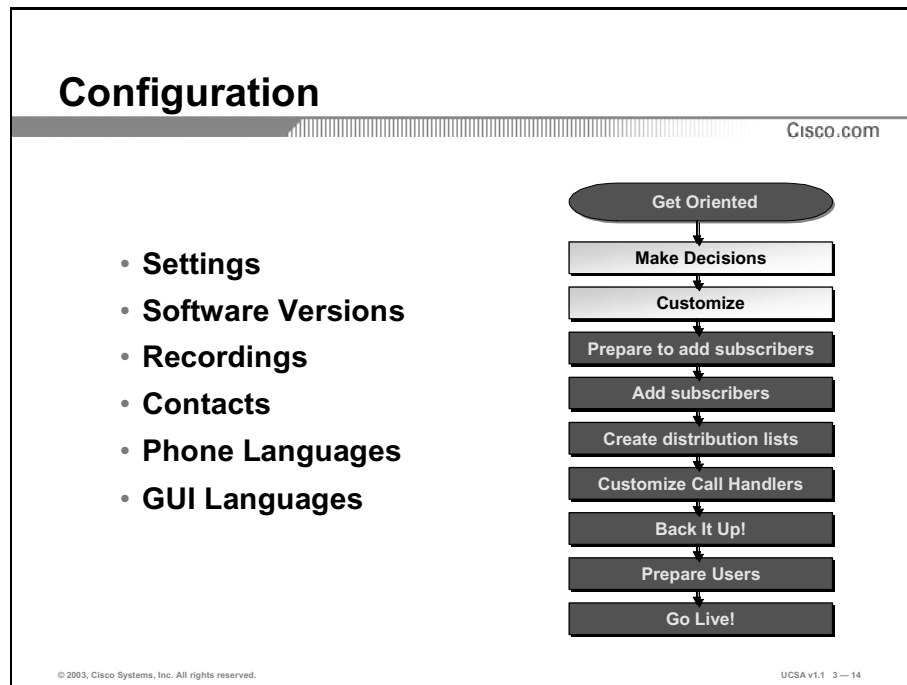
The Configuration settings found on these six pages contain general information about the system. As such, the values must be supplied on any system you set up. The Settings page is composed of system wide settings such as the default Schedule, time format, search and security option and cleanup intervals for diagnostic and log files. The Software Versions page will give you information regarding what software you are running and all the associated Cisco Unity services and their version numbers. This information is useful if you ever need to contact Cisco's Technical Assistance Center (TAC). The Recordings page gives you the ability to set time limits for recordings. The Contacts page is where you enter the local site-specific contact information for the administrator of the Cisco Unity server. The Phone Languages page provides an interface for choosing additional languages for the telephone conversation between Unity, outside callers and subscribers. If you have additional languages enabled on your system and have loaded them, then you will be able to choose them on this page. The GUI Languages page offers the same kinds of choices for the System Administration and Cisco Unity Assistant interfaces. If additional languages have been enabled and loaded, they will be available here.

System Schedules

This section provides information on system schedules in Cisco Unity.

System Schedules

- **Existing schedules**
  - **All hours, All days**
  - **Weekdays**
- **Customized Schedules**
- **Holidays**

Get Oriented

Make Decisions

Customize

Prepare to add subscribers

Add subscribers

Create distribution lists

Customize Call Handlers

Back It Up!

Prepare Users

Go Live!

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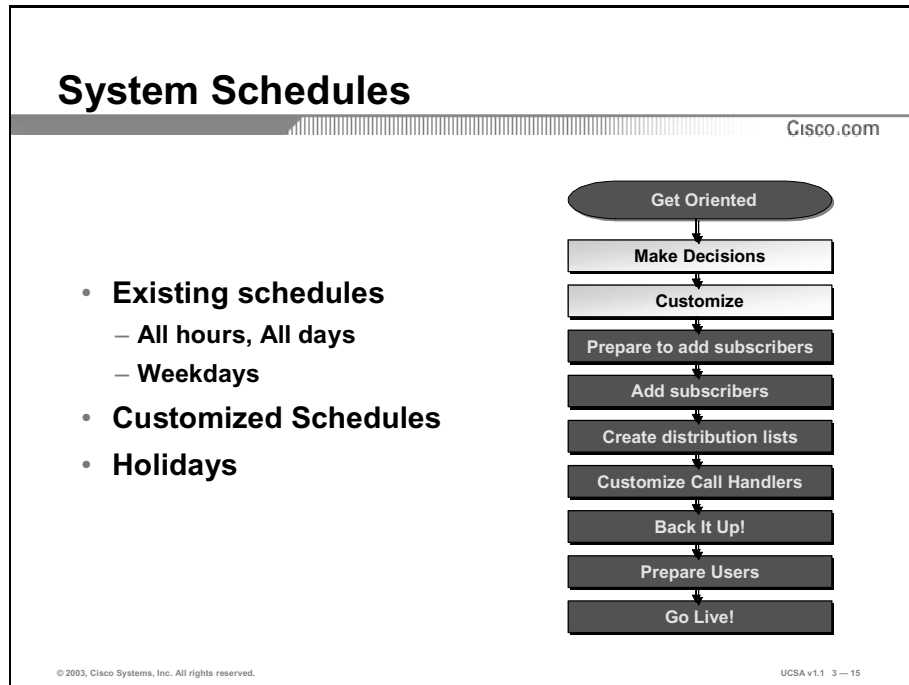
The system schedule is what will determine how the Cisco Unity system handles calls during standard business hours, closed hours, and holidays. The Cisco Unity system may use up to 64 different schedules.

Every call handler in the system uses a schedule to determine which greeting it plays. The Standard greeting is played during the time set as Open; the Closed greeting plays during all other times.

An example of system schedule usage is: A service department is in operation from 6:00 A.M. to 6:00 P.M., Monday through Friday and the corporate office is open from 8:00 A.M. to 5:00 P.M., Monday through Friday. For this example, there must be two different schedules to meet the needs of the company's application. The attributes that can make up a schedule includes: selected days, selected hours, and holidays.

On a schedule page, if you check the "Observe Holidays" box, Unity will play the Closed greeting all day for any call handler using that schedule.

Verifying Licensing Information

This section provides information on licensing verification in the Cisco Unity administrative interface.

Verify Licensing

Get Oriented

Make Decisions

Customize

Prepare to add subscribers

Add subscribers

Create distribution lists

Customize Call Handlers

Back It Up!

Prepare Users

Go Live!

- **License Counts**
- **Licensed Features**
  - **Voice Mail Users**
  - **Unity Inbox Users**
  - **Cisco Unity Assistant Users**
  - **Text-to-Speech Email Users**
  - **FaxMail Users**

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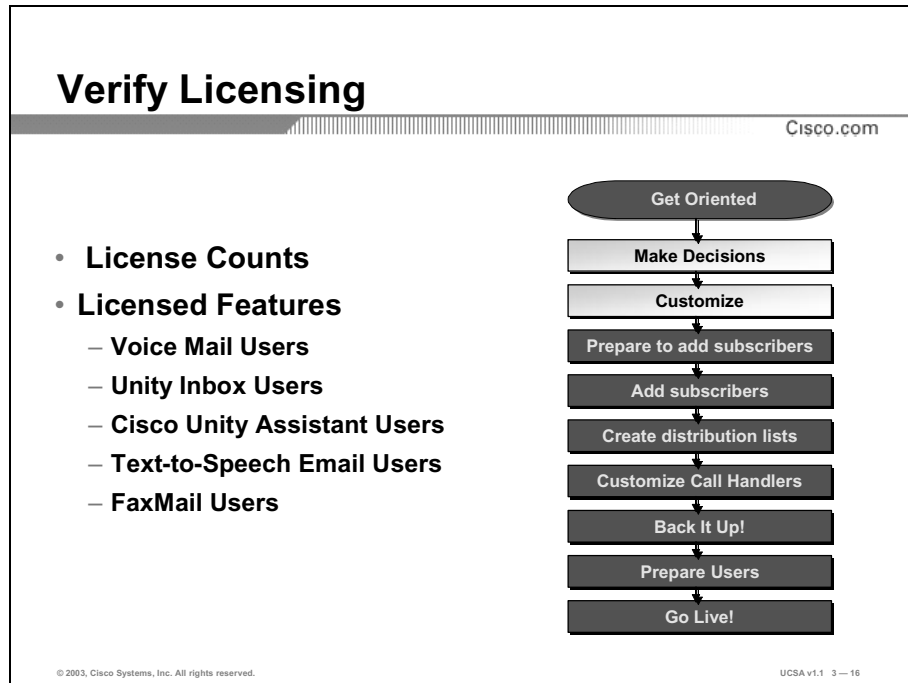
You can view your license counts and what optional features are licensed on your server from the administrative interface. You do this using the System > Licensing link. There is another valid to do this as well by starting the Licensing utility (Start > Programs > Unity > Licensing). In versions of Cisco Unity prior to version 4, a physical security key was attached either to a parallel or USB port on the server. With the use of the FlexLM licensing product, this is no longer necessary as all licensing information is held in a system file on the hard drive. This file contains all of the information about ports, features, number of users etc that are enabled on this Cisco Unity system.

What is a Port?

This section introduces the concept of a communications port and its use in Cisco Unity.

What is a Cisco Unity Port?

Cisco.com

A port is a physical or virtual (CCM) connection between a telephone and/or PBX and the Cisco Unity system

PBX

Cisco Unity

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UCSA v1.1 3 — 17
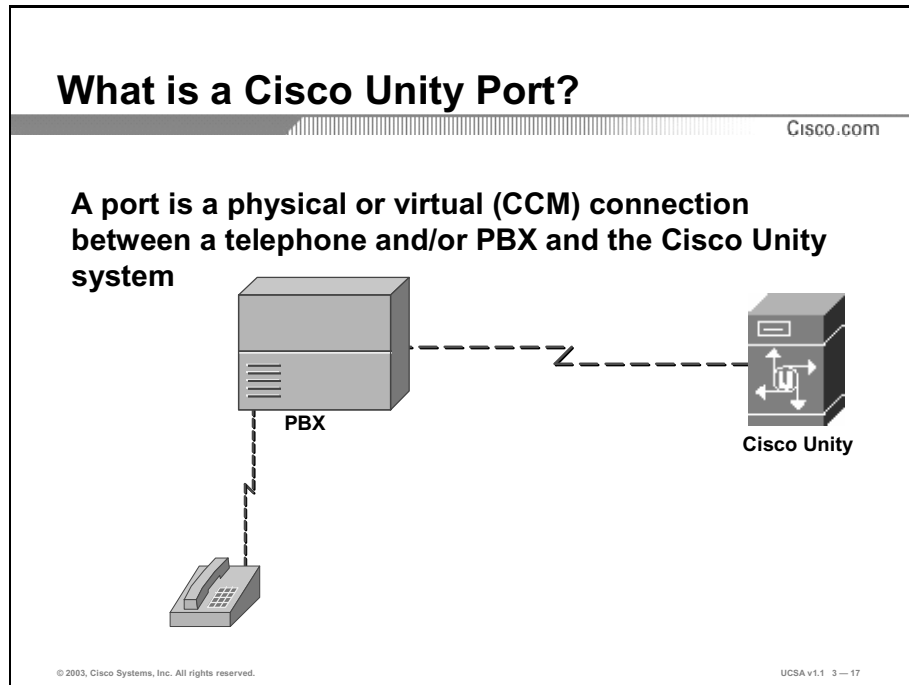
As a caller dials into a Cisco Unity system it will use a port to answer the call. The customer site configuration must be set up so that there are sufficient ports to handle the incoming call traffic.

If the application gets more than twelve simultaneous calls at a time then you will need more than twelve Cisco Unity ports. The amount of ports your customer will need is controlled by many factors. Determine what and how much traffic the Cisco Unity will be responsible for. Some questions to consider are:

■ Will the system answer all calls for the company?

■ Will the system answer calls that are forwarded to voice mail only?

■ When the users are listening to voice messages will they be using the phone to play the messages or the multimedia PC speakers?

■ How many ports did the old voice mail system have and did the customer outgrow it's capacity?

These are all considerations that go in to the planning and design phase of any Cisco Unity system. As such they have already been addressed, but it is useful to know what ports are because there are configuration options and reports relating to them.

Verifying Port Information

This section describes the settings available for ports on a Cisco Unity system.

Verify Ports

Cisco.com

- **Review the port table**
- **Select the port number to edit the port**
- **Settings:**
  - **Answer calls**
  - **Message Notification**
  - **Dialout MWI**
  - **TRAP Connection**
  - **AMIS Delivery**
  - **Enabled**

Get Oriented
Make Decisions
Customize
Prepare to add subscribers
Add subscribers
Create distribution lists
Customize Call Handlers
Back It Up!
Prepare Users
Go Live!

UCSA v1.1 3 — 18
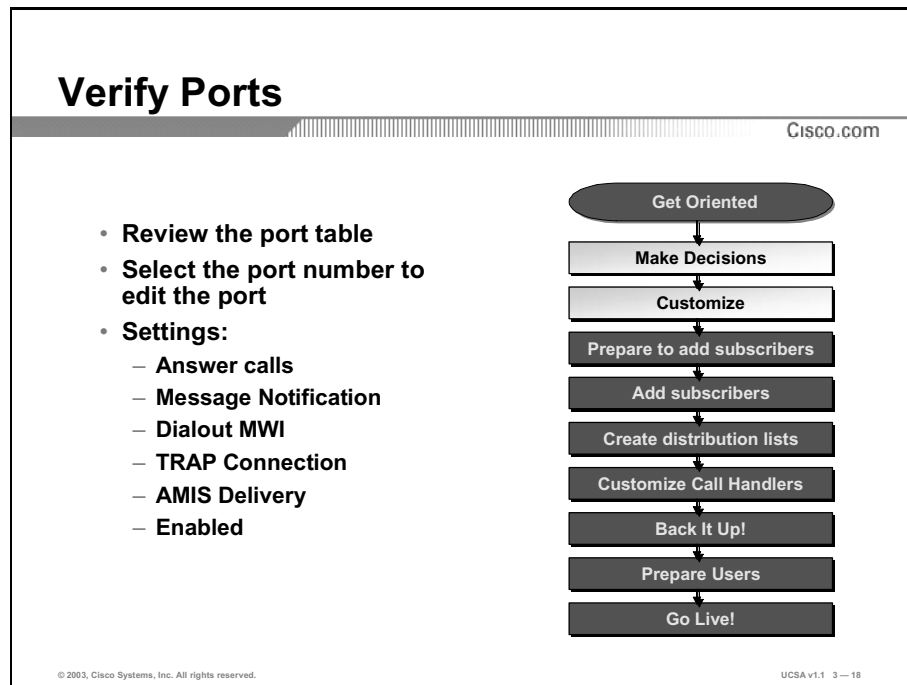
The Cisco Unity voice mail ports are a crucial part of general setup. Ports are also referred to in many of the Cisco Unity documents as sessions. The term port is from the telephony world, when a physical connection was made between the voice mail and the telephone switch. The term session is used in the IP Telephony world. The Ports configuration page is in the System section. The Ports page contains the settings for the licensed number of ports. Each port may be configured individually to meet application or testing needs. If you disable a port, then the values in Incoming calls: and Dial out for: are temporarily disabled. As soon as you enable the port, you reactivate the settings. The ports configuration options are:

Answer Calls: This setting will actively answer calls.

Message Notification: This setting will allow the system to call out and deliver messages.

Dial out MWI: This setting allows the system to turn Message Waiting Indication on and off.

TRAP Connection: TRAP stands for Telephone Record And Playback. With a port designated this way the system can use it to do Media Master recordings over the telephone.

AMIS Delivery: In AMIS delivery one voice mail is calling another to deliver messages. Cisco Unity must use a port to do this.

Enabled: Used for testing a port. If the box is unchecked (disabled) then the port is out of service (rings, but doesn't answer) and can be tested. Be sure to remove the extension from any hunt groups while it is disabled to prevent callers from getting a ring-no-answer.

Extension: The line extension from the phone system that corresponds to the port. This is very important when using an SMDI integration so that the information about the call can be properly forwarded.

The use of Answer calls and Dialout MWI should be planned out beforehand to best serve the application. For example: a thirty two-port Cisco Unity system that is used for automated attendant is very port intensive. If the system administrator makes all ports answer calls and dial out, that will not be efficient. The dial outs are likely to cause port conflicts.

A better solution is to configure the first twenty-four to twenty-six ports to be answer calls only and the last six to eight to both answer calls and dial out. The key is to monitor port usage to examine how well the port configuration works for a particular application. To monitor port usage two tools are available. The first is the port monitor that resides in the Status Monitor. The port monitor tracks all calls handled by each port. It provides a close-to real-time view of port usage. The second way is to run a Port Usage report. This will give the Cisco Unity administrator the ability to examine the configuration in much greater detail, adding historic data to the real-time view from the Status Monitor.

Changing the Opening Greeting

This section provides information about customizing the Opening Greeting for use with the auto-attendant function in Cisco Unity.
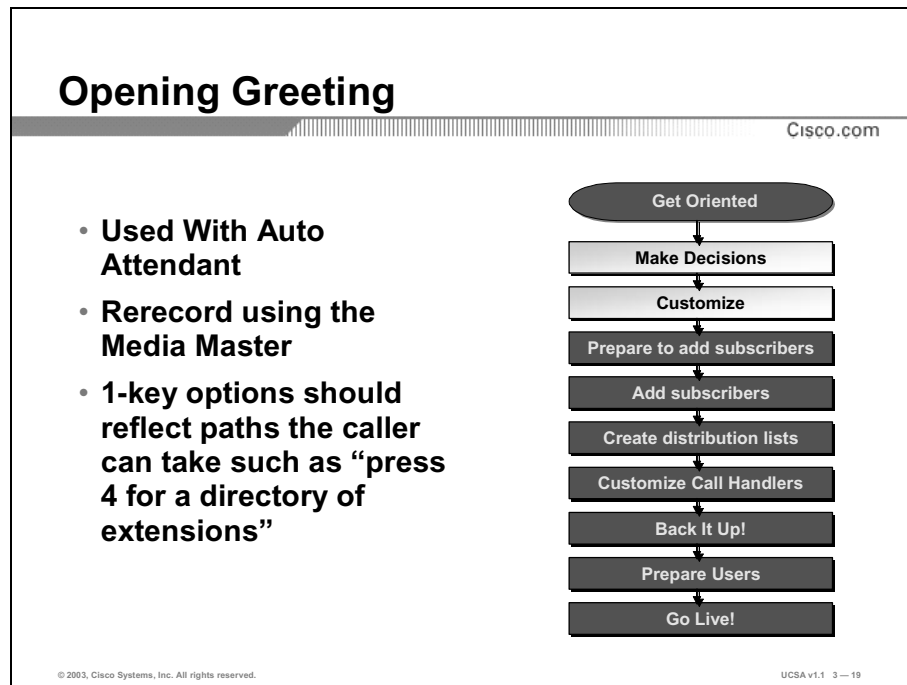
The Opening Greeting can be an important setting in a Cisco Unity system. This depends on whether an organization wishes to have a live person answer all calls or not. If the site is using automated attendant, then the Opening Greeting is important. As we mentioned in an early module, the Opening Greeting is a call handler. The responsibility of this call handler is to answer all calls forwarded to the Cisco Unity system when using automated attendant. The settings necessary for the automated attendant feature to work, mapping inbound trunk calls to be forwarded to Cisco Unity, are set at the phone system. Once you decide to use the opening greeting, you will probably want to rerecord the default Cisco Unity greeting. Cisco Unity greetings and messages may be recorded in two ways:

- **Use a Multimedia device:** The Media Master can use a multimedia-recording device. It may be used from any desktop PC that has access to the Cisco Unity Administrator pages. Recording greetings is available when you see the recording tool bar.

- **Use the Telephone:** The Media Master has a pull down menu that allows the administrator to choose which device to use. The Phone record and playback setting must be set with an extension to call. The Cisco Unity system will dial that extension and be ready to record or playback greetings when it is answered.

Remember when recording the Cisco Unity opening greeting that the greeting reflects the paths that a caller can take in the Cisco Unity system. An example of an opening greeting is:

"Thank you for calling the GollyWood Film Corporation. Please dial the extension of the person you would like to speak with at any time. If you don't know the extension, dial 555 for a directory of extensions. Otherwise please hold on and an operator will be with you shortly."

The Opening Greeting may also involve more elaborate settings such as one key routing. *"Press 1 for sales, Press 2 for Service..."*

The Opening Greeting is very important to set up correctly, as it represents your company to anyone who calls. If a caller does not press any touchtones during the greeting, you should consider what action you want to take place. Most applications route the call to an operator.

Configuring the Directory Handler

This section provides information about configuring the default Directory Handler in Cisco Unity.

Directory Handlers

- **Profile**
- **Search Options**
  - **Local Cisco Unity server**
  - **Dialing Domain**
  - **Class of Service**
  - **Distribution list membership**
- **Match List Options**
  - **Route automatically**
  - **Request caller input**
  - **Extension or menu format**
- **Caller Input**
  - **Time out or repeat prompt**

Get Oriented
Make Decisions
Customize
Prepare to add subscribers
Add subscribers
Create distribution lists
Customize Call Handlers
Back It Up!
Prepare Users
Go Live!

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The system directory setup gives you the opportunity to customize how the system acts when a caller searches for a subscriber. This call handler is represented by default ID 555. Each subscriber may be given the ability to add or delete themselves in the system directory through their system setup options. The system directory can be accessed by outside callers and subscribers by last name, first name, or extension. In addition, you have the ability to choose how the system will act on a unique match and whether or not extension numbers will be given out. If you choose menu format, the system will present a conversation like the following:

"To speak with Tina Thompson, press 1; to speak with Brad Vinson, press 2; to speak with Fred Timmons, press 3; …"

If you choose to announce extensions, then those person's extension numbers will be included in the conversation.

If you have multiple Cisco Unity servers digitally networked than you can limit the search to a local Cisco Unity server or configure a dialing domain which links several Cisco Unity servers together and makes it easier on the subscriber to address messages and for outside callers to find and be transferred to subscribers across Cisco Unity servers. The ability to do this is dependent on the ability of your telephone switches to network together.

Configuring the Operator Handler

This section provides information about configuring the Operator call handler in Cisco Unity.

The System Operator

- **Predefined call handler with default settings**
- **Enter the Operator's extension**
- **Default interview handler automatically delivers messages to Unaddressed Messages box.**
- **Press "0" or do nothing during opening greeting**

```
                                              ┌─────────────────────┐
                                              │  Operator Answers   │
                                              └─────────────────────┘
┌───────────┐     ┌─────────────────┐         ┌─────────────────────┐
│  Opening  │────▶│ Operator Call   │────────▶│    Take Message     │
│  Greeting │     │    Handler      │         └─────────────────────┘
└───────────┘     └─────────────────┘         ┌─────────────────────┐
                                              │  Interview Handler  │
                                              └─────────────────────┘
```

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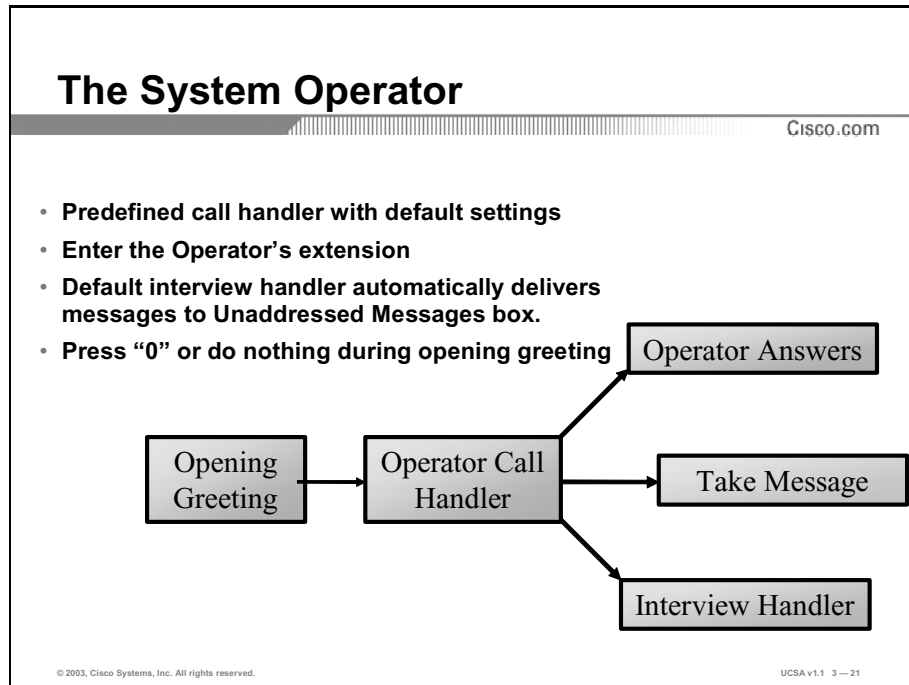
The operator box is another important system configuration. An outside caller in most cases should have a way to connect to the operator during a system greeting, prompt, or message. Most users expect to be connected to an operator after pressing "0." This call handler is associated with the system ID of 0 by default. If a caller does nothing during the opening greeting, they will also reach the operator.

The operator may be an individual that uses a physical extension other than 0. To accommodate that, the transfer options of the operator call handler must reflect the extension of that individual. Also, keep in mind the need for an appropriate greeting on the operator box for when the operator is not available.

After general setup is complete a Cisco Unity administrator should begin to add subscribers to the system. An exercise guiding you through general system setup should be completed after this module. In the next module you will learn about all the options available for and how to manage creating and deleting subscribers.

Summary

This section summarizes the key points discussed in this lesson.

Summary

Upon completion of this lesson, you should be able to perform the following tasks:

- **Describe what tasks must be performed to setup a Cisco Unity system**

UCSA v1.1 3 — 22

Next Steps

After completing this lesson, go to:

■ Laboratory Exercise 1: Setting Up a Cisco Unity System

References

For additional information, refer to these resources:

■ *Cisco Unity System Administration Guide*

Unified Communications Subscribers: A Complete Reference

Module Overview

Subscribers are the main reason business messaging systems exist. Cisco Unity provides several groups of settings that influence the behavior of subscriber accounts. Setting account policy correctly and building meaningful classes of service and subscriber templates will make the addition or importing of subscribers much easier and more efficient. This module shows you a best practice approach to building subscriber accounts.

Upon completing this module, you will be able to:

■ Implement the best practice for setting account policy, class of service and subscriber templates before adding subscribers

■ Choose what types of subscribers to add for a given message delivery scenario

■ Add, change and delete individual subscribers

Outline

The module contains these lessons:

■ Cisco Unity Global Subscriber Settings

■ Cisco Unity Subscriber Accounts and Settings

Cisco Unity
Global Subscriber Settings

Lesson Overview

In this lesson you will learn the tasks you should complete before adding or importing subscribers in Cisco Unity. Because of the dependencies among the settings a best practice order for accomplishing these tasks is recommended.

Importance

It is possible to make your administrative tasks much easier. If you plan well and prepare the environment sufficiently, then adding subscribers to a Cisco Unity system will go smoothly. This lesson provides you with an understanding of the factors that must be planned and prepared for prior to adding subscribers.

Objectives

Upon completing this lesson, you will be able to:

- Understand the difference between global and individual subscriber settings.

- Describe account policy and how it applies to the security of your application.

- Describe Cisco Unity classes of service and why they are added before adding subscriber templates

- Describe distribution lists and why they are added before adding subscriber templates

- Describe subscriber templates and how to use them.

- List the order of the tasks that need to be accomplished before you add subscribers.

Learner Skills and Knowledge

To fully benefit from this lesson, you must have these prerequisite skills and knowledge:

- General knowledge of the difference between global and local settings

- Browser interface navigation

- General knowledge of the capabilities of telephone and messaging systems

Outline

This lesson includes these sections:

- Overview

- What Are Global Subscriber Settings?

- Setting Account Policy

- What is a Class of Service?

- Establishing a Class of Service

- Setting Up Distribution Lists

- Creating Subscriber Templates

- Interaction of the Global Subscriber Settings

- Summary

What are Global Subscriber Settings?

This section describes global subscriber settings in Cisco Unity.

Global Subscriber Settings

Cisco.com

- **Preparing to Add Subscribers**
  - **Account Policy**
  - **Class of Service**
  - **Distribution lists**
  - **Subscriber template(s)**

Get Oriented
Make Decisions
Customize
Prepare to add subscribers
Add subscribers
Create distribution lists
Customize Call Handlers
Back It Up!
Prepare Users
Go Live!

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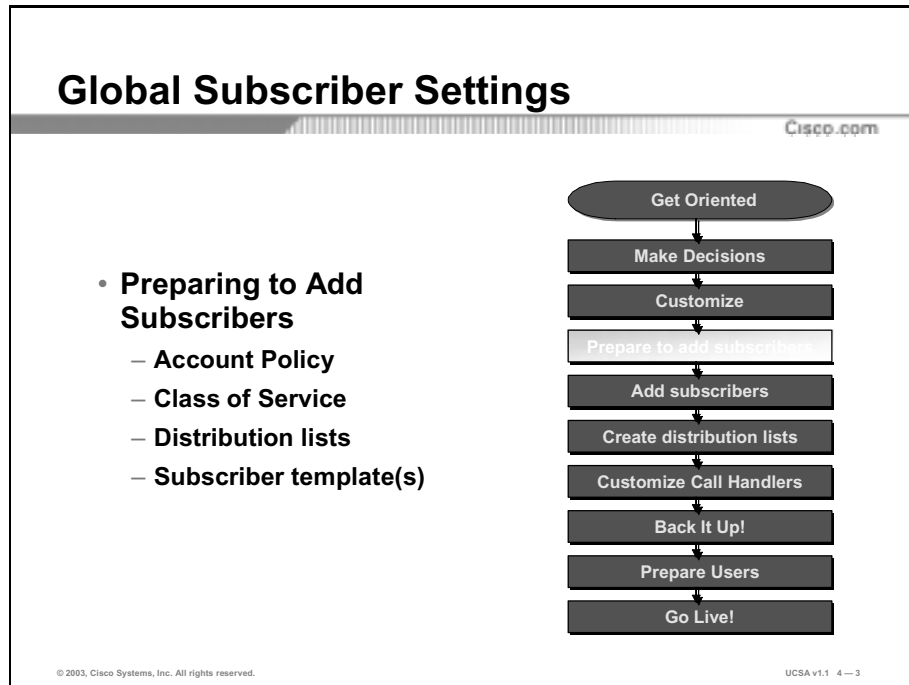
Global subscriber settings influence many aspects of Cisco Unity system behavior for individual subscribers. Changes made in these areas affect many, if not all, subscribers. You can make some of the same changes on an individual subscriber's account, but the effect then will be a change to just one account. The four areas that have a global effect on Cisco Unity subscribers are: Account Policy, Class of Service, Distribution Lists, and Subscriber Templates.

Before adding any subscribers to a Cisco Unity system, there are some decisions that you will make that influence how those subscribers' accounts work. You must make decisions about account policy, what class(es) of service you will use, what distribution lists they will be a member of, and what global settings you will make in the subscriber template(s) you are using. Each of these has an influence on how subscribers use the system. They also interact with and/or influence one another. For this reason we'll take a look at each of them in a particular order to discern the effects that they have.
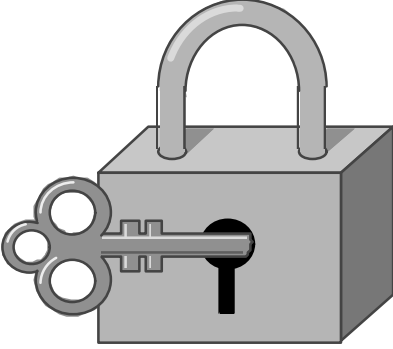
Setting Account Policy

This section describes setting account policy in Cisco Unity.

Account Policy

Cisco.com

- **Global Security Settings**
  - **Telephone password restrictions-**
    - **Telephone passwords are numerical only**
  - **Cisco Unity account lockout**

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UCSA v1.1   4 — 4

The settings you make on the account policy page determine telephone password restrictions and how accounts get locked out. Each of these is a setting that influences the security of your system. These settings affect only telephone access to the subscriber's account for the Cisco Unity system, that is, how they gain access to their Cisco Unity account over the telephone. The settings have no effect on account policy for other Windows or Exchange servers. When a change is made on this page, it takes place immediately. Though most of the changes are global in nature, there are a few exceptions.

It is a prudent security measure to require subscribers to set passwords and to have them change those on a regular basis, though this must be balanced with the inconvenience caused for subscribers. The first setting, maximum password age, is a setting that may not act in a global fashion. If you as a system administrator change the number of days until passwords expire, this will change for everyone on the system except those subscribers whose accounts are set with a password that never expires. If you change a setting here, it takes effect immediately and all subscribers whose accounts do not match the setting are required to comply the next time they log in over the telephone. In like manner, you can change the minimum required length of a password. This setting will take effect for all accounts except those that are permitted a blank password. The last setting, which governs telephone password history, determines whether or not subscribers must generate a unique password each time they change it, or, if not, how many unique passwords they will need to generate.

What is a Class of Service?

This section explains the concept of a class of service.

What is a Class of Service?

A sub grouping of users that share a collection of system features and privileges.

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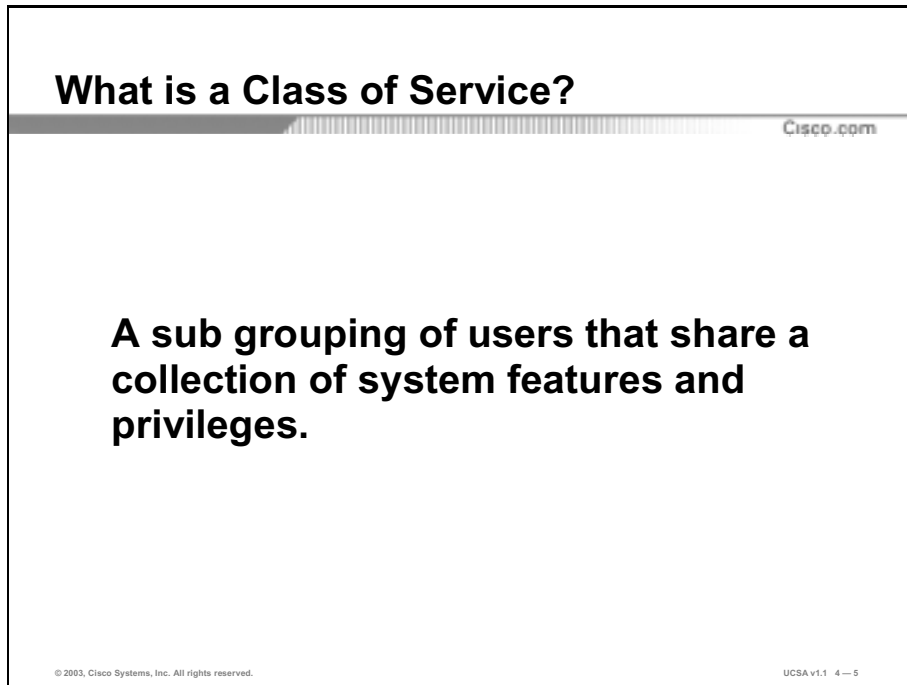
The concept of class of service, a collection of privileges and features assigned to a sub group of subscribers, is familiar to most telephony installers. In telephony systems, class of service is used to provide or deny a group of subscribers a set of features and privileges rather than doing this on an individual basis. This grouping allows you to save time when applying features.

Class of service gives an administrator an easy way to grant system access privileges and control licensing. If there are subscribers who will perform a subset of system administration tasks, it is possible to grant them access to only those portions of the console for which they will be responsible. If some groups within an organization have need of certain licensed features while others do not, it is easiest to control those licenses through a class of service.

Establishing a Class of Service

This section describes how to create a class of service in Cisco Unity.

Class of Service (COS)

Cisco.com

Changes to a COS immediately affect all users in it
- Profile
- Subscriber
- System Access
- Transfer
- Messages
- Greetings
- Licensed Features
- Restriction Tables

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UCSA v1.1 4 — 6

The settings made for a Cisco Unity class of service help determine the security of the system and the features available to subscribers. Cisco Unity ships with two default classes of service, administrator and subscriber. It is possible to add as many classes of service as are necessary. The classes can be based on workgroup membership, job function, or any other classification you wish to use.

You can base a new class of service on an existing one or create one from scratch. It is often easiest to base a new class on an already-existing, similar one; then you need to make only a few changes. In the subscriber template you specify which class of service to use, though you may reassign a subscriber to a different class at any time. When you make changes to a class of service, those changes are immediately applied to all subscribers in the class.

If some groups within an organization have need of certain licensed features while others do not, it is easiest to control those licenses through a class of service. For example, an organization may grant access to ViewMail for Outlook to those members of a class of service that have workstation access, but deny it to subscribers that only use Cisco Unity over the telephone, thus preserving licenses for those who will actually use them.

There are several more features that can be granted through class of service. More detailed information on those settings is located in the *Cisco Unity System Administration Guide*: Class of Service Settings. You can also read about how to create, modify and delete classes of service.

Setting Up Distribution Lists

Distribution Lists

- "All Subscribers"
- "Unaddressed Messages"
- "System Event Messages"
- Public lists created directly using Cisco Unity Administrator
- Membership determined directly or through the subscriber templates
- Private lists created by individual subscribers

Get Oriented

Make Decisions

Customize

Prepare to add subscribers

Add subscribers

Create distribution lists

Customize Call Handlers

Back It Up!

Prepare Users

Go Live!

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Public Distribution Lists

Distribution lists are collections of individual subscribers that all need to receive a certain set of messages. These groups are often set up along functional, departmental lines within companies, but they can also include groups that share particular outside interests (company sports teams, book clubs, etc) or are oriented toward projects that cross departmental lines. Distribution lists can be created prior to creating subscriber templates so that as you add subscribers using a particular template, these subscribers become part of that distribution list. Distribution lists can contain other distribution lists within them, becoming a very powerful addressing tool. With a bit of planning, you can use distribution lists very efficiently as a public distribution list can be a member of another list. This would allow you to create a hierarchy of lists and send a message to one that would cascade through a series of other lists in your organization. You create a distribution list in the Cisco Unity Administrator and assign members to it there as well.

Default Public Distribution Lists

Three public distribution lists are created by default on all Cisco Unity systems; the All subscribers, Unaddressed messages, and System Event Messages lists. The lists are undeletable; members are added or deleted from the All subscribers list in accord with their subscriber status. Members of the Unaddressed messages list receive messages left in the operator call handler box when the operator is not available (this is set by default and can be changed to a subscriber or different distribution list) and receive messages sent on behalf of outside callers that were not able to be delivered. Members of System Event Messages receive

any of the automated email or voice mail messages sent when particular system events occur. This way you can have more than one person screening and directing those messages. You may add as many groups to Cisco Unity as you find appropriate for your organization.

Distribution lists that already exist in Exchange will be available to the subscriber through the graphical user interface (GUI) in ViewMail for Outlook. However if you would like the distribution lists available over the phone you will need to add them to Cisco Unity.

Creating Subscriber Templates

Subscriber Templates

- Profile
- Account
- Password
- Conversation
- Call Transfer
- Greetings
- Caller Input
- Messages
- Distribution lists
- Messages Notification

Default templates
- Administrator
- Subscriber

Create up to 64 templates

Changes made to subscriber template only affect the subscribers added after the change.

Create Distribution lists 1st and then add them to the subscriber templates.

A subscriber template defines the rules for subscriber accounts and the settings for most users. While account policy and class of service settings take effect immediately and apply to subscribers retroactively; changes made to a subscriber template apply only to subscribers added *after* the changes are made. You can use multiple subscriber templates, as many as sixty-four of them, customizing each one for a different group of subscribers.

A reasonable strategy for use of a subscriber template is to define the settings as they will apply to most subscribers in a group and then add the subscribers. You can then go back and make modifications to individual subscribers as needed. Information on settings available in subscriber templates is located in the *Cisco Unity System Administration Guide*: Subscriber Template Settings. Most of the settings available for a template are also available for individual subscribers; you just navigate to a slightly different spot. To change a template, navigate to Subscribers > Subscriber Template, choose the template you want, and then choose the page you wish to modify. To change a setting for an individual subscriber, navigate to Subscribers > Subscribers, find the individual subscriber and then choose the appropriate page.

Profile

The first page that comes up when you click the Subscriber Template link is the Profile page. On it you specify two crucial settings, the Class of service and Schedule that subscribers will use. You may set how display names are generated, and whether subscribers are set for self-enrollment and listing in the phone directory. The last item of importance there is the pattern you'll use for creating an alias for new Exchange and AD users. Cisco Unity offers three patterns; if your organization is using an alternate naming convention, you will either have to edit any account names created through Cisco Unity to match that pattern or choose none.

Perhaps a better plan would be to add users through the Exchange administration or Active Directory console and then import them as a Cisco Unity subscriber. This last item does not apply to Cisco Unity for Domino as all subscribers must be created in IBM Lotus Domino and imported into Cisco Unity.

Password

The Passwords page allows you to set phone password policy. You can require that users change their password from a default you set at their next login. If a new AD account is created, the same default password can be used.

Conversation

On the Conversation page most of the settings are self-explanatory, one of the virtues of using an HTML interface. The Conversation type choices, Full menus or Brief menus, is one for which the choice may not be obvious at first. Full menus is the setting to choose for users who do not have a great deal of experience with voice mail; brief menus is a more appropriate choice for 'power' users, those who have a clear understanding of the messaging system's capabilities and wish to operate in a more efficient fashion.

Call Transfer

On the Call Transfer page you specify whether or not calls will be transferred to the subscriber's extension (most will be) and what transfer type to use. Use the Release transfer type when the telephone switch used by your organization provides call forwarding. This allows Cisco Unity to process calls more quickly. Use Supervise transfer when you want Cisco Unity to act as a receptionist, keeping control of the call and waiting the specified number of rings. The number of rings should be at least 3 and also 2 less than the number the telephone switch will use to forward the call in a ring-no-answer condition.

If you use a supervised transfer, then the Gather caller information section of the page contains settings that can help your subscribers to manage their incoming calls. Most of the options are self-evident, though a few require some explanation. The first setting, "Announce," will cause the voice mail to sound a tone, letting the subscriber know when an incoming call has been cut over to their telephone. If you check the box beside "Ask callers name, " this will cause the Cisco Unity system to ask an outside caller "Who may I say is calling?"

Greetings

Cisco Unity offers the possibility of using five different greetings, depending on the date, time of day, various system settings, and the capabilities of the telephone switch. The greetings used most often will include the standard (used during normal business hours), closed (use during all hours not defined as open for business), and alternate (used when out of the office for an extended period) greetings. Whether or not you use the internal or busy greetings will depend on the capabilities of the telephone system. In most cases, administrators will use the system error greeting supplied by Cisco.

Subscribers on a system have the Standard greeting enabled by default. If all users of the Cisco Unity system will have the same greeting for a particular circumstance; for instance, while the business is closed, then it would be appropriate to chose that greeting and record it on a

subscriber template page. Otherwise, individual subscribers should record greetings as a part of self-enrollment.

For each greeting used on the system you must enable it, then choose a source. If subscribers will be recording their own greetings, then select the Recording radio button. You have the option of allowing caller input during any greeting; you do this by checking the appropriate box on the page. After this, all that's left to do is to set the After greeting action. In most cases, you will select <u>Take message</u>, as this is the main function of a voice messaging system.

Caller Input

If all users of the system will have some keys enabled for **caller input**, then it is best to have that set up in a subscriber template. For example, if an option on your system is to allow all callers to skip the subscriber's greeting and proceed directly to recording by pressing a "1" during the greeting then you would press the 1 key on the Caller Input page, check the "Lock this key to the action" box and then choose the Skip greeting radio button. Any other caller input options used system wide are most easily implemented here.

Messages

On the Messages page, you set the maximum amount of time for voice message left by outside callers as well as what options are available to them after leaving a message. In most cases, once an outside caller has left a message they are ready to exit the system; choosing the <u>Say goodbye</u> radio button is the appropriate choice in those circumstances. In addition, you can choose whether callers are offered the option of marking their messages as Urgent, what language your callers hear by default, and whether to use Message Waiting Indication (MWI) for message notification. In most cases you will use MWI.

Distribution Lists

If there are Public Distribution lists that a group of subscribers should be added to, it is easiest to do it in a Subscriber Template for that group. If you need to create distribution lists, this is done on the Subscribers > Public Distribution Lists page before attempting to add that list to those that are there by default. All Cisco Unity Subscribers is a group that every subscriber on the system is a member of by default. It is not possible to remove someone from this list, though, if you delete the subscriber, they are automatically removed from the All Cisco Unity Subscribers group.

Message Notification

If there is a need, you can use the Message Notification pages of a subscriber template to arrange for standardized notification and delivery of messages to any group of subscribers that share the template. In most cases, message notification and delivery are different for every subscriber, so it is more likely that you will be making those changes on an individual basis.

Interaction of the Settings

The three groups of settings we've just looked at all interact to provide a complete package of information you use when adding subscribers. Though account policy applies to all subscribers on the system without regard to the class of service or subscriber template used, it has an effect on all subscribers and must be taken into account. One of the first choices made in a subscriber template is the class of service to which subscribers will belong. For this reason, all of your class of service settings should be in place before defining any subscriber templates. The account policy and class of service settings combine to provide system security and subscribers' level of access to the system and its features. Subscriber templates control the way subscribers interact with the system on a daily basis. Once you've set up all your classes of service, you can define the settings that will apply to groups of subscribers in the subscriber templates. At this point you will be ready to begin adding subscribers.

Summary

This section summarizes the key points discussed in this lesson.

Summary

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Upon completion of this lesson, you should be able to perform the following tasks:

- **Set account policy, class of service, Subscriber template, and add distribution lists in preparation for adding subscribers**

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Next Steps

After completing this lesson, go to:

■ Laboratory Exercise 2: Preparing to Add Subscribers

References

For additional information, refer to these resources:

■ *Cisco Unity System Administration Guide*

Cisco Unity Subscriber Accounts and Settings

Lesson Overview

This lesson provides an overview of the different types of Cisco Unity subscriber accounts and provides guidance in setting them up.

Importance

Subscribers are the main reason voice messaging systems exist. A large part of an administrator's job, once the initial system setup is complete, involves moves, adds, and changes to subscriber accounts. Knowing what kinds of accounts are available and how to set them up efficiently makes your life as an administrator much easier.

Objectives

Upon completing this lesson, you will be able to:

- Describe the difference between a Subscriber account and a Subscriber template.

- Add and Delete subscribers.

- List the different types of Cisco Unity subscribers.

- Describe the function of Private lists and how to set them up.

- Describe Alternate Extensions and their use.

- Describe the message notification process.

- Understand the default Cisco Unity accounts and their use.

- Understand how to choose the correct type of account.

Learner Skills and Knowledge

To fully benefit from this lesson, you must have these prerequisite skills and knowledge:

- General knowledge of the difference between templates and individual accounts

- Web browser navigation

- Use of Cisco Unity Assistant

- Concept of distribution lists

- Basic PBX/messaging system integration features; complex multi-PBX enterprise environments

- Cisco Unity Administrator interface

Outline

This lesson includes these sections:

- Overview

- Differences Between Subscriber Accounts and Subscriber Templates

- Additional Subscriber Settings

- Using Alternate Extensions

- Setting Up Message Notification

- Default Cisco Unity Accounts

- Types of Cisco Unity Subscribers

- Guidelines for Choosing Subscriber Accounts

- Adding Subscribers

- Deleting Subscribers

- Summary

Differences Between Subscriber Accounts and Subscriber Templates

A Subscriber template is used as a "model" to specify the default settings of a new subscriber. You can think of it as a one-time filter that the subscriber's information passes through during the creation process. When adding or importing a new subscriber you must choose a template to provide subscriber setting information. As you are adding the new subscriber you will supply information that is specific to that subscriber, the extension, the First and Last name. After the subscriber is added you then have other information that is available on an individual basis; Private distribution lists, Message notification, and Alternate extensions. Once the subscriber is added to the Cisco Unity system, you can then change any of the individual settings for that subscriber.

Once a subscriber has been added using a particular template, any changes you make to the account must be made on the individual subscriber's page. Changes made on the Subscriber template will only apply to subscribers added after the template is changed.

Additional Subscriber Settings

Additional Subscriber Settings

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In addition to settings included on the subscriber template there are:

- **Private Lists- subscribers or administrators can create up to 20 private lists with 25 members each**
- **Alternate Extensions- each subscriber can have up to 9 alternate extensions**
- **Message Notification – up to 12 devices available**

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There are some settings that are available on individual subscriber pages that are not shown on any subscriber template page. Private lists and Alternate extensions are features available to subscribers on an individual basis and only make sense in that context.

Private Lists

Private lists are available for each subscriber on a Cisco Unity system. The subscriber that owns these lists manages them either over the telephone or using Cisco Unity Assistant. A subscriber may have up to 20 lists, each containing a maximum of 25 members. The subscriber is the only person that may send messages to their private lists. When addressing a message to the list, the subscriber must use the group number, not the group name. One significant way that private lists differ from Exchange personal distribution lists is where the information is stored. Exchange personal distribution lists are stored in the Outlook client; Cisco Unity's private lists are stored on the Cisco Unity server with the subscriber's other settings. There is no reference to the private lists in Exchange. For this reason, a subscriber can only address messages to their private lists using the TUI.

Using Alternate Extensions

Alternate Extensions

- **Provide Easy Message Access on direct calls from a cell phone, home phone, or alternate work phone**
- **Subscribers address messages to other subscribers using the same number they normally use when calling directly**

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Alternate Extensions:

Each subscriber can have up to 9 different alternate extensions. This feature has two different purposes. It can provide easy message access for the subscriber. When you enter the subscriber's cell phone number in the alternate extension field, Cisco Unity will recognize the incoming digits of the subscriber's cell phone number and ask for the subscriber's password, as if the person were using their desk extension. This will happen as long as the PBX passes the Caller ID digits along to Cisco Unity.

The alternate extension field can also be used in an environment where there are multiple Cisco Unity servers and multiple telephone switches networked together. Cisco Unity servers are differentiated by the location data in the Cisco Unity System Administrator. If an alternate extension is added for subscribers that exactly mirror the number other subscribers would dial when telephoning them directly through the networked telephone switches, then they are able to message each other through the telephone using that same number. A Cisco Unity system administrator can add alternate extensions for the subscriber. Alternate extensions will be covered in more depth in the Cisco Unified Communications System Engineer course.

Message Notification

Message Notification

- **Notify Subscriber of new messages via:**
  – **Telephone**
  – **Pager**
  – **E-mail**
- **Can be set up by:**
  – **System administrator**
  – **Individual subscriber**
    • **Cisco Unity Assistan**
    • **TUI (4 devices only; home phone, work phone, spare phone, & pager)**

Cisco Unity has the ability to place a telephone call to any subscriber to notify that subscriber of new messages. There are a number of different device names that correlate to a type of call or a separate type of notification. A call to your "spare" phone would have a specific conversation telling you, that you have messages. A call to a "pager" would consist purely of sending touch-tones and pauses. A "text pager" is literally sending an SMTP type message. The Cisco Unity system administrator or the subscriber using Cisco Unity Assistant, enters a string of text and an SMTP address, and then Cisco Unity notifies you of new messages by sending the text to the SMTP address. Each device has settings for time of day and day of week to notify you, as well as entries for the type of messages to use this device for. As an example Cisco Unity could send a text message for regular voice messages that would notify you every 60 minutes. If someone left an "urgent" message, then Cisco Unity could send an Urgent text message notifying you every five minutes. As soon as you collect your messages Cisco Unity will stop notifying you, Cisco Unity only notifies with new (unread) messages.

Via the TUI, a subscriber can set up only 4 of the devices; home phone, work phone, spare phone and pager. The first three are labels only; the phone could be any one that Cisco Unity is capable of dialing while adhering to its Call Restriction tables.

Default Cisco Unity Accounts

Default Cisco Unity Accounts

- **Installer**
- **Example Administrator**
  - **Default owner of new call handlers.**
  - **Default message recipient of new call handlers.**
- **Example Subscriber**

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As part of the installation process, Cisco Unity for Exchange or Domino creates default subscriber accounts. Two of the accounts are the Example Administrator and the Example Subscriber. The main difference between the Example Administrator and the Example Subscriber is the Class of Service. The Example Subscriber account does nothing more than give an example of what a basic subscriber account looks like. The Example Subscriber takes up a user license, but it can be deleted to recover the user license. The Example Administrator account is the "owner" and "message recipient" of all default call handlers. The Example Administrator account cannot be deleted via the system administration tool. If there is an issue where you need to recover that one user license or there is a security issue about the account, the Example Administrator account can be deleted. There is a white paper available from Cisco.com on the proper procedural steps to be taken to remove this account. There is another account that is created during the installation process called the Unity –"server name" messaging account. This is a hidden account and does not take a user license. This is the account Cisco Unity uses to send messages from outside callers to a subscriber's inbox. There is also a hidden SQL account that is secretly associated to the current logon account during installation. The SQL account is called the Installer account and has the administrator class of service. This gives your Win2K/Exchange installer account the ability to logon to the Cisco Unity System Administrator and modify system and user settings. An analogous account is created for Cisco Unity for Domino.

Types of Cisco Unity Subscribers

Types of Cisco Unity Subscribers

Exchange subscriber

Import Existing Exchange user

Internet Subscriber

AMIS Subscriber

Bridge Subscriber

VPIM Subscriber

While adding new users to the Cisco Unity system you have the choice of adding the following types of Cisco Unity subscribers.

■ **New subscriber** If you choose to add a new subscriber Cisco Unity will create a mail enabled user account in Windows2000 Active Directory

■ **Import Exchange user** If you choose to import an existing Exchange user, then you will be modifying the voice attributes of an existing user in Active Directory.

The following lists of subscriber types are Networked subscribers. They have a spelled and recorded name and show up in the Exchange global address list but they cannot log on to Cisco Unity to retrieve messages, record greetings, or several the normal functions a full subscriber can do. These network subscribers are a method of making a remote person look like a subscriber. Messages to network subscribers are not actually stored on the local Exchange system but are sent to the remote recipient's message store. The method used to send the message is based on the type of subscriber that is created.

■ **Internet subscriber**

The message sent to an Internet subscriber are e-mails with an attached wav file sent to an SMTP address.

■ **AMIS subscriber**

The messages sent to an AMIS subscriber are delivered to another voice mail system using an analog telephone call.

■ **Bridge subscriber**

The messages sent to a Bridge subscriber leave Cisco Unity as a VPIM message to the Bridge server. It is then delivered via an analog telephone call to an Octel messaging system.

■ **VPIM subscriber**

The messages sent to the Voice Profile Internet Messaging (VPIM) subscriber are sent as an SMTP e-mail with an attached wav file to a VPIM-compliant voice mail system via the Internet.

Each of these Networked subscribers types are covered in detail in the *Networking Cisco Unity Guide* available on Cisco.com These types of subscribers will be covered in more detail during the Cisco Unified Communications System Engineer course.

Guidelines for Choosing
the Type of Subscriber Account
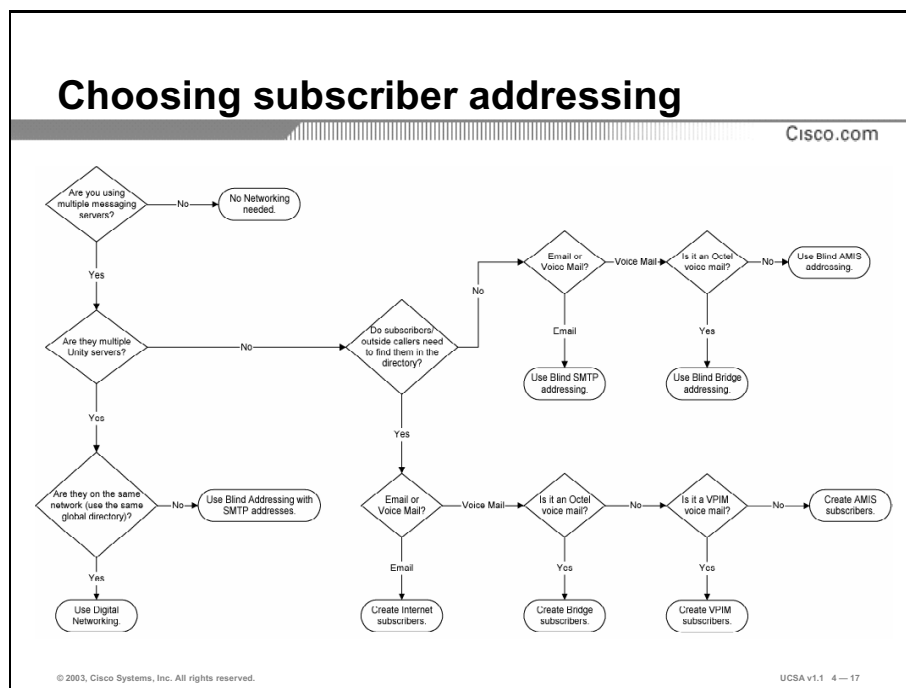
This flow chart can assist in making the decision of what type(s) of subscribers to add. It should be noted that the choices are not mutually exclusive. It may be that you actually add a few different types of subscribers. In every case, the target message server the subscriber holds an account on dictates the kind of subscriber you choose to create.

Adding Subscribers

Adding Subscribers

- **You can manually add or import individual subscribers**
- **Cisco Unity creates Windows 2000 User and Exchange accounts if they do not already exist**
- **You can import subscribers in bulk from Exchange, Domino, or a CSV file.**
- **Default telephone password is 12345**
- **You can only import Domino users there is no option to add a Domino user**

Get Oriented

Make Decisions

Customize

Prepare to add subscribers

Add subscribers

Create distribution lists

Customize Call Handlers

Back It Up!

Prepare Users

Go Live!

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Once you've set the Account Policy, created your Classes of Service, set up your Distribution lists, created your Subscriber Templates and decided what type(s) of subscriber(s) to add, the rest is easy! All you need is a list of employees and their telephone extension numbers. Log onto the Cisco Unity System Administrator, click on the Subscriber link, click the add button and enter data!

It is also possible to import subscribers in a bulk process from Exchange, Domino, or a properly formatted CSV file. Because this is something that usually happens when a system is first set up by an installer, we have chosen to cover it in detail in the Cisco Unified Communications System Engineer course rather than here.

If you are creating subscribers individually and they do not have an existing Exchange account, Cisco Unity will create a mail-enabled Windows 2000 Active Directory account for them. It is not possible to add users directly in Unity for Domino due to restrictions on writing to the Domino database. They must first be added as users in Domino and then imported into Cisco Unity.

Deleting Subscribers

Deleting Subscribers

- **Cisco Unity attributes removed from account when Cisco Unity account is deleted**
- **Windows 2000 user and Exchange account will NOT be deleted, even if Cisco Unity initially created it**
- **Remove Cisco Unity account first then the Windows 2000 user and Exchange account**
- **The System Administrator will query the key and reset licensing information**

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If you are deleting subscribers from Cisco Unity using the System Administration tool, it will remove the Cisco Unity subscriber's information from the SQL database on the Cisco Unity server. It will not remove the mail accounts in Domino or Exchange; it will only remove the Cisco Unity-specific data from those accounts. The Cisco Unity Administration tool will not delete the account. If you want to completely remove the account from the Domino Names.NSF f file or the Windows 2000 Active Directory list, you must use the appropriate administration tool for that software. To delete a Cisco Unity subscriber, select the subscriber's account, click on the red delete button and confirm your action. This does not delete the Active Directory or Domino account; it only removes the Cisco Unity data from the account.

Summary

This section summarizes the key points discussed in this lesson.

Summary

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Upon completion of this lesson, you should be able to perform the following tasks:

• **Describe Subscriber Accounts and settings**

• **Describe Subscriber Templates**

• **Choose the correct Subscriber account to add based on the application needs**

• **Add, delete, and modify Subscribers and Subscriber templates**

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Next Steps

After completing this lesson, go to:

■ Laboratory Exercise 3: Adding and Deleting Subscribers

References

For additional information, refer to these resources:

■ *Cisco Unity System Administration Guide*

Unified Communications System Customization

Module Overview

A Cisco Unity system provides a highly flexible communications environment. In addition to highly configurable subscriber accounts which you learned about in a previous module, there are other data structures in the product that allow you to build powerful call processing applications that can grow to whatever level of complexity and sophistication is needed. Through the use of examples and a close look at the capabilities of call handlers, interview handlers, schedules and routing rules you will gain the knowledge you need to implement customized unified messaging systems for your customers.

Upon completing this module, you will be able to:

■ Build call handlers that provide a variety of services

■ Use interview handlers to capture specific caller information

■ Build call processing applications using call handlers, interview handlers, schedules and routing rules

Outline

The module contains these lessons:

■ Using Call Handlers and Interview Handlers

Using Call Handlers and Interview Handlers

This lesson covers how to use and modify Cisco Unity call handlers, interview handlers and call routing rules.

Lesson Overview

Call handlers are the building blocks behind all of the call processing activity in Cisco Unity. This lesson provides an understanding of the concepts behind them, procedures for their use and some suggested ways they may be used. The suggested uses are presented as a starting point for thinking about customized applications. They are meant to serve as an inspiration for creativity rather than a definition of capability.

Importance

A Cisco Unity system is a very capable voice-messaging platform even set up in its default configuration. However, it has significant capacity for customization. Learning what call handlers are, how they work, and procedures for building call handler applications efficiently allows you to customize a Cisco Unity system to whatever degree your corporate messaging needs dictate.

Objectives

Upon completing this lesson, you will be able to:

- Define a call handler is

- Use the default call handlers

- Use call handler settings

- Use and modify the Opening Greeting call handler

- Make a call handler plan

- Use call routing rules

Learner Skills and Knowledge

To fully benefit from this lesson, you must have these prerequisite skills and knowledge:

- Cisco Unity Administrative interface

- Call processing applications, even if only from an end user's perspective

Outline

This lesson includes these sections:

- Overview

- What is a Call Handler?

- Unity Default Call Handlers

- Call Handler Settings

- Customizing the Default Call Handlers

- Making a Call Handler Plan

- Understanding and Using Call Routing Rules

- Summary

What is a Call Handler?

This section defines a call handler.

What is a Call Handler?

- **Discrete set of call processing instructions**
- **All underlying objects are call handlers**

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Call handlers are the building blocks of any Cisco Unity system. Each call handler is a complete set of call processing instructions that is activated when someone first encounters it. Actually, everything in Cisco Unity, opening greetings, operator boxes, subscribers, interview boxes - is an instance of a call handler in some form or other. You may create an unlimited number of call handlers, allowing you to build as complex a system as you need. They allow you to provide a wide range of services beyond the ones you get with standard voice mail including, but certainly not limited to; audiotext applications of any size, emergency notification services, job lines, and call routing. Call handlers have a wide range of capabilities. You'll be exposed to those capabilities and given some idea of how to work with them in an exercise that follows this lesson.

Default Call Handlers

This section describes the call handlers that are installed in Cisco Unity by default.

There are a few call handlers that are a part of every Cisco Unity installation; the Opening Greeting, Operator, and Goodbye call handlers. They give the system a way to say "Hello" and "Goodbye" and also give callers access to a live person. You will probably modify the content and some of the behavior of the first two, the third exists so that the system can politely and efficiently end calls. These three handlers are undeletable objects; they are needed in many places throughout the system.

Installed on every Cisco Unity system are examples of two special-case call handlers; the Directory Handler and Example Interview. You may create as many examples of each as you need.

Directory Handlers

A new feature in Cisco Unity 4 is the ability to configure multiple directory handlers. These will be of most use in systems with hundreds or thousands of subscribers or in situations where Cisco Unity is providing centralized call processing to a headquarters/branch office configuration. You can use the default Directory Handler as a template for the creation of new directory handlers. You can use location, class of service and public distribution list membership as filters for listing subscribers in a directory. Subscribers can be listed in more than one directory. In order for a subscriber to be listed in any directory, they must have a recorded voice name and have the "List in directory" box checked on their Profile page.

Interview Handlers

In some situations, when a caller leaves a message you would like to gather a set of information from them in order to serve them as well as possible. Cisco Unity systems provide this ability through interview handlers. These system objects allow you to ask a series of up to 20 questions and then record the individual responses to those questions. Each of the responses is recorded and then all of them are sent to the person listed as the message recipient.

An interview handler plays the first question, then a beep and then records the answer. Once the caller stops speaking, or the maximum recording time is reached, the second question is played and the process continues until the last question is reached. When the message is delivered, the recipient hears only the answers separated by beeps. For this reason the recipients must know the order and content of the questions. If a caller does not answer a question, this shows up in the message as two beeps in a row without an intervening response.

Cisco Unity comes with an example interview handler. The list of questions it asks, the order they are in, and what happens to messages left can be seen either at a Cisco Unity system or in the *Cisco Unity System Administration Guide*: Interview Handler Settings.

When using an interview handler, it is best if the first question contains any instructions or introduction needed for the interview. You can let people know how many questions you are going to ask, how long they have to respond, or whatever else you want them to know in order to use this handler well. Once you have done that, ask the questions in a logical order and then leave callers enough time to respond to them. The recordings left will only be as long as the caller's responses, so allowing them an ample amount of time to respond will not necessarily result in long messages.

Call Handler Settings

This section provides information on call handler settings in Cisco Unity.

Call Handler Settings

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- **Profile**
- **Transfer**
- **Greeting**
- **Caller Input**
- **Message**

- **Characteristics**
  - Provide one key routing through the system.
  - Are schedule sensitive
  - Are owned by subscribers
  - Message recipients can be a subscriber or Distribution List.

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Many of the settings used with call handlers will be familiar to you. They are very similar to those used in both the subscriber and subscriber template pages. A good overview of the functions and settings for call handlers is contained in the *Cisco Unity System Administration Guide* Call Handler Settings. *Cisco Unity System Administration Guide*: Call Management Tools gives a good overview of all the tools necessary for call management.

Profile settings

This is the page that identifies the call handler. It is where the handler's name is stored as well as when it was created and who the owner is. Be sure to record the name of the box here. This will aid in identification if there is a need to troubleshoot the application. On this page you also set the box's owner. Ownership of system entities in Unity is now a more powerful feature than previously. The owner of the box is not necessarily the person who receives any messages sent to the box. They are the person who may request changes to the box by an administrator. In addition, the owner of a call handler is now able to change the greeting of that box via the TUI using the Cisco Unity Greetings Administrator (CUGA).You set the schedule this handler will follow for its use of greetings and what extension, if any, that callers would dial to reach the call handler. Handlers in the middle of an application that are only reached from another handler do not need to take up an extension number in your numbering plan.

Transfer settings

On this page you set whether or not Unity will transfer to a telephone extension, and, if so, how it will do it. If you are developing an audiotext application, then you will probably wish that

callers hear the greeting in the box immediately. Turning off transfer accomplishes this most easily. If you are going to transfer to an extension, then you must decide whether to use a supervised or release transfer. This has more to do with the number of ports on your system, level of message traffic, and the features you wish to implement in the call handler. For instance, if you want to use either call screening or call holding, then you must use a supervised transfer.

Greeting settings

This page gives you the opportunity to record appropriate greetings based on the schedule you set on the Profile page. Which greetings play depends on the time of day and the schedule set. You can record all possible greetings on this page and then enable them as needed. If you build an application that will behave the same way all the time, then the best schedule to use is the one that is set to Open 24 hours a day, 7 days a week. The default schedule All Hours, All Days acts like that.

Use of some of the greetings, usually busy and internal, is determined by support from the telephone switch. If the switch can provide notification of an internal call or that a call to an extension encountered a Busy tone, then it is possible to use those greetings. Otherwise they will not be available. Alternate greetings are used most often to accommodate holidays or emergency situations when you wish to override any Standard or Closed greeting. Using CUGA, a call handler owner can toggle between the alternate and standard greetings or re-record the standard greeting over the telephone. This could be very helpful in situations where inclement weather causes a sudden change in plans or, for example, in a homework hotline, where the information needs to change on a regular basis.

Caller input settings

You'll use this page to set up any one-key dialing actions that call handlers will use. The options available are highly variable, depending on what you need the call handler to do. If you are going to allow caller input, make sure you mention the choices available in the greeting of that call handler.

At the top of the screen is a check box, "Allow callers to dial an extension during greeting", which you can use in conjunction with the "Lock this key …" feature to allow access to some extensions and not others during a greeting. If you clear the "Allow callers to dial …" check box, it has the same effect as locking all the keys. To create an efficient call processing system, you would generally lock all keys that you were using in the application; otherwise Unity will wait the set length of time (1-2 seconds) after every key press to determine if another key (the next digit in the extension) is going to be pressed.

The action taken as a result of the key press will, of course, depend on where this call handler is in the application. You can ignore it, skip the greeting and go directly to the after-greeting action, take a message, say good-bye, or send the caller to a variety of destinations. Those destinations include: the subscriber logon conversation, the directory handler, a particular subscriber, another call handler, an interview handler or you can hang up the phone.

Message settings

The settings on this page determine who receives messages (if any) recorded in this call handler, how long those messages can be, what action Unity takes after the message and how Cisco Unity will treat the message after it is left.
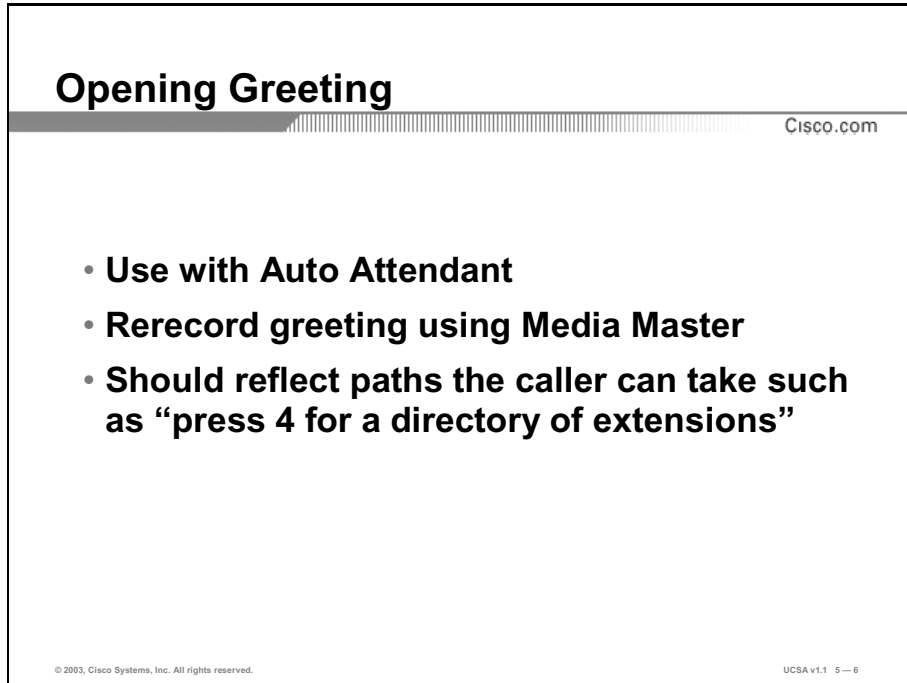
The Message recipient can be either a subscriber or a public distribution list. In many cases your call handlers will not allow callers to leave messages, but in those cases when they do, you have a great deal of flexibility over who gets the message. In contrast to other voice mail systems, the owner of the call handler and the person(s) who receive the messages from the handler do not have to be the same person.

You have the same control over the after message action in a call handler that you have in the subscriber and subscriber template sections of Cisco Unity. These should be familiar to you by now.

Customizing the Default Call Handlers

This section provides information about customizing two of the default call handlers in Cisco Unity.

Opening Greeting

Opening Greeting

- **Use with Auto Attendant**
- **Rerecord greeting using Media Master**
- **Should reflect paths the caller can take such as "press 4 for a directory of extensions"**

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The Opening Greeting call handler is one of the default call handlers. It is installed with a default opening greeting. One of the first tasks an installer should perform is to record a new opening greeting customized to the company.

Typically the Opening Greeting will reflect all the possible initial pathways that a caller can take. They will be able to access a directory of extensions (directory call handler), dial a desired extension, stay on the line or press "0" for the operator. They may also be able to take other paths, if one key dialing has been implemented.

Operator

The System Operator

- **Predefined call handler**
- **Press "0" or do nothing during opening greeting**

Opening Greeting → Operator Call Handler → Operator Answers

Operator Call Handler → Take Message

Operator Call Handler → Interview Handler

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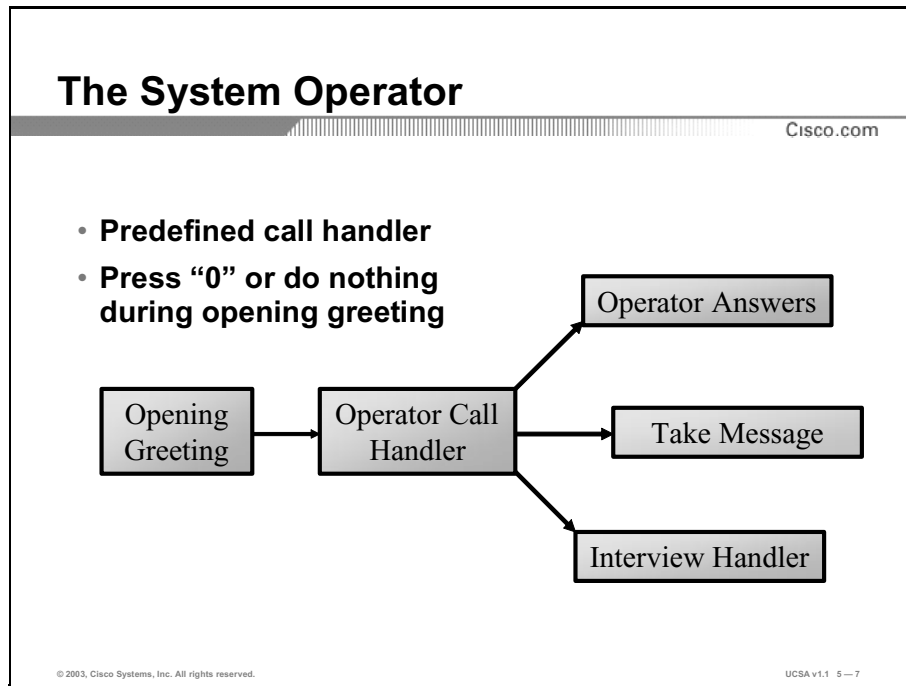
The Operator call handler is also one of the three default call handlers and is another important system configuration. An outside caller should, in most cases, have a way to connect to the operator during a system greeting, prompt, or message. Most users expect to be connected to an operator after pressing "0." This call handler is associated with the system ID of 0 by default. If a caller does nothing during the opening greeting, they will also reach the operator.

The operator may be an individual that uses a physical extension other than 0. To accommodate that, the transfer options of the operator call handler must reflect the extension of that individual. Also, keep in mind the need for an appropriate greeting on the operator box for when the operator is not available, as well as the appropriate action after greeting. By default, the Cisco Unity system will use the Example Interview box to take messages from outside callers who dial 0 and do not reach the operator, do not dial anything, or call during closed hours.

Making a Call Handler Plan

This section provides guidance on the planning necessary to build a customized call handler application.
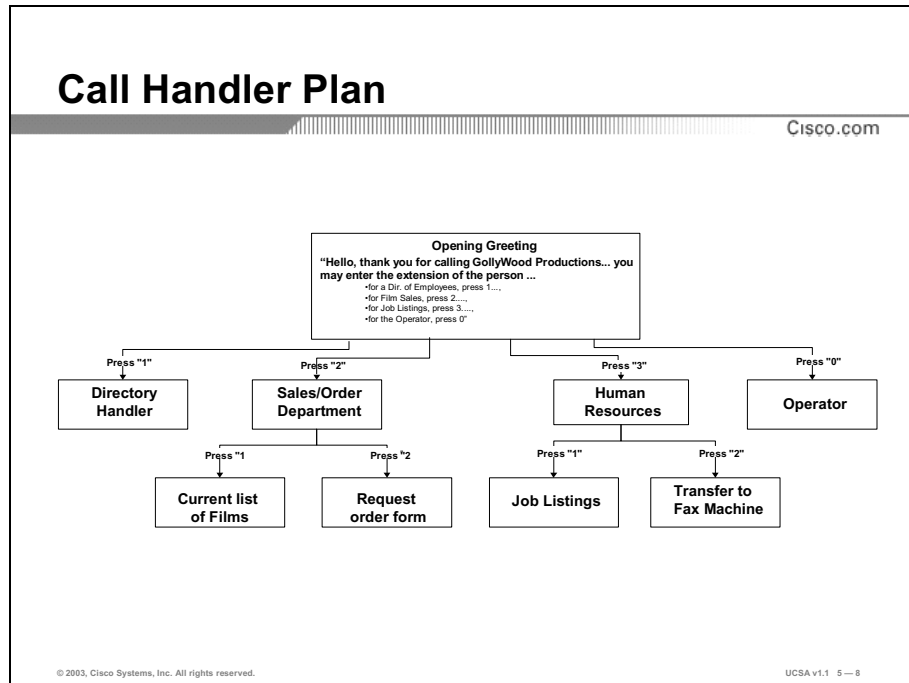
Before you build an application using call handlers, be sure you understand the contents of the *Cisco Unity System Administration Guide*: Call Handler Settings and Call Management chapters. Pay special attention to the section titled "Creating a call management plan" as it contains a set of questions that you will need to answer when building any handler.

When you build up an application, draw it out on paper first. A simple diagram is all that is needed. This will help you in a few different ways. First, it will help you to set things up as efficiently as possible. Second, you will be able to see if you have accounted for all paths through your application. The Call Management chapter of the System Administration Guide contains a drawing that illustrates the level of detail you will need in a map of this sort. When you do start building, begin with the boxes at the bottom of the map and work your way back to the top. The main reason for doing so is that the handlers that have calls routed to them must exist before you can refer to them. You can use a top-down approach, but you'll have to go back into each handler and change destinations once the target handlers have been created.

This is a sample drawing of a call handler plan. We recommend that you draw out your plan prior to implementing it. It not only makes it easier for you to construct, but will make it easier for other system administrators to follow the logic of your plan and troubleshoot any problems with the call handler application.

Understanding and Using Call Routing Rules

This section explains how call routing rules work.

Call Routing Rules

Cisco.com

Handle Direct and Forwarded calls

Calls from subscribers and outside callers

Routing Table: Direct Calls   [Change rule order]

Rule	Status	Call Type	Port	Trunk	Dialed Number	Calling Number	Schedule	Send call to	Language
Live Record	On	Both	Any	Any	Any	Any	Always	Start live record.	Inherited
Attempt Sign-In	On	Both	Any	Any	Any	Any	Always	Attempt Sign-in	Inherited
Default Call Handler	On	Both	Any	Any	Any	Any	Always	Attempt transfer for Opening Greeting	Inherited

Local intranet

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Cisco Unity uses call routing rules to make decisions about the destination of a call in that brief moment in time between the initial moment when Cisco Unity goes off-hook and the Opening Greeting plays. During that time, the information being passed from the telephone switch to Cisco Unity is evaluated to see if it meets any of the rule conditions. If it does, the call is sent to the location specified.

Let's take a look at the default Direct calls routing table. All call routing tables are read from the top down and from left to right. The Live Record rule is evaluated first. Live record is a feature that is very dependent on the capabilities of a telephone switch. The switch must be able to transmit a "barge code" and an extension as the call is arriving at the Cisco Unity port. A barge code is a short sequence that tells Unity to open up a silent conference with the call already in progress at the specified extension. The location "Start live record" begins recording a message that contains whatever is being spoken at the extension.

If no barge code and extension is passed, the rule fails and Cisco Unity moves on to the next, Attempt Sign In. If the PBX passes a sequence of * and a subscriber's extension, then it begins the Sign in process. This is how Easy Message Access (one of the three main features of an integration) is accomplished. If Cisco Unity does not receive a *+valid extension sequence, then it uses the last rule and sends the caller to the Opening Greeting.

You may have as many call routing rules on a system as you wish. There is no practical limit to the number that will execute in a very short period of time. Combining call handlers, interview handlers and call routing rules can lead to some very powerful call processing applications. You can make decisions about where to send a call based on the number that was called, where

the call is coming from what time of day it is, what port the call came in on, and even what kind of call it is.

Summary

This section summarizes the key points discussed in this lesson.

Summary

Upon completion of this lesson, you should be able to perform the following tasks:

- **Use call handlers for an audiotext application and an emergency dialing application**
- **Implement one key dialing**
- **Create and use interview handlers**
- **Use Cisco Unity Greeting Administration**
- **Set and use message notification**

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Next Steps

After completing this lesson, go to:

■ Laboratory Exercise 5: An Audiotext Application

References

For additional information, refer to these resources:

■ *Cisco Unity System Administration Guide*

Unified Communications System Maintenance

Module Overview

Once your system has been set up, subscriber accounts built and system customization accomplished, it is time to put the system into production and begin daily operations. As with the operation of any complex system, proper maintenance and monitoring are crucial to the continued health of Cisco unified communications systems. This module provides information about the best maintenance practices to implement and introduces the various monitoring tools available in Cisco Unity and Personal Assistant.

Upon completing this module, you will be able to:

- Use Cisco Unity Status Monitor

- Use Personal Assistant Server Status pages

- Use diagnostic traces, reports and logs to monitor system health

- Choose what report to run to develop specific information

Outline

The module contains these lessons:

- Cisco Unity System Monitoring and Maintenance

- Cisco Unified Communications System Reporting

Unified Communications System Monitoring and Maintenance

Lesson Overview

This lesson will cover the use of Cisco Unity monitoring tools that show current, "real time" system activity and information. It also describes recommended maintenance procedures for Cisco Unity servers.

Importance

Once a Cisco Unity server has been put into a production environment, it is crucial that it be maintained and monitored so that it continues to perform as well as it is able. This lesson provides you with information about both the procedures necessary and the tools available to accomplish those tasks.

Objectives

Upon completing this lesson, you will be able to:

- Describe Cisco Unity real-time monitoring tools

- Use the real time monitoring tools appropriately

- Use Status monitor web page

- Describe how to use Status monitor program

- Describe effective Cisco Unity maintenance procedures

Learner Skills and Knowledge

To fully benefit from this lesson, you must have these prerequisite skills and knowledge:

- Knowledge of the difference between real-time and historical system information

- Windows 2000 navigation

- Use of development-level monitoring tools

Outline

This lesson includes these sections:

- Overview

- What are Real-Time Monitoring Tools?

- When do you use Real Time Monitoring Tools?

- Using Status Monitor

- Using the Status Monitor Program

- Maintaining a Cisco Unity Server

- Summary

What are Real Time Monitoring Tools?

Real Time Monitoring Tools

Two provided in Cisco Unity
- **Status Monitor (HTML)**
- **Status Monitor.exe**

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Complex systems like Cisco Unity and Cisco Personal Assistant need consistent monitoring to maximize their effectiveness over time. Information monitored falls into two categories, real-time and historical. Real-time monitoring means exactly that, monitoring the system functions as they happen. Issues such as how much space is left on the hard drive, as well as what ports are dialing out to notify users of messages and light the lamps on their phone are ones that should be monitored in real-time on a frequent basis.

When Do You Use Real-Time Monitoring Tools?

Whether you use real time monitoring tools or Reports to develop information is based upon what type of information you are trying to gather. If there were a specific failure that you were trying to duplicate, like a user who collects all messages but whose lamp is not extinguished, then you would use a real-time monitoring tool. If you want to see how many times a specific user received calls that were transferred by the automated attendant then you would use historical information. In addition, if a report indicated that there were particular times during the day when system bottlenecks occurred, it would be useful to observe the system as it is running during those times.

Historical information is data that has been collected previously that you can use to create reports. The report generating tools go back through the logs and look at events from the Cisco Unity or Cisco Personal Assistant point of view. The phrase point of view is used here to distinguish between what the computer tracks and what the user perceives. The next lesson will cover reports in detail.

Using Status Monitor

Status Monitor (HTML)

System Status   **Ports**   **Disk Drives**
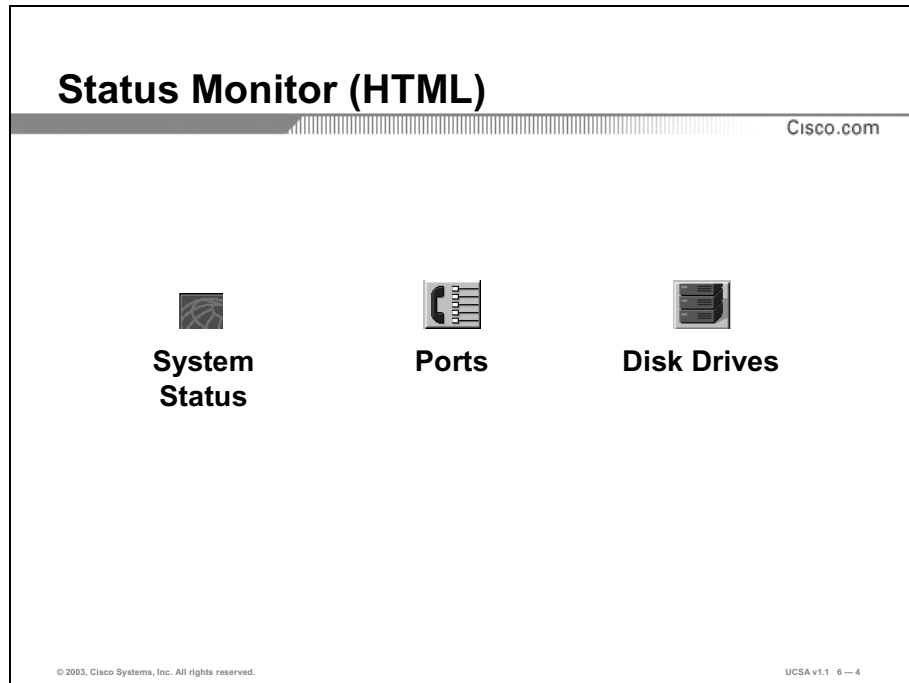
Status Monitor is a Cisco Unity application with an HTML interface that runs separately from the Cisco Unity Administrator. It is possible to run both the Administrator and the Status Monitor at the same time. Access to Status Monitor is controlled through class of service. On the Class of Service > System Access page for those administrators who will use Status Monitor, you make sure the check box beside "Access status monitor" is selected. Status Monitor requires the use of Internet Explorer 6.0 or later.

When you first start the Status Monitor, the system status page is shown. Across the top of the page is a set of six icons at the upper left and a Refresh interval box in the upper right corner. Because HTML is not capable of showing dynamic data in a constant real-time stream, you must tell the Monitor how often to update information on the screen. You can set it to refresh from 2 to 99 seconds with 5 seconds as the default. Setting this too low will result in excess network traffic with no appreciable reporting benefit. Setting it too high may provide information that is not granular enough; if the reporting interval were higher than the system's average call length, it is conceivable that you would miss some calls altogether.

System Status

The main body of the System Status page shows whether or not Cisco Unity is running and gives you the ability to shut it down in one of two ways. You can wait until all current calls are finished or you can send a voice message to interrupt the calls and shut the system down. One way to find out how many calls are active in the system before shutting down is to look at the Ports page.
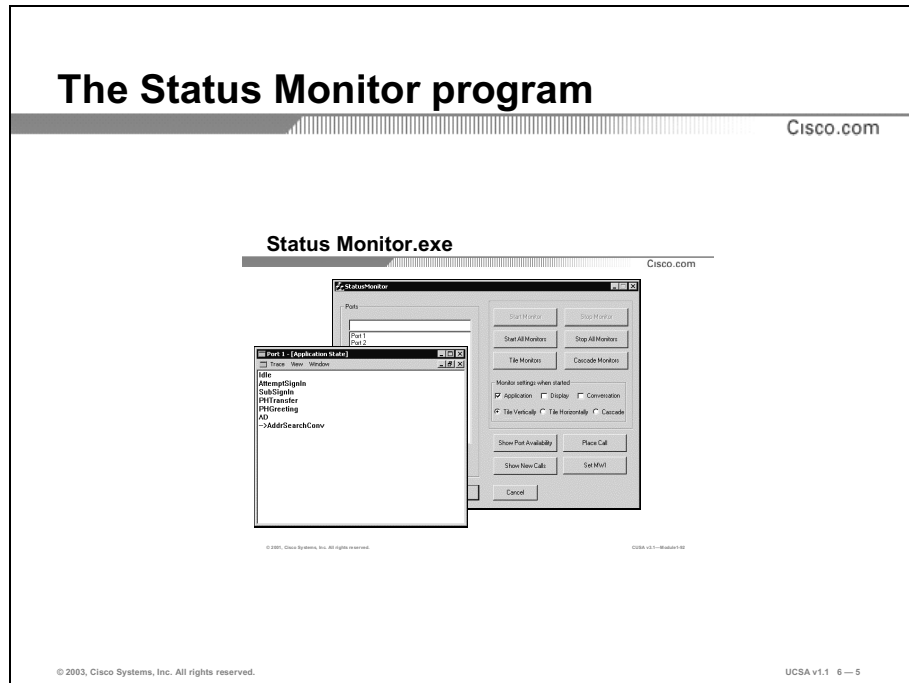
Ports

A port attached to a Cisco Unity system is capable of carrying one call at a time. The Ports page gives you a quick look at the current state (within the latest refresh interval) of the ports on the system. You can see at a glance which ports are active and how long they have been so. You also get information about the state of the call and details about what part of the system conversation the call is currently in. If it appears that a port is locked in an off-hook state (and therefore unavailable to the rest of the system), you can select the port and then click the Reset button in the lower right hand corner of the page body.

Disk Drives

The Disk Drives page gives you a quick look at how much disk space the Cisco Unity system has and how much of it is currently free. All drives on the system, whether physical or logical drives are shown with equal value. If you wish to get more detailed information about the physical drives on the system and their partitioning and formatting, then you must use a tool like the Windows Computer Management Tool.

Using the Status Monitor Program

The Status Monitor program

Status Monitor.exe

This is a tool for watching exactly what's happening on each of the ports; when a Cisco Unity subscriber calls in to listen to new messages, when Cisco Unity dials out to light the message-waiting indicator, or call a cell phone to deliver a message, when an outside caller calls in and navigates through a one-key audiotext application. All this information can be watched or viewed real-time with the Status Monitor program. If you wanted to use this real-time monitoring tool, then you would double-click the Cisco Unity Tools Depot icon on the Cisco Unity server's Desktop. In the left pane of the Tools Depot window, in the Switch Integration Tools directory, you would double-click Status Monitor. On the Status Monitor page, choose from the following options according to your testing and troubleshooting needs.

When a monitor is started, the state shown is controlled by the Monitor Settings. You can monitor port status in three different windows: Application, Display, or Conversation.

■ The Application window shows the state of the Cisco Unity application during the monitoring session. States include Idle, Attempt Sign-in, Transfer, Greeting, etc.

■ The Display window shows a high-level overview of activity during the monitoring session Including Dial, MWI (with extension), Notification (with extension), etc. (This is the same information you would see if you were using the HTML Status Monitor.)

■ The Conversation window shows detailed events that occur during the monitoring session. Events Include Call Handlers in use, Action by Subscribers, Greetings, DTMF, etc.

Maintaining a Cisco Unity Server

This section provides information about the proper maintenance of a Cisco Unity server.

Recommended Maintenance for Cisco Unity

- **Forward unaddressed messages to the appropriate recipients**
- **Scan for viruses**
- **Keep virus-scanning definitions up to date**
- **Check for Exchange mailboxes that are over their storage limit**
- **Run Exchange Optimizer on Exchange 5.5 when more than 100 subscribers are added**

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All of the software and hardware associated with a Cisco Unity server requires maintenance to ensure high performance. Degradation in any piece of the installed software can affect server performance. Performing regular maintenance on the Cisco Unity server can assure continuous reliability and performance.

Messages that cannot be delivered are forwarded to the Unaddressed Messages distribution list. They could arrive there because the network or a home Exchange server assigned to a subscriber is down, or because the subscriber's mailbox is full, or messages left in the Operator call handler when an operator may not be available. These messages should be forwarded from the Unaddressed Messages list to their proper recipient. By default however, the only member of the Unaddressed Messages distribution list is the Example Administrator. It is important that someone whose responsibility it is to monitor the system for undelivered messages be added to this distribution list. This person should have no message storage limit on their mailbox.

Virus scanning on a daily basis is recommended. This should be scheduled for off hours when the Cisco Unity server is less busy.

The virus-scanning software for Cisco Unity should be regularly updated with new virus-scanning definitions. A list of virus-scanning software that has been qualified for use with Cisco Unity can be found at:
http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/sysreq/index.htm

Microsoft frequently provides updates for Windows 2000, Exchange, SQL Server 2000/MSDE 2000, Internet Explorer, and Microsoft IIS. These updates (referred to as security updates, patches, or hot fixes) are limited to changes that fix specific problems. They do not include general defect fixes or new functionality. Cisco TAC provides support for Cisco Unity systems on which of these updates have been qualified for use.

Microsoft also occasionally releases service packs, which contain fixes generated since the general product release. Because the service pack scope is broad, each service pack must be thoroughly tested to ensure that changes do not adversely affect Cisco Unity. Cisco TAC does not support new service packs until they have been qualified for use with Cisco Unity.

Do not install a service pack that has not been qualified, or Cisco TAC will not help you resolve problems until you have uninstalled that service pack.

For information on which service packs have been qualified for use with Cisco Unity, refer to *Cisco Unity Requirements, and Supported Hardware and Software,* available on Cisco.com at http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/sysreq/index.htm

The Microsoft Exchange Eseutil is a defragmentation utility for use with Microsoft Exchange. This utility helps to keep Exchange running efficiently. It may however take a long time to complete. It should be run on a regular schedule at least once every six months.

Running Dbwalker will ensure the integrity of the Cisco Unity database. The Dbwalker utility will check for unassociated (orphaned) call handlers, and invalid links caused by not removing all references to deleted call handlers in the database. If these are left unattended they could cause instability in the Cisco Unity server and system lockups. They will affect any attempt to restore a database made from a backup of a corrupted database.

Additional Maintenance Resources

Cisco.com

- **White Papers :**
  - **Maintaining a Cisco Unity System**
  - **Security Best Practices for Cisco Unity**
  - **Backing Up and Restoring a Cisco Unity System**
- **http://www.cisco.com/univercd/cc/td/ doc/product/voice/c_unity/whitpapr/inde x.htm**

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These are some additional resources to access for information on maintaining your Cisco Unity system. The information contained in these three white papers, as well as many of the others there, goes into much greater depth about the topics than has been covered here. The URL above takes you to a listing of all of the currently available white papers from the Enterprise Communication Software Business Unit (ECSBU), the people who produce Unity within Cisco Systems, Inc. New white papers are added as necessary topics are discovered, researched and written about. Check the address regularly for updated and new information.

Summary

This section summarizes the key points discussed in this lesson.

Summary

Upon completion of this lesson, you should be able to:

- **Describe Cisco Unity real-time monitoring tools**
- **Use the real time monitoring tools appropriately**
- **Use Status monitor web page**
- **Describe how to use Status monitor program**
- **Describe effective Cisco Unity maintenance procedures**

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Next Steps

After completing this lesson, go to:

- Cisco Unified Communications System Reporting

References

For additional information, refer to these resources:

- *Cisco Unity System Administration Guide*

- White papers available at:
  http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/whitpapr/index.htm

Cisco Unified Communications System Reporting

Lesson Overview

This lesson will cover the use of Cisco Unity reporting tools; tools that show historical system activity and information.

Importance

Cisco Unity administrators must understand the performance of the system and put it in context. Using reports, an administrator can come to understand what is 'normal' for their particular system. Once a normal baseline has been established, it is easier to establish a context for the interpretation of real-time information.

Objectives

Upon completing this lesson, you will be able to:

- Use Subscriber reports to manage message activity, distributions lists, storage usage and message traffic

- Use system reports to monitor system performance through administrative access, events on the system, port usage and system configuration

Learner Skills and Knowledge

To fully benefit from this lesson, you must have these prerequisite skills and knowledge:

■ Knowledge of the difference between real-time and historical reporting

Outline

This lesson includes these sections:

■ Overview

■ What are Reporting Tools?

■ When Do You Use Reporting Tools

■ Cisco Unity Reports

■ Using Cisco Unity Subscriber Reports

■ Using Cisco Unity System Reports

■ Personal Assistant Monitoring

■ Summary

What are Reporting Tools

Reporting Tools

Two types provided in Cisco Unity

- **Activity over a specified period**
- **Snapshot in time**

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Complex systems like Cisco Unity and Cisco Personal Assistant need consistent monitoring to maximize their effectiveness over time. Information monitored falls into two categories, real-time and historical. Reporting tools in Cisco Unity provide the historical information in two broad categories; activity that has taken place over a specified period of time and information that is a "snapshot" in time. Port activity is a good example of activity over a specified time period and a Subscribers report is a snapshot of the state of the system's subscribers at the moment the report was run and data was collected.

When Do You Use Reporting Tools?

Whether you use real time monitoring tools or Reports to develop information is based upon what type of information you are trying to gather. If there were a specific failure that you were trying to duplicate, like a user who collects all messages but whose lamp is not extinguished, then you would use a real-time monitoring tool. If you want to see how many times a specific user received calls that were transferred by the automated attendant then you would use historical information.

Historical information is data that has been collected previously that you can use to create reports. The report generating tools go back through the logs and look at events from the Cisco Unity or Cisco Personal Assistant point of view. You use reports to develop information about two broad categories of information; that having to do with subscribers and that which concerns system activity.

Cisco Unity Reports

This section provides general information about Cisco Unity reports.

Cisco Unity Reports

Specify Group to report on

Specify Time Period (if necessary)

Two formats

- **HTML**
  - **220MB file size limit**
- **CSV**
  - **Ideal for post processing**
  - **No file size limit**

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Depending on the report, you specify the subscribers, administrators or distribution lists to include, the date and time range to use, and what data field to sort on. In addition you also specify the file format the report will arrive in.
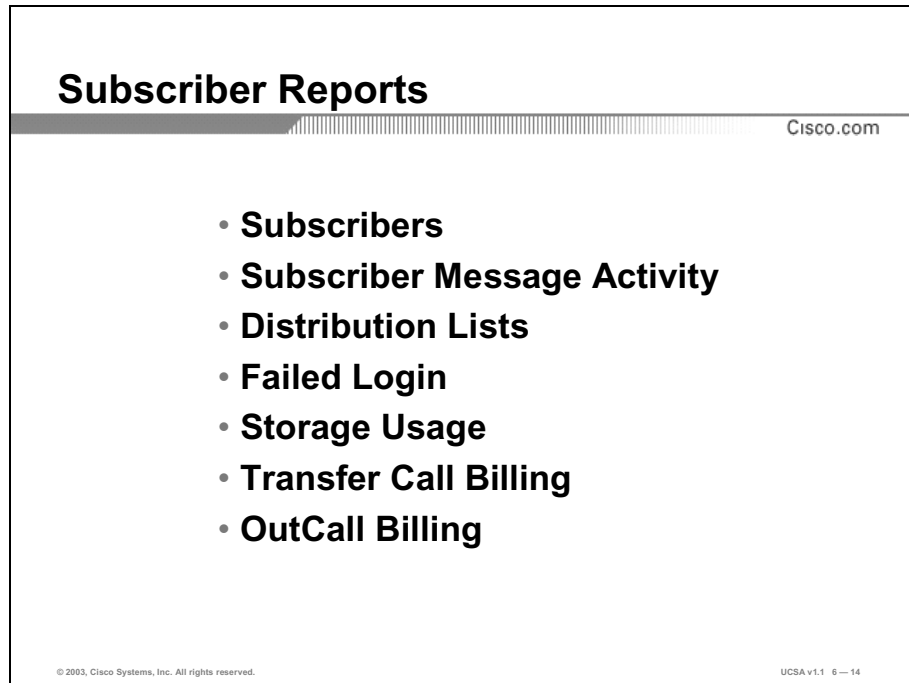
What file format you use will depend on what you want to do with the report after it is generated. You can have the report delivered in either web page (HTML) or comma separated value (CSV) format. If you will be doing some post processing on the report for further analysis or charting, then setting it up as a comma delimited file is best. If you want the information in the report with no further need of processing, then select the web page format. At present web browsers are limited to opening files of no more than 220MB. If you suspect that your report will be larger than that, use the comma delimited format.

Each individual component in Cisco Unity runs its own log file. The event log reads all of them and combines it all into a readable form. You can configure how long those log files are kept in the system. On the System > Configuration > Settings page there are three separate settings to be made for log file cleanup. Each of them defaults to 7 days, but may be made longer or shorter as you require. If you wish to run reports that encompass more than the last 7 days, then you must make the Cleanup interval for logger data files longer. If you do not keep reports around once they have been run, then you can shorten the Cleanup interval for reports files from the initial 7 days.

Any report run in Cisco Unity draws its data from two different sources; first, the continuous data represented by the log files of the last paragraph, and second, on-demand data, that is, information present in the Exchange database that can be pulled out as needed. Examples of this are subscriber names, aliases, public distribution list membership and disk space used by each subscriber. Once the report has been started, you can monitor its progress from the Status Monitor, or you can wait to be emailed when it is ready. When the report is finished, Cisco

Unity will send an email to the account of the person that was signed in to the system when it was generated. Depending on the size of the Exchange database being queried and how busy both Exchange and Cisco Unity are, the amount of time needed to generate the report can be highly variable. Some reports, because of their complexity, may take as long as 18 hours to run. The best time to generate reports is when the system is not busy taking calls or when no other system intensive process (like a backup) is in progress. In the present release of Cisco Unity, you cannot schedule reports in advance. In addition, if Cisco Unity is stopped while processing a report, all reports in the queue will be deleted.

Using Cisco Unity Subscriber Reports

Subscriber Reports

- **Subscribers**
- **Subscriber Message Activity**
- **Distribution Lists**
- **Failed Login**
- **Storage Usage**
- **Transfer Call Billing**
- **OutCall Billing**

Subscribers

Subscriber reports can be run for all subscribers, a selected one or for a public distribution list. The report contains profile and account information on the subscriber(s) selected. The information includes their name, Exchange alias, class of service, extension and Inbox size. This report can be useful in determining which subscribers are using Cisco Unity and the degree to which they are using it. Running the report a week or so after introducing the system will give you an idea of which subscribers may need some extra training or encouragement.

Subscriber Message Activity

There are times when subscribers report that they are not getting their messages or that their MWIs are not being processed in a timely fashion. If that is the case, this is the report to run. When interviewing a subscriber about delayed messages, you should get information about when the problem occurred, whom the message was from, and what they did in response to the message. You can then set up the report to bracket the time. The report can only be run for a specified subscriber. Once run, the report will tell you everything it knows about the message activity of that subscriber, including when they responded to it, what telephone DTMF digits they pressed (if they accessed it over the telephone), what application generated the message and when the message arrived in their Exchange box. Armed with this information, you should be able to address most reports of delayed messages. Our experience indicates very few verified cases of delayed messages. In most cases, the perception of a delayed message can be traced to either a misunderstanding on the part of the subscriber or an error they made in using their account.

Distribution Lists

You can generate a report for any single distribution list or all distribution lists on your Cisco Unity system. When you do, you'll know its creation date, the name of the list's owner, the total number of members, and, optionally, the members of the list. If the distribution list has

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other public lists as a member those will also be listed. This report will only tell you about public distribution lists; private lists of subscribers are not included in this report.

Failed Login

One responsibility of system administrators is to monitor the system against intrusion by unauthorized callers. The failed login report provides the information you need to accomplish this task. The report can track both failed telephone logins and failed system administrator logins. In order to get the failed system administrator logins you must enable auditing in Windows security policies

The report can be listed for all subscribers or a selected subscriber. If a subscriber calls with a locked account, it would be prudent to find out how the account came to be locked. You can use this report to list all login failures for the selected subscriber, which might be helpful in establishing a pattern or determining a need for further end user training.

Storage Usage

Another administration responsibility is to track the amount of disk space used by each subscriber. The storage usage report can be run for all subscribers or a selected one. It will tell you how much space is currently in use and how much is still available for use. The amount of space allotted to each subscriber is set through Active Directory and can be changed if necessary.
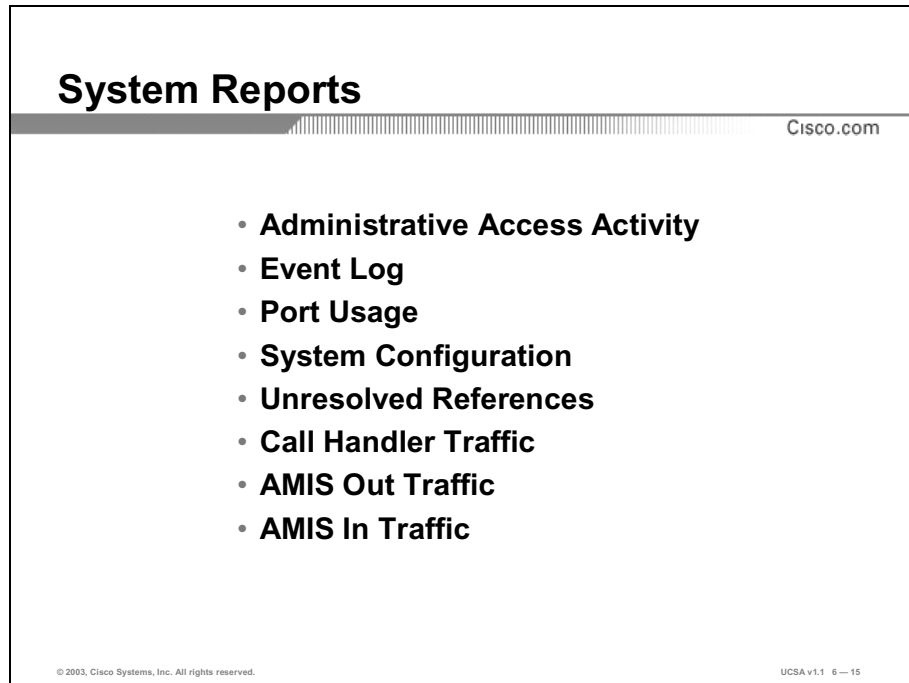
Transfer Call Billing

You can use the transfer call billing report to obtain information about calls that are transferred from a subscriber's account or from a call handler. You could use this report for billing purposes or to keep track of transfers to long distance phone numbers. You can generate the report for all subscribers, billing IDs, or call handlers or for a specific subscriber, public distribution list, billing ID, or call handler. The report will tell you when the call was made, what number was called and the result of the call (whether is was connected, busy, was unanswered, or some unknown condition occurred).

OutCall Billing

Another report, similar in function to the Transfer Call Billing report is OutCall Billing. You use it to obtain information about outbound calls made by Cisco Unity for message notifications. This report also provides information about outbound calls when subscribers use the Media Master control over the phone. You can use this report for billing purposes, or to keep track of message notifications sent to long distance phone numbers.

You can generate the report for all Cisco Unity subscribers or billing IDs, or for a specific subscriber, billing ID, or public distribution list. You can generate a summary version of the report or a detailed version, which includes additional information about each call. The summary version contains the times and lengths of each call. The detailed version of the report contains information on the time the call was made, the notification device used (specified on the subscriber's message notification page and can include: home phone, work phone, spare phone, or pager. For Media Master recording by phone, the word "TRAP" (short for Telephone Record And Playback) is listed as the delivery device), the dialed number, the result of the call (busy, connected, failure, port disabled, port unavailable, no answer, release (which typically happens for notifications sent to pagers), or unknown, and how much time the call took.

Using Cisco Unity System Reports

System Reports

- **Administrative Access Activity**
- **Event Log**
- **Port Usage**
- **System Configuration**
- **Unresolved References**
- **Call Handler Traffic**
- **AMIS Out Traffic**
- **AMIS In Traffic**

Administrative Access Activity

When you need to track which system administrator changed values in Cisco Unity and what values they changed, use this report. You can run the report for all administrators or a selected one and can set the report for a particular date and time range. The report will tell you whether data was created, updated or deleted, who did it and when. In addition it will give you details about the name of every setting changed and what its new value is. With the hectic pace of business today, a tool like this that helps track the changes made in the system can be very useful.

Event Log

You can use this report to list events from the Windows event log. You can look at all events in the log, or you can filter it so that only Cisco Unity events are shown. All of the events shown will be application events, as Cisco Unity does not write system or security events. Of course, you can view the same information using the Windows Event Viewer; Cisco Unity is giving you a way to do it so that you can either maintain a record (by keeping the file) or do it without leaving the Cisco Unity Administrator interface.

Port Usage

To have a clear picture of whether or not your Cisco Unity system is running close to its full capacity, you should run this report on a regular basis. It would be best to run it each week for a few weeks after installing a new system in order to gauge whether the ports have been set up correctly for your system traffic. You can run this report for all ports or a selected range of them. The report will tell you how many calls were taken on the port, their length and average length, the percentage the port is being used, how many calls per day and how many calls per hour are coming in. If you find that a majority of your ports are running at or above 80%

capacity during the busiest times of your working day, this may indicate either a need for more port capacity or a rearrangement of port status. Rearrange port status only in consultation with the installer of the system, as simple changes there will have profound effects on the way Cisco Unity works.

System Configuration

The system configuration report gathers information from several places in the Cisco Unity Administrator and makes it accessible all in one place. You can view all of this information (and much more) in the System > Configuration section of the Cisco Unity Administrator on several of its pages. This would be a good report to print out before a call to the Technical Assistance Center (TAC).

Unresolved References

When a subscriber is deleted by using Microsoft Windows 2000 administrator applications without first deleting the subscriber by using the Cisco Unity Administrator, then call handlers can be left in an invalid state. Use the unresolved references report to locate primary call handlers (call handlers associated with a subscriber's account), other call handlers, and interview handlers that are left in this way.

The unresolved references report examines the Cisco Unity information stored in the SQL database and reports any problems that it finds. The report identifies the errant handler, describes the problem, and suggests a solution.

If the report finds an invalid primary call handler, you will need to run Cisco Unity's SysCheck utility to remove it. To access the SysCheck utility, on the Cisco Unity server, go to Start > Programs > Cisco Unity.

The unresolved references report contains information about the handler's name, what kind of call handler it is, the handler's access id (if any), who 'owns' the handler (is allowed to request changes to it), and who receives messages (if any) left for this handler.

Call Handler Traffic

Once you have built an audiotext application using call handlers, you can use the call handler traffic report to track the number of calls handled by it. The report shows the number of calls going through a particular call handler and how callers are choosing to exit that handler.

There are four ways a caller exits a call handler: hanging up, choosing a one-key dialing option, dialing an extension that transfers the call to another call handler (or subscriber), or being routed automatically by the after-greeting action (for example, being routed to the Good-bye call handler). The call handler report contains columns for each exit method and a tally of how many times each method is used for the handler (or handlers). You can run this report for a particular handler or for all of them on the system, as well as for a particular timeframe.

AMIS Out Traffic

The outbound traffic report provides a variety of data for the system administrator. This reports provides the following information: when the subscriber submitted the message for transmission, whether the message is marked urgent, the sender's primary extension, the delivery phone number the Cisco Unity dialed to deliver the message, when the message transmission started. the number of seconds it needed to transmit the message, whether the delivery was a success or a failure, the total number of messages delivered successfully, and the total number of messages delivered unsuccessfully.

AMIS In Traffic

The In bound traffic report provides information about: the date and time that Cisco Unity receives transmission of incoming messages, the Cisco Unity location ID of the node sending the messages, the target user of the AMIS message, the number of seconds required for the transmission of messages, whether the delivery is a success or failure, the Cisco Unity port number receiving the transmission, the total number of messages received successfully and the total number of messages that failed.

Personal Assistant Monitoring

This section provides information about monitoring the performance of Personal Assistant.

Personal Assistant Monitoring

- **Windows 2000 Performance Monitor Counters**
- **Call History Information**
  - **2 MB files labelled PACallHistoryxx.log (00-99)**
  - **Can be written to CiscoWorks 2000 syslog facility**

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In Cisco Personal Assistant performance statistics are collected and displayed by use of Windows Performance Monitor. There are over 25 counters that can be monitored including items such as: total number of calls made to Cisco PA, number of errors in the speech system while callers were trying to dial a party be name, and total number of times callers were asked to access voice mail. All of the counters are renewed when the Cisco PA server is restarted.

Call History Information logs can also be collected to help identify toll fraud. One can use CiscoWorks2000 Syslog facility to write the collected information to syslog. If not, Cisco Personal Assistant writes the call history records to a series of 2MB files called PACallHistoryxx.log. These will be numbered from 00 to 99. Cisco Personal Assistant will begin reusing the logs once they reach the 2MB limit..

Summary

This section summarizes the key points discussed in this lesson.

Summary

Upon completion of this lesson, you should be able to:

- **Use Subscriber reports to manage message activity, distributions lists, storage usage and message traffic**
- **Use System reports to monitor system performance through administrative access, events on the system, port usage and system configuration**

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Next Steps

After completing this lesson, go to:

- Cisco Unified Communications System Engineer course

References

For additional information, refer to these resources:

- *Cisco Unity System Administration Guide*

- *Cisco Personal Assistant Administration Guide*

Cisco Unified Communications System Administration (UCSA) v1.1

Laboratory Exercise 1: Setting Up Cisco Unity

Complete the laboratory exercise to practice what you have learned in this lesson.

Required Resources

These are the resources and equipment required to complete this exercise:

■ A preconfigured Cisco Unity system

■ The password and telephone information at each work station

■ The steps in this exercise

Exercise Objective

After completing this exercise, you will be able to:

■ Configure setup and site-specific information

■ Configure ports

■ Configure the system schedules

■ Configure holiday schedules

■ Rerecord the Opening greeting

■ Configure the Operator call handler

■ Confirm the telephone switch integration type

■ Configure the default Directory handler

Task 1: Set Up the Site Information

This lab deals with a fictitious company that has contracted with your company to install and service its voice mail and telephone system. You have assessed their needs and planned the system accordingly. They have decided to use a Cisco Unity system. These exercises provide students with accurate simulations of many real world situations.

The exercises in this class will follow the sequence of events that you are likely to follow during a typical setup of a Cisco Unity voice mail system. We'll assume that the system has been properly installed but hasn't yet been set up.

Exercise Procedure

Complete these steps:

Step 1   Navigate to the System > Configuration > Contacts page and in the **Site Name** field type your company name.

Step 2   Press the **Tab** key twice to skip the Cisco Unity Administrator field and go to the next field.

Step 3   Complete the rest of the screen information using the information below.

Contact:	Tina Thompson
Phone #:	201
Alternate contact:	Pete Shelanky
Alternate phone #:	207

Step 4   Press the **Save** command icon 🖫 in the Title bar area to save the changes you've made. There are three cues that you have information to save on a record. First, the Save command icon will be active, blue instead of gray. Second, the title on the page will end with an asterisk "*". In the event that you do not press the icon, the Cisco Unity system will alert you to the need to save changes when you leave a set of screens.

Step 5   Click the back button ◁ to return to the main navigation bar.

Exercise Verification

You have completed this exercise when you attain these results:

■ The information is saved in the fields you have chosen

Task 2: Configure Port Settings

A port on a Cisco Unity, or any other, voice-processing system is the place where a telephone call comes into the system. Each port handles only one call at a time. When you're setting up a system, it's important to ensure that you have ample ports configured for the Cisco Unity system to handle incoming calls and enough notification ports that the Cisco Unity system can use to provide message-waiting indication and message notification and delivery.

If all ports are busy and another caller calls in, the caller will be processed according to the rules of the phone system for overflow calls from the voice mail hunt group. Typically the system will generate a busy tone. The number of ports you have is typically a physical or budgetary restriction that is imposed on the system. You'll work to ensure that the system is set up to work efficiently with the number of ports available.

Exercise Procedure

Complete these steps:

Step 1 Click **Ports** in the System section of the Navigation bar to see the Port table.

Step 2 Look at the status of the first port.

Each port on the system can be set to answer calls, deliver message notifications, light MWI, or make recordings. You do this by checking the appropriate box of the feature you want. All values are checked by default. In general, most of the ports on a system are set to answer calls and only one, or perhaps two on a busy system, is set to light MWI. The exact distribution of port settings will depend on the needs of your system.

At this time, you will change the settings so that they have the normal balance of ports for incoming and outgoing traffic.

Step 3 Click the Message Notification box and the TRAP connection boxes for port 1 on the Port table.

The boxes should change from checked to unchecked. You should save the information before moving to another page.

Step 4 Click the Save command icon and then click the back button ◁ in the navigation bar to see the main navigation bar choices again.

The information on the page body and title bar will remain there until you choose another page. You may have noticed that the Save icon has turned gray again and the asterisk have been cleared from the title.

Exercise Verification

You have completed this exercise when you attain these results:

■ The information is saved in the fields you have chosen.

Task 3: Configure System Schedules

Even though the voice processing system is on twenty-four hours a day, most offices aren't open continuously. Your company is open ten hours a day, from 7:30 A.M. to 6:30 P.M. Monday through Friday, with a 1 hour break for lunch at noon and from 8:00 A.M. to 1:00 P.M. on Saturday. When a call comes in during business hours as specified in the active system schedule, the system follows instructions established for the schedule; all calls that come in outside of the scheduled time are handled in accordance with a different set of instructions. You can set as many as sixty-four (64) different schedules to tell the system how to answer calls no matter when they occur.

If your business were open twenty-four hours a day, for example, the system would handle all calls with the same schedule. Or, for businesses that close for an hour or two in the middle of the day, calls received during that time are handled with the closed hours schedule.

You set the schedule in the System group on the Schedule screen.

Exercise Procedure

Complete these steps:

Step 1   Navigate to the System > Schedules page.

Step 2   Click the Find icon �’ in the Title bar area.

The Select and View Schedule window will appear on screen.

Step 3   Choose **Weekdays {Default}** from the list box and then click the [View] button.

One thing you can see in the title bar is that after the title **Weekdays** there is the word Def in parentheses **(Def)**. This indicates that this is the default schedule used by the system. If you wanted to change it, you would click the Change default schedule link. This would take you to the System > Configuration > Settings page where you could choose a different default schedule from the drop down list box there. We will leave this schedule as the default for now.

The slide below shows you a graphic representation of the schedule in half hour increments for an entire week. You specify a half hour period as open by clicking it once if it is gray. This will change it to a white box with a check in it. You can copy the changes made on one day into any of the others in the schedule, speeding up your work just a bit.

Step 4   Click the 7:30 box in the Monday column to change it to open.

Step 5   Click the 12:00 and 12:30 boxes to change them to closed.

Step 6   Click the boxes from 17:00 to 18:30 (5:00 – 6:30 p.m.) to change them to open.

Now you can copy the schedule over to the other weekdays.

Schedule modification

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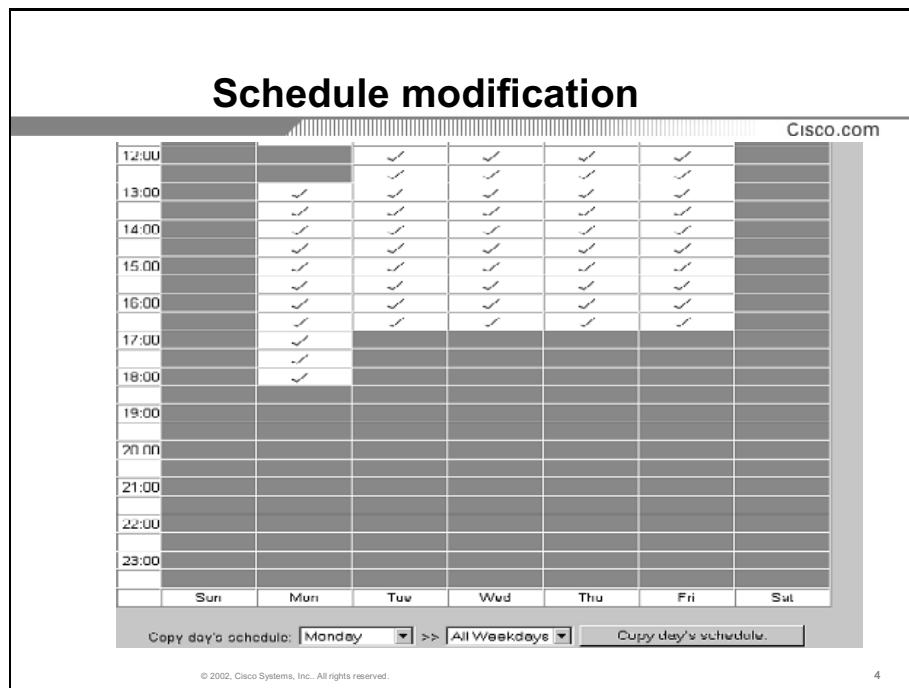
Step 7 Navigate to the bottom of the page, set the drop down list boxes so that the line reads as shown in the screen shot, and click the **Copy day's schedule** button.

Now all you have to do is set the Saturday schedule and then we can save the changes.

Step 8 Click the ten boxes from 8:00 to 13:00 (1:00 p.m.) in the Saturday column to change them to open.

Step 9 Navigate to the top of the page if you cannot see it and make sure that the Observe holidays box is checked.

Step 10 Click the Save button 💾 in the Title bar area.

Click the Back button ◁ in the top left corner to return to the main Navigation bar.

Exercise Verification

You have completed this exercise when you attain these results:

■ The information is saved in the fields you have chosen

Task 4: Set Up Holiday schedule

Your company will be setting holidays as a part of the schedule. You have been told that they observe 9 paid business holidays throughout the year. If the office closes for holidays and you wish to have the system recognize the holiday by providing a different greeting (actually, it operates in closed mode for the whole day), the setting you will make causes that to happen. The system recognizes whatever holidays you have defined. If you want to ignore holidays, then be sure to clear the Observe holiday's checkbox. First you will be sure that holidays are being used by default and then make sure that they are listed on the Holidays page.

Exercise Procedure

Complete these steps:

Step 1   Click the Holidays link in the System section to see the contents of the Holidays page.

At present there are only two holidays listed both for 2003. The first thing you'll do is copy the 2002 holidays to 2003, then you'll add some other holidays.

Step 2   Click the **Copy 2003 holidays to 2004** button

Step 3   Click the Add icon ⊕ to bring up the Add a holiday window.

Step 4   Make your selections from the month, date and year drop-down list boxes for July 4, 2003 and then click the **Add** button.
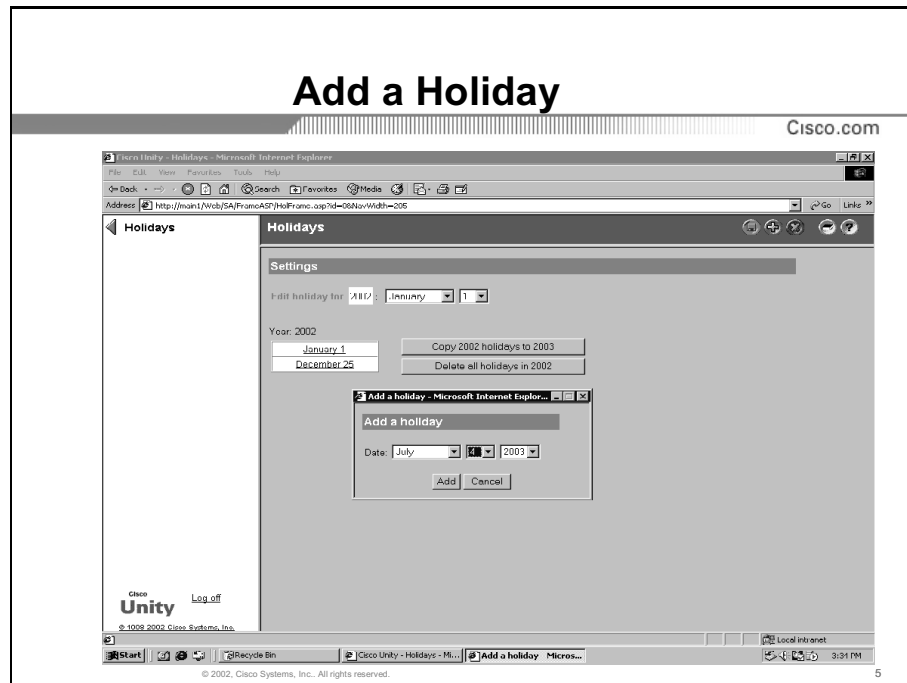
Step 5   Add six more holidays to the schedule to round out the 9 that your company observes.

There is no need to explicitly save the dates, as this is done when you click the Add button. You may have noticed that the Save command icon never changed to blue and the asterisk never appeared in the title bar while you were setting new dates.

Notice that you can delete all of the holidays for a given year by pressing the appropriate button.

If you want the system to automatically update the time stamp whenever Daylight Savings Time starts and ends, you must do so at the operating system level. Go to the Windows Control Panel, double click Date/Time, click the Time Zone tab and make sure the box at the bottom of the page is checked.

One thing to remember is that with the exception of Daylight Savings Time, the holiday schedule is static. This means that you will have to change dates for movable holidays, like Thanksgiving, Memorial Day and Labor Day in the United States or Boxing Day in England and Canada, on a yearly basis.

Exercise Verification

You have completed this exercise when you attain these results:

- The information is saved in the fields you have chosen

# Task 5: Change the Opening Greeting

The Opening Greeting call handler contains the greeting that callers hear when the voice processing system is set to automatically answer incoming calls. Each system comes with a prerecorded system greeting. Typically, each organization personalizes the opening greeting so that it includes the name of their organization and describes the available options for directing their calls.

Exercise Procedure

Complete these steps:

Step 1   Click the Back arrow ◁ to return to the main Navigation bar. The Page area will continue to show the Holidays information until you choose another page.

Step 2   In the Call Management section, click the <u>Call Handlers</u> link.

Step 3   Click the Find button ◉ in the Title bar area.

The Select and View Handler window will appear on screen.
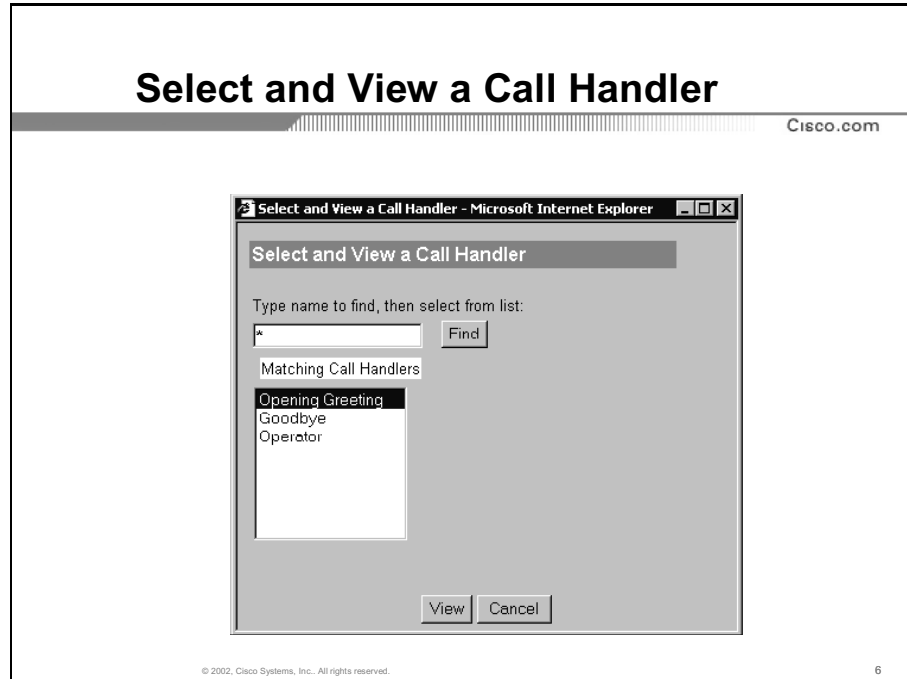
Step 4   Click the [Find] button, then select Opening Greeting from the listed call handlers and then click the [View] button.

You'll also notice that it has a voice name already recorded (this isn't the greeting, but is instead a recording of the box name "Opening Box") in the "Recorded voice:" field.

Step 5   Click the <u>Greetings</u> link in the Navigation bar.

There are five possible greetings available for each call handler, as there are for any system entity that can contain a greeting. Which ones your system has recorded and enabled will be determined by your company's needs. For now, we will record the Standard greeting.

The name in the drop-down list box at the top of the page indicates the current greeting that we are working with. Notice that the field marked Recording in the Source section of the page contains a time entry of the length of the greeting in seconds. This indicates the length of the recording and will change when we have recorded something.

Step 6   Standard should be showing in the list box. If it is not, please choose it now.

In the pane marked Standard, you see the field marked Status. The Standard greeting is currently enabled. If a greeting is disabled and it is the currently scheduled one, nothing is played and the after message action takes place immediately. The Standard and Off Hours greetings are enabled by default; all other greetings are disabled, but can be added as needed. The Source field shows where the recorded greeting originates. Cisco supplies the default Opening Greeting as part of the system.

Step 7   Click the Record button in the Source section.

Step 8   Click the Record button on the Media Master bar and record the opening greeting. Here's a sample script. Feel free to improvise.

> *"Hello. Welcome to <Your Company> . If you know your party's three-digit extension you may dial it at anytime. If you don't know your party's extension, press 555 to reach a directory. Otherwise, stay on the line and an operator will be right with you."*

Step 9   You will be prompted to enter an extension number and a server name. The extension you enter should be the first line directory number (DN) of your test phone. The Server name will be the Cisco Unity server name. Cisco Unity will use this information to call you at a specific telephone number from a specific Cisco Unity server.

Step 10   When you finish the recording, click the Stop button on the Media Master bar.

Step 11   Press the Play button on the Media Master bar to listen to the recording. If you're satisfied, move on to the next steps. Otherwise, rerecord the greeting until you are satisfied.

Step 12   Click the Save button.

Other items to note on the Opening Greeting > Greeting page are the actions that the box takes during the greeting and after playing the greeting. The box normally transfers the call to the operator during business hours and takes a message after normal business hours. If you set the greeting to allow caller input then you will have to set up one-key dialing options.

One-key dialing is a speedy way to route callers. With one-key dialing, you can set up customized routing in each box to allow a caller to press one touchtone to route the call to an extension. The caller hears a simple menu (*Press 1 for Sales, press 2 for customer service...*), presses a touchtone, and the system routes the call to the destination-whether that's another call handler, an extension, or a message box. You set up one-key dialing on the Caller Input screen.

Exercise Verification

You have completed this exercise when you attain these results:

■   Cisco Unity plays the Opening Greeting you have recorded when you call it.

Task 6: Configuring the Operator Box

The operator box settings tell the system what to do whenever anyone dials the operator. Typically, if the operator's extension is available, you want calls to be transferred to that extension. If not, the default settings record a message to gather information from callers.

Don't confuse the Operator call handler with the Opening Greeting call handler, which plays the greeting callers hear when the automated attendant answers calls. The Operator handler plays a greeting when callers dial zero or attempt to reach the operator, but the operator line is busy or unanswered.

Exercise Procedure

Complete these steps:

Step 1   Click the Find button ⊘ in the Title bar area.

The Select and View Handler window will appear on screen.

Step 2   Click the ⌈Find⌉ button and then choose Operator from the listed handlers and then click the ⌈View⌉ button.

Step 3   Look at the Operator call handler settings.

Note that the **Extension (optional)** field is **0**. If a caller wishes to reach the operator, they need only press **0** to be immediately transferred to the call handler. From there we can send them to any extension listed under the Call Transfer section of the call handler. Let's set that extension to the 2nd extension on your phone.

Step 4   Click the Call Transfer link in the Navigation bar.

This page is where you set how calls are transferred to the Operator. The first section, **Transfer Rules**, tells you when this rule will apply. The three choices; Alternate, Closed, and Standard, are listed in alphabetic order. These mirror the three different scenarios the system operates in based on the schedule; Standard for all hours set as Open, Closed for all hours set as Closed, and Alternate only if specified. The second section, **Transfer incoming calls?** specifies whether the call will be transferred, and, if it's transferred indicates the extension of the destination.

Step 5   In the first section of the page, choose Standard from the drop-down list box.

This sets the box so you can specify what to do when your company is open for business.

Step 6   In the second section click the third radio button, "Yes, ring a subscriber at this extension", and then type **your second line extension** in the text box beside it.

All that's left to do here is to set the transfer type. We will use Supervised transfer in the classroom although Release to Switch is most common in "real world" installations. Recall that Release to switch relies heavily on switch program settings.

Step 7   Click the radio button next to Supervised transfer.

Change the value in the Rings to wait for: box from 2 to 4.

If you wished, you could also gather some information about the caller at this point. However, when callers are being transferred to the operator they will usually be helped by the attendant there regardless of what information they might enter. For that reason, we won't ask for any

information. We will alert the operator that it is a call for "the Operator" by introducing the call to the person who answers the phone.

Step 8 Scroll down to Gather caller information and check the Introduce ("call for *name*") box

Click the Save button 🖫 in the Title bar area.

Exercise Verification

You have completed this exercise when you attain these results:

■ Call into Cisco Unity from line one of the test phone and dial zero for the operator. Cisco Unity should transfer you to the second line on the test phone. Put line one on hold and answer line two. Cisco Unity plays the "Call for Operator" recording when you pick up the phone.

Task 7: Confirm the Telephone Switch Setup

In order for Cisco Unity to communicate well with your telephone switch, you must tell it what telephone switch you are using. A technician does this as part of the initial system installation.

Exercise Procedure

Complete these steps:

Step 1   Click the Back arrow ◁ to return to the Navigation bar. The Page area will continue to show the Operator call handler information until you choose another page.

Step 2   Click <u>Integration</u> in the System area of the navigation bar.

On the Integration page in the navigation bar, there are three types of Integrations referenced. Cisco CallManager, SIP and Circuit Switched. The Integration that is underlined is the type of integration that was chosen during the initial installation of Cisco Unity. If there is more than one Integration underlined then you would be working on a Cisco Unity system that is configured for dual integration. This page shows the integration information that Cisco Unity will use to interact with the telephone system it is connected to. Notice that this is a read-only page and the top of the page refers you to the UTIM (Unity Telephone Integration Manager) to manage your telephony integrations. Confirm that the switch manufacturer and model listed is the correct one. For this class it should be the Cisco CallManager.

Exercise Verification

You have completed this exercise when you attain these results:

■   You have verified that Cisco CallManager is the Integration type

Task 8: Configure the Directory Handler Setup

When people call your company, they can dial an employee's extension during the Opening greeting. In most cases they will, given that option as a part of the opening greeting. In some cases though, they may not know the extension of the person they wish to reach. In that case they can use the spell-by-name or Alpha directory provided with the Cisco Unity system. That directory can be configured in a number of ways, so let's take a look at the options now.

Exercise Procedure

Complete these steps:

Step 1 Click the Back arrow ◁ to return to the main Navigation bar. The Page area will continue to show the switch setup information until you choose another page.

Step 2 Click Directory Handlers in the Call Management area of the navigation bar.

You will automatically move to the Profile page of the Default Directory handler. The upper part of this page shows the current settings for the call handler, including the name of the directory, the owner and when the handler was created. The only other values on the page are the Recorded voice; the extension people will dial to reach the directory, the language and the play all names check box. The extension is the number that should be publicized in the opening greeting, unless you have set up one key dialing.

Step 3 Click the Search Options link to move to that page. The Page area shows the two options you have at this point.

You can allow outside callers to search by either first or last name, which you choose with the radio button on the page. You can also choose how the directory search will be restricted.

Step 4 Chose the Local Unity Server only as we will not be implementing dialing domains in this classroom lab. We will implement dialing domains in the Cisco Unified Communication System Engineer course.

Step 5 Choose the Last name, first name button. When the Cisco Unity system has performed a search and found one or more subscribers that match the entered name, it will display them according to the choices you make on the next page.

Step 6 Click the Match List Options link to move to that page.

As you can see, you have two choices to make on this page. The first decision is what to do when the search returns only one match. Do you route the call automatically, or do you ask the caller if they would like to be connected? Choosing the latter allows outside callers to confirm that they have found the correct person. On the other hand, choosing the first option will connect them more quickly.

Step 7 Choose the Request caller input first button.

Step 8 Choose the Extension format button.

In a real world implementation you must decide whether to make the extension numbers of subscribers available to outside callers when they have a successful search. If you choose Extension format, then when an outside caller gets a match they might hear, "*Tina Thompson, extension 207, Brad Vinson, extension 359 …*".Selecting **Request caller input** first will require callers to dial the extension and train them to dial the extension the next time they call.

This is an efficient use of Unity's ports, if the customer's application has a lot of repeat callers who need to reach the same people when they call in. If the customers are not repeat callers, then you may want to chose the **Route automatically** button. This way when the search is a unique match the caller is transferred without any other input required. The Extension format or menu format choice occurs when there are multiple matches. If you choose menu format," then the directory will say "*For Tina Thompson, press 1, for Brad Vinson, press 2, ….*"you can still choose the option of having extension numbers announced.

The last item to configure is how the directory handler will respond to caller input.

Step 9   Click the Caller Input link to move to that page.

All of the choices on this page are directed at how the handler will respond to input. If a caller presses no touchtones, how long will Cisco Unity wait before ending the call? After a caller presses the last touchtone, how long will Cisco Unity wait before moving to the next part of the conversation? How many times will the directory ask for caller input? Answers to each of these questions can be entered on this page. By default, Cisco Unity will wait 5 seconds before moving on to the next part of the system conversation. It will wait for 4 seconds after the last touchtone (to see if any further touchtones will be pressed) before proceeding. It will ask twice for user input before moving on. If the caller enters a "*" during the directory conversation, you can choose to route the caller to one of a variety of destinations. By default, the call will be routed back to the opening greeting. The defaults will serve us well enough, so we will leave them as we have found them. Let's save the information we've recorded here before moving on.

Click the Save button 🖫 in the Title bar area.

Exercise Verification

You have completed this exercise when you attain these results:

■   The information is saved in the fields you have chosen

Laboratory Exercise 2:
Preparing to Add Subscribers

Complete the laboratory exercise to practice what you have learned in this lesson.

Overview

Adding subscribers to a Cisco Unity system is a two-phase process. First, you must prepare a series of settings which will be applied to the subscribers you will add. Then, you add the subscribers either by importing their information from existing systems or by entering the information directly at the Administration console. In this exercise, you will gain the knowledge of what tasks must be done during the first phase before adding subscribers.

Required Resources

These are the resources and equipment required to complete this exercise:

■   A Cisco Unity system configured during lab exercise 1

■   The password and telephone information at each work station

■   The steps in this exercise

Exercise Objective

After completing this exercise, you will be able to:

■   Set account policy

■   Set up a new Class of Service

■   Add a distribution list

■   Add a subscriber template

Task 1: Set Account Policy

When you set account policy on a Cisco Unity system, you are determining the level of security it will have when people call it over the telephone. There are two main aspects to the policy; what sort of restrictions you put on telephone passwords, and when you will lock an account because you suspect an attempted intrusion. You will set each of these in turn for the installation at your company. You'll set the telephone password restrictions first.

Exercise Procedure

Complete these steps:

Set Password Policy

Step 1   Start from the main Navigation bar. If you are not on that screen, move there now.

Step 2   In the Subscribers section of the navigation bar, click the <u>Account Policy</u> link.

The Account Policy page appears with the Phone Password Restrictions page open. You make three decisions here; how long a password will last, how long that password must be, and whether or not you will force unique passwords on each account.

Step 3   In the Maximum phone password age section of the page; select the **<u>Days until password expires</u>** radio button.

Step 4   Enter 60 into the text entry field directly to the right to specify a policy of changing passwords every two months. The default is every 42 days, six weeks.

In the next section you set the minimum length a password can be. The maximum number of characters is 24; you are only setting the minimum here. It would be wise to require at least one more digit than the length of extensions you are using.

Step 5   In the Phone password length section of the page, select the **Minimum number of characters in password** radio button.

Because your company uses three digit extensions you will require them to use a minimum of 4 digit passwords.

Step 6   Enter 4 into the text entry field directly to the right to set that as the minimum number of digits.

Next you'll specify whether or not the system will keep track of old passwords used by the subscribers and, if so, how many.

Step 7   In the Phone password uniqueness section of the page, verify **Do Not Keep Password History** is selected.

Because you are in a class room environment and not worried about security you'll set the system to not keep a history of the users passwords This will allow you to use the default password (12345) as the password for all of the subscribers you add. In a production site you would choose to have users change the password to something new to increase security instead of letting the same password be used over and over.

Step 8   UnCheck the **Check against trivial passwords** box. If this box is checked, Cisco Unity checks to see if passwords are: all the same digits, (9999), the digits are consecutive (1234 or 4321),

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the same as the extension, or it spells the subscriber's name. At a more secure site this would be a must, but for our class we will leave it unchecked.

Set Cisco Unity account lockout

Step 8 In the navigation bar, click the Phone Lockout Policies link.

The Account Lockout page appears. You make three decisions here; whether you will implement account locking at all, how many attempts you will allow before locking the account, and whether the account will unlock on its own or need the attention of a system administrator. Of course, the last two decisions will not be required if you decide not to institute a lockout policy.

The management of your company has decided that, due to the competitive nature of their business, it would be prudent for them to have this level of security on their system.

Step 9 Select the **Account Lockout** radio button to enable the feature

In consultation with your company management you have determined that, because the subscribers are long-time users of another voice mail system, they are familiar with how to enter a password and will be able to do it within 3 tries.

Step 10 Enter 3 into the text entry field that is part of the sentence **Lock account after _ invalid attempts.**

You could also press Tab until that field highlighted and then use the arrows to change the value to 3.

Step 11 Enter 20 into the text entry field that is part of the sentence **Reset count after __ minutes.**

This will allow subscribers who have not used their three attempts to wait 20 minutes and then try again without being locked out of the system.

Step 12 Select the **Forever (until the System Administrator unlocks the account)** radio button to ensure that an administrator of the system will be aware of any intrusion attempts (or which Subscribers may need additional training).

Press the Save button 🖫 in the Title bar area to save the changes you've made.

Exercise Verification

You have completed this exercise when you attain these results:

■ The information you entered is saved in the correct fields

Task 2: Configure a new Class of Service

Class of Service (COS) settings grants system access rights and privileges to Cisco Unity subscribers. Each Cisco Unity system ships with two classes of service; one for subscribers, the other for administrators. The administrator class has full access to all system functions using the Administrator console; the subscriber class has none. Management has given the administrator an assistant, so you'll be setting up an administrative class with scaled down access rights and privileges. During this portion of the lesson you will learn how to add another class of service based on a pre-existing one. The procedure for building a COS from scratch is very similar, varying only in the number of settings you must make.

Exercise Procedure

Complete these steps:

Step 1   Click the Back arrow ◁ to return to the Navigation bar. The Page area will continue to show the Account Policy > Unity Account Lockout information until you choose another page.

Step 2   In the Subscribers section, click the <u>Class of Service</u> link.

Step 3   Click the Add icon ⊕ in the Title bar area.

    The Add a Class of Service window will appear on screen.

Step 4   Click the **Based on existing COS** radio button and then choose {Default Administrator} from the Based on: drop-down list box.

Step 5   Supply a name in the Name: text entry box. `Admin Assistant` is a descriptive working title.

Step 6   Click the **Add** button.

Modify system access

Now that you've created a new class of service with the same attributes as the current {Default Administrator} COS, it's time for you to modify it.

Step 7   Click the <u>System Access</u> link.

Administrators have full system access; you want administrative assistants to be able to make basic moves, adds, and changes, but not to be able to make more substantive system adjustments. The **Cisco Unity Administrator Application Access** box must remain checked for assistants to have any access to the system. There are many check boxes below and to the right of that box. These grant varying degrees of access; all of them should be checked at the moment.

Step 8   Clear the proper check boxes so that your screen matches the example below.
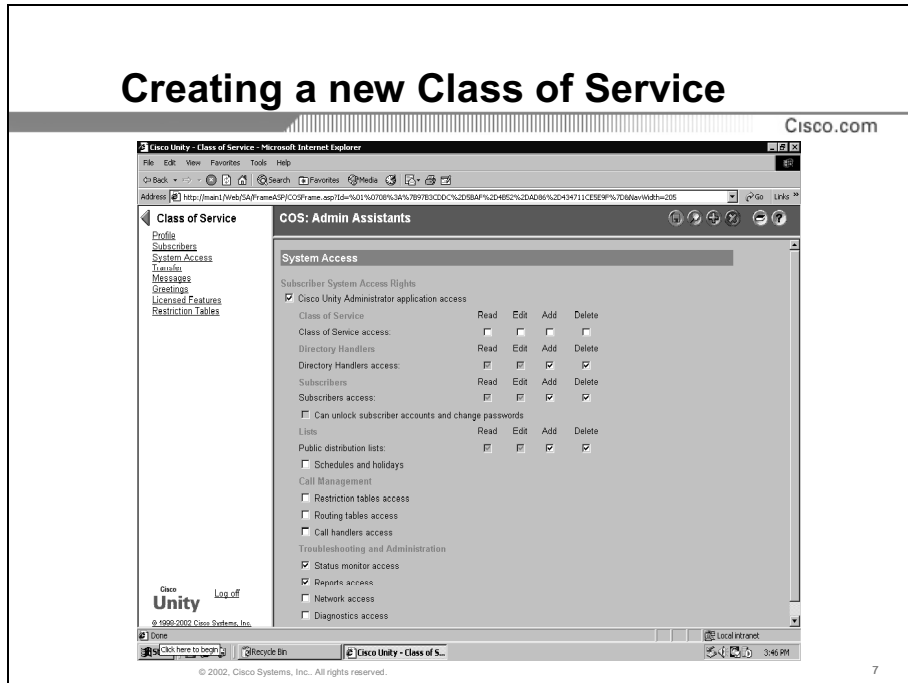
An administrative assistant will now be able to; view, create, edit, and delete subscribers; view, create, and edit Public distribution lists, and access system reports and the status monitor. They will not be able to create, edit or delete call handlers, COS objects, call restriction or routing tables. In addition, they will not have access to diagnostics, schedules, or technician functions. This is the appropriate level of access for them. All of the other privileges given to administrators can safely be granted to assistants, so there are no further changes to make.

Step 9   Click the Save icon 🖳 in the Title bar area.

Once you have added a few subscribers, you will assign someone to this class of service. For now, you can leave it unpopulated.

Exercise Verification

You have completed this exercise when you attain these results:

■ When you click the Find button 🔍 in the Title bar area you now see the additional Class of Service you have created

Task 3: Add a Distribution list

The next task you will accomplish is creating a public distribution list that can be added to the subscriber template that you will be adding in the next task.

Exercise Procedure

Complete these steps:

Step 1 Go to the Navigation bar; click **Public Distribution Lists** in the Subscriber section.

Step 2 Click the Add icon ⊕ in the Title bar area.

Step 3 Type a name for your distribution list. Notice that you can create a new distribution list, base it on an existing distribution list, or import a distribution list. This is where you would import distribution lists from existing Exchange or Domino servers that you want to make available in the Cisco Unity TUI. In this case specify **New**.

Step 4 Click **Add**. Notice that the owner of the new public distribution list that you just created is the Unity installer account. Change the owner to **Example Administrator**.

Step 5 Record a voice name for the distribution list.

Step 6 Click the **Save** button.

You do not need to add an extension. That is optional. You would only need an extension if you were calling the distribution list directly.

Exercise Verification

You have completed this exercise when you attain these results:

■ When you click the Find button ⊘ in the Title bar area you now see the additional Public distribution list.

Task 4: Configure a new Subscriber Template

The last task you must accomplish before adding subscribers is to define one or more subscriber templates. Subscriber templates allow you to define the rules for a group of subscriber accounts and the settings needed for them. Each Cisco Unity system ships with two subscriber templates, Default Subscriber and Default Administrator. These templates contain a representative group of settings that will serve the needs of most subscribers. You can use it as a pattern for developing new templates.

During this portion of the lesson you will learn how to add a template based on an existing one. The procedure for building a template from scratch is very similar, varying only in the number of settings you must make.

Exercise Procedure

Complete these steps:

Step 1 Click the Back arrow ◁ to return to the Navigation bar. The Page area will continue to show the Public Distribution List information until you choose another page.

Step 2 In the Subscribers section, click the Subscriber Template link.

Step 3 Click the Add icon ⊕ in the Title bar area.

The Add a Subscriber Template window will appear on screen.

Step 4 Click the **Based on existing Template** radio button. Choose {Default Subscriber} from the Based on: drop-down list box.

Step 5 Supply the name `Admin Assistant` in the Name: text entry box. This will give you three templates for the system.

Step 6 Click the **Add** button.

Define Template settings

Now that you've created a template with the same attributes as the {Default Subscriber} template, it's time for you to modify it. You'll modify the Profile settings first because that contains one of the most critical settings in a template, the class of service you will use.

Step 7 Click the arrow for the drop-down list box beside Class of service and choose the **Admin Assistant** class you just finished creating. You can leave the rest of the settings on the page as they are because you want these subscribers to: enroll at the next login, be listed in the directory and use that Exchange alias creation scheme.

Step 8 Click the Passwords link. Verify the phone password for new subscribers is 12345. You want subscribers to change their password when they first log in.

Step 9 Click the **Save** icon 🖫.

Step 10 Click the Conversation link. Because your company's assistant administrators are experienced voice mail users, you will set them up to use brief menus.

Step 11 Choose **Brief menus** from the drop down list box in the Conversation type area of Conversation options.

You'll leave the default choice of addressing messages by last name first selected in the Sending Messages section of the page. You have quite a few options in the Retrieving

Messages and Listening to Messages section. The defaults are fine as they are, but you may change any you choose. Make those changes here before moving to the next step

Step 12 Click the Call Transfer link in the Navigation bar. In the "Transfer incoming calls to subscriber's phone?" section, click the **Yes, ring subscriber's extension** radio button.

The field to the right of that choice is a read-only text box. On individual subscriber records it will contain the extension assigned to each subscriber.

Step 13 In the Transfer type section, click the **Supervise transfer** radio button and then increase the **Rings to wait for**: value to 3.

When using a supervised transfer, you should make sure that the number of rings you wait is two shorter than the number of rings the switch will wait. Otherwise, you may not be able to determine whether the switch or the voice mail has control of the call when it is not answered.

Using a supervised transfer allows you to make use of some other features in Cisco Unity: call holding and call screening. If Cisco Unity detects a busy tone at the extension it is connecting to, it can offer one of three options. The default is to hold, but we can modify that to allow callers more latitude.

Step 14 In the **If the call is busy** section, click the **Ask caller** radio button.

Call screening allows a subscriber to receive information and make decisions about a call before it is cut through. **Announce** will play a beep just before the call cuts through; **Introduce** is useful for subscribers who are getting calls from more than one place in the Cisco Unity system (such as, their personal message box and a departmental message box) and wish to know how to answer calls appropriately. **Confirm** gives the subscriber the option to send a call directly to voice mail rather than take the call. **Ask caller's name** is used in conjunction with Confirm. In this case the Cisco Unity system asks the caller "Who may I say is calling?" when the extension is first dialed. Their response will be played for the subscriber as "Call from *recorded name*."

Step 15 In the Gather caller information section, put a check mark in the **Introduce** and **Ask caller name** boxes.

Step 16 Click the Greetings link in the Navigation bar. The Standard greeting is enabled by default and may not be disabled. This is the greeting that will play during normal business hours if the subscriber does not answer their phone.

Step 17 In the Source section, click the **Recording** radio button. This will give every subscriber using this template the opportunity to record his or her own greeting.

Step 18 Leave the **Allow caller input** check box selected in the During greeting section.

Step 19 In the After greeting section, click the **Take message** radio button. This is, after all, one reason your company is purchasing the Cisco Unity system.

Though there are 5 greetings possible in each subscriber's mailbox, this is the only one we will change settings for at this time.

The link to the next page, Caller Input, is the one you use when you wish to implement some one-key dialing features. Your company wants all callers to skip a subscriber's greeting and go directly to leaving a message by pressing "1" on the keypad. You can implement this very easily.

Step 20   Click the <u>Caller Input</u> link in the Navigation bar.

Step 21   In the "Key: 1" section, click the "Take message" radio button.

Now that you've set up how subscribers using this template will greet callers and accept input, you need to specify in more detail what actions are available while messages are being left. You will do this by clicking the next link in the list.

Step 22   Click the <u>Messages</u> link in the Navigation bar.

The default maximum message length of 300 seconds (5 minutes) is longer than subscribers at your company wish to listen, so you'll change that setting next.

Step 23   In the Taking messages from outside callers section, decrease the setting for maximum message length to 180 seconds.

The default action after a message is left is set as "Say goodbye." Because this action is also appropriate, you can leave it alone. The rest of the defaults on this page are acceptable for your customers at your company so you leave those unchanged as well.

Step 24   Click the Distribution Lists link under subscriber template. In the left pane choose the distribution list that you created in the last task and add it with the appropriate arrow. Now every new subscriber added to the Administrative Assistant subscriber template will be part of two distribution groups: All Subscribers and the distribution list that you created.

Message notification is something that is usually done on a subscriber-by-subscriber basis. After all, everyone has different numbers for their pagers, cell phones, and other phones. For this reason, you won't be changing any settings in the last page of the subscriber template, though you are free to look at the pages to become familiar with them.

Step 25   Click the Save icon 🖫 in the Title bar area.

Exercise Verification

You have completed this exercise when you attain these results:

■   When you click the Find button 🔍 in the Title bar area you now see the additional Subscriber Template you added.

Laboratory Exercise 3:
Adding and Deleting Subscribers

Complete the laboratory exercise to practice what you have learned in this lesson.

Overview

Adding subscribers to a Cisco Unity system is a two-phase process. Now that you have finished the first phase, you are ready to create new subscribers. You can create new Cisco Unity for Exchange users directly at the system administration console. Be aware the only way to create new subscribers with Cisco Unity for Domino is to import the users from a Domino server. You cannot add users from the administration interface on a Cisco Unity for Domino system.

Required Resources

These are the resources and equipment required to complete this exercise:

- A Cisco Unity system configured in Labs 1 & 2

- The password and telephone information at each work station

- The steps in this exercise

Exercise Objective

In this exercise, you will add individual subscribers using components from the labs you have already completed.

After completing this exercise, you will be able to:

- Add a new subscriber

- Delete a subscriber

Task 1: Add Individual Subscribers

This lesson will lead you through adding subscribers directly to a Cisco Unity voice mail system. Bulk addition of subscribers is usually performed immediately after the system setup tasks you have performed. At this time you will add subscribers individually.

Exercise Procedure

In this lab you must first know whether you are using Exchange or Domino as your message store. If you are going to add subscribers to Cisco Unity for Exchange, then follow the next steps. If you are going to add subscribers to Cisco Unity for Domino, then skip to the Domino instructions.

### Adding Subscribers to Cisco Unity for Exchange

Complete these steps:

Step 1   Create a list of 5 names you want to add as subscribers to the Cisco Unity system. Include a three-digit extension for each in the 3XX range. You could make up names using characters from a favorite movie or TV show, players from a sports team, members of a band, whatever helps you to come up with five names. Make the names unique. When a Windows 2000 account is created the Graphical User ID (GUID) must be unique. If two administrators add John Smith only one will be successful.

Subscriber Name	Ext.#
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Step 2   Navigate to the **Subscribers > Subscribers** page and click the **Add** command icon ⊕ in the title bar area.

Step 3   Click the radio button for **New Subscriber**; make sure Exchange is selected from the drop down list.

Step 4   Type the first and last name for the first person on your subscriber list into the appropriate boxes in the Add Subscriber window.

Step 5   Type in the extension number listed for your first person. (Create and use 3 digit extension numbers that don't conflict with the extension of your phone.)

Your Extension ID need not be the same extension that you will transfer an incoming call to. All of your subscribers will be transferring to the same lab extension. For example if your lab phone extension begins with a 1 don't use 1 in the first digit of your extension pattern. There is no need to fill in the Fax ID field.

Step 6   Choose the Admin Assistant Template you created for the first Subscriber you add.

Step 7 You'll notice that the Display name: and Exchange alias: fields are filled in automatically. Make sure that you are using your local Exchange server. See your instructor if you have questions.

Step 8 Click the Add button.

The Add Subscriber window will change. A message will appear that says "Processing. This will take a moment. - Thanks for your patience." While that message is on the screen, Cisco Unity is building a minimal Windows Active Directory and Exchange account in the background, as well as the Cisco Unity account that you will now see on your screen.

Once the account has been created, you can click on any of the links in the navigation bar. You will find that the subscriber account entries mirror the settings you made in account policy or the Assistant Administrators template (which uses the Admin Assistant class of service)

Step 9 Add the other 4 subscribers from your list. Be sure to choose the {Default Subscriber} Template when adding these subscribers.

**Step 10** For each subscriber do the following tasks:

■ Record a voice name (Profile page) and greeting (Greeting page)

■ Clear the **Set subscriber for first time enrollment** check box. (Profile page)

■ Clear the **User must change password at next login** check box. (Password page)

■ Change call transfer to **Yes, ring subscriber at this number** (Call Transfer page) and set to the 2nd extension on your phone.

Step 11 If you wish, you may add yourself as an administrator, using the {Default administrator} template.

Call into Cisco Unity using the Cisco Unity voice mail number that is listed on the server password and telephone information label. Experiment with leaving a message for one of the subscribers and then retrieving it. (Remember press * and the extension of a user to login to the account using the TUI)

Exercise Verification

You have completed this exercise when you attain these results:

■ You call the system and using the default Directory handler you can find one of your new subscribers.

■ When you are on the Subscribers page and chose the Find button ● in the Title bar area, then click the Find button, your new Subscribers are listed.

Task 2: Deleting a Subscriber

This lesson will lead you thru deleting a subscriber from the System Administration interface. When a Cisco Unity subscriber is deleted, the Cisco Unity-specific information is deleted from the Exchange or Domino account. Cisco Unity does not delete the Exchange or Domino account; only the Cisco Unity-specific data is deleted.

Exercise Procedure

Complete these steps:

Step 1   Navigate to the Subscribers > Subscribers page and click the Find command icon 🔍 in the title bar area.

As you can see, you can find subscribers by one of four criteria; Exchange alias, extension, first name or last name. In the next text field there is an asterisk "*", the wild card character. If you have many subscribers, you can limit your searches by putting one or more characters in front of the asterisk. Because you have just a few subscribers, you can click the Find button now.

The current list of subscribers will be displayed in a few moments. You can sort that list on any of the five available fields.

Step 2   Choose one of the subscribers by clicking on their name. Do not choose either the Unity Installer or Example Administrator accounts. Deleting either of these accounts will have serious negative consequences.

Step 3   Once the subscriber's record is displayed on the screen, click the Delete icon ⊗ in the title bar.

You will be asked to confirm the deletion in a dialog box.

Step 4   Click the **OK** button to confirm the deletion.

Remember, this only deletes the subscriber's Cisco Unity account. If you wish to completely remove this subscriber you will need to delete their Active Directory user and Exchange account as well. The best practice is to always remove the account from Cisco Unity first.

Exercise Verification

You have completed this exercise when you attain these results:

- When you are in the <u>Subscribers</u> page and chose the Find button 🔍 in the Title bar area, click the Find button, your deleted subscriber is not in the list.

- When you call Cisco Unity on the phone and enter the extension number of the deleted subscriber you should here "Sorry. I did not recognize that as a valid entry."

This is the end of the Exchange portion of the Adding Subscribers lab. The following instructions are for adding users to a Domino server and Importing the users as subscribers into Cisco Unity.

Domino instructions

Task 1: Add Individual Subscribers

This lesson will lead you through adding People entries in the Domino Server and then importing them into Cisco Unity for Domino. Bulk addition of subscribers is normally performed immediately after the system setup tasks you have already performed. At this time you will add Users to the Domino Server, then import them into Cisco Unity This would normally be the time you would go to Cisco Unity for Domino and import the users that will have voice enabled e-mail boxes. In this case, there are no users to be imported yet, so you will have to add the users yourself.

Exercise Procedure

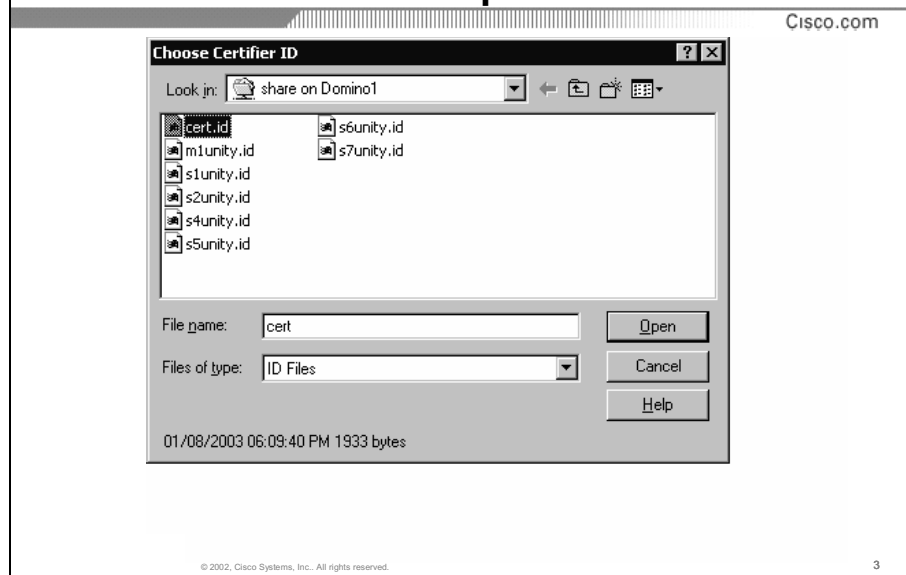Complete these steps:

Adding People to a Domino Server

Step 1   Create a list of 5 names you want to add as users to the Domino Server and Cisco Unity system. Include a three-digit extension for each, start in the 3XX range. You could make up names using characters from a favorite movie or TV show, players from a sports team, members of a band, whatever helps you to come up with five names. Make the names unique.

Domino User/Subscriber Name   Ext.#

_____   _____

_____   _____

_____   _____

_____   _____

_____   _____

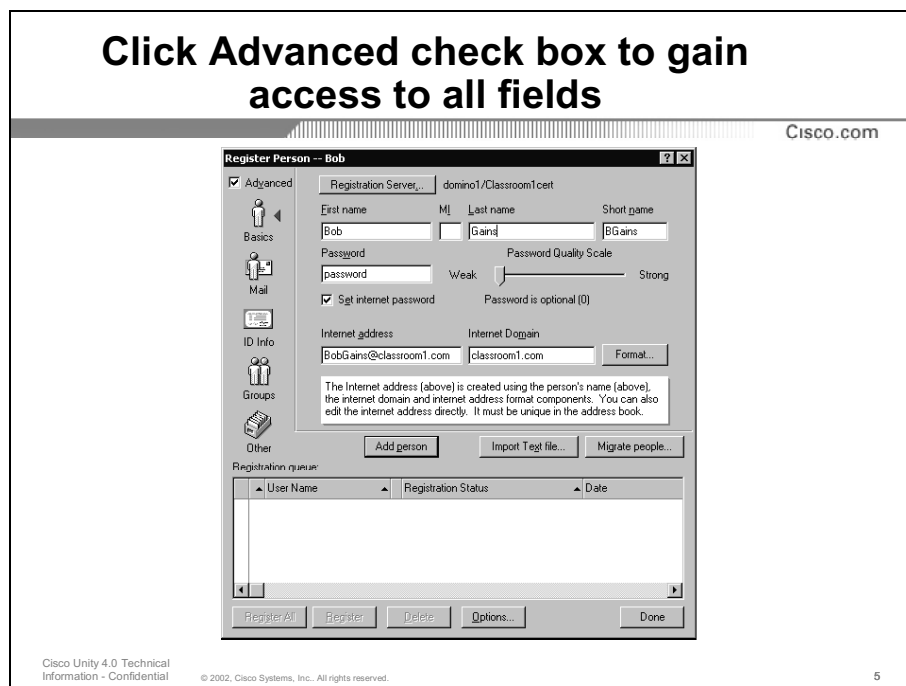You will use the extension later when you import.

Step 2   Locate the Lotus Domino Administrator Shortcut on your Desktop and double click it to launch the Domino Administrator application.

Step 3   In the left column click the People icon. If you do not see any people, verify that you are viewing the Domino server's database. Clicking the Servers icon in the far left column does this. Then choose the Domino server for your domain.

Step 4   Once you can see people then click the People icon in the right hand column (under Tools).

Step 5   Next click the word **Register**. You will be asked for the certifier ID.

Choose Cert.ID file for Registering New People

Choose Certifier ID

Look in: share on Domino1

cert.id   s6unity.id
m1unity.id   s7unity.id
s1unity.id
s2unity.id
s4unity.id
s5unity.id

File name: cert   Open

Files of type: ID Files   Cancel

Help

01/08/2003 06:09:40 PM 1933 bytes

3

Step 6   Browse to the share on your Domino server and choose the Cert.ID.

Step 7   The Admin interface will ask for a password and you will need to type in
`password` (all one word, no spaces, all lower case). You may get a warning about
password recovery error. Ignore it at this time. Click the **No** box to avoid displaying
this error in the future.

Step 8   In the upper left corner of the Register Person --New entry click the **Advanced**
check box

Click Advanced check box to gain access to all fields

Register Person -- Bob

☑ Advanced   Registration Server,..   domino1/Classroom1cert

Basics   First name   MI   Last name   Short name
                Bob   Gains   BGains

Mail   Password   Password Quality Scale
                password   Weak   Strong
                ☑ Set internet password   Password is optional (0)

ID Info   Internet address   Internet Domain
                BobGains@classroom1.com classroom1.com   Format...

Groups   The Internet address (above) is created using the person's name (above),
                the internet domain and internet address format components. You can also
                edit the internet address directly. It must be unique in the address book.

Other   Add person   Import Text file...   Migrate people...

Registration queue:
                User Name   Registration Status   Date

Register All   Register   Delete   Options...   Done

5

Step 9   On the Basics page enter the User's first and last name and password as the password, also check the **Set Internet password box**.

Step 10   Click the Mail icon. Leave all the defaults but verify the Mail file name is unique for this user. The first name and last name are used to make a folder for this user. Bob Gains and Bill Gains will result in a mail box file name conflict of BGains for both.)
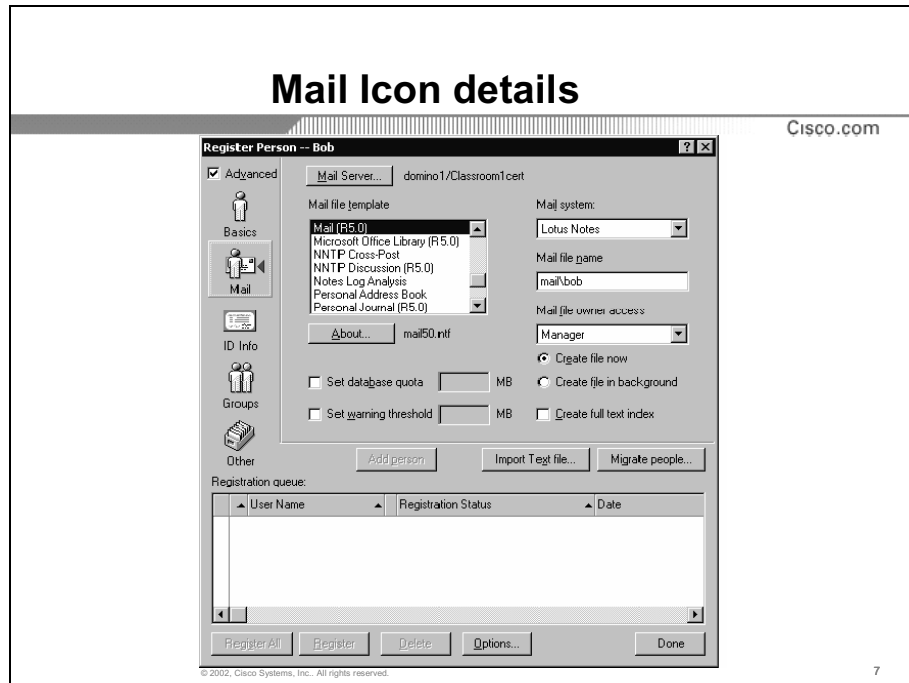
Step 11   Next click the **ID info** icon. On that page, make sure the **In Domino Directory** and the **In file** check boxes are checked. Then click the **Set ID file** button, keep the defaults and click **Save**.

Step 12   Leave the Groups and Other pages at the default settings, click the **Add Person** button

ID information page

Cisco.com

Register Person -- Bob

☑ Advanced

Basics
Mail
ID Info
Groups
Other

Certifier ID information

Certifier ID...   /Classroom1cert

Security type   Certificate expiration date
North American ▼   01/13/2005 04:06:12 PM

Location for storing user ID
☑ In Domino directory
☑ In file: C:\Lotus\Notes\Data\ids\people\bob.id
       Set ID File...

Add person   Import Text file...   Migrate people...

Registration queue:

▲ User Name	▲	Registration Status	▲ Date

Register All   Register   Delete   Options...   Done

6

Step 13 Add the other 4 subscribers from your list using the same steps.

Step 14 Once you have added all 5 subscribers, click the **Register all** button, then click the **Done** button.

Step 15 When you have added all the users, close the Domino Administrator interface.

Import Domino People as Cisco Unity Subscribers

Step 1   Launch the Cisco Unity System Administrator.

Step 2   Navigate to the **Subscribers > Subscribers** page and click the Add command icon ⊕ in the Title Bar.

Import User into Cisco Unity

Cisco.com

© 2002, Cisco Systems, Inc.. All rights reserved.   7

Select user from list

Cisco.com

© 2002, Cisco Systems, Inc.. All rights reserved.   8
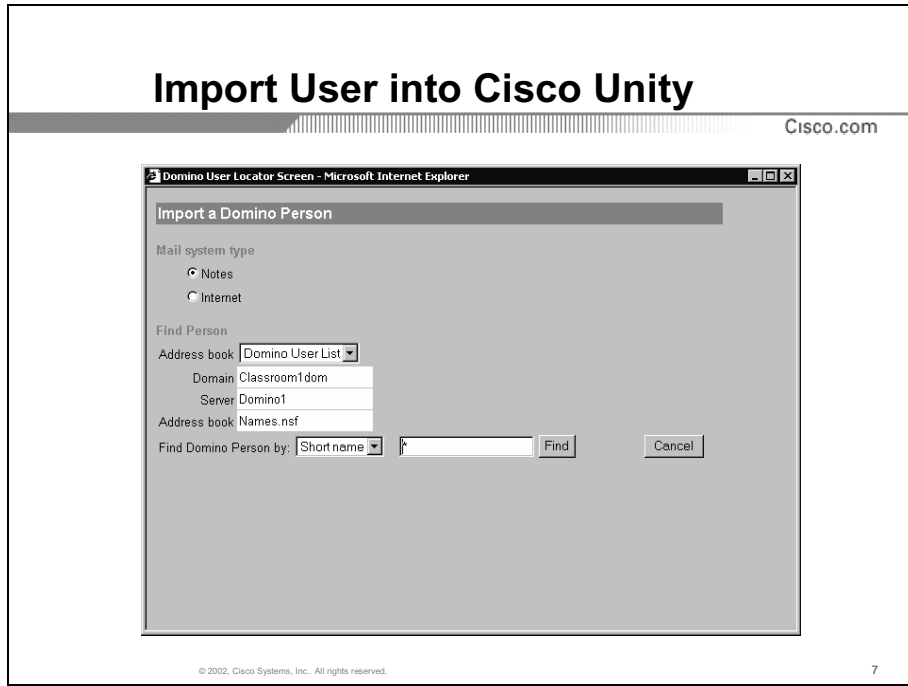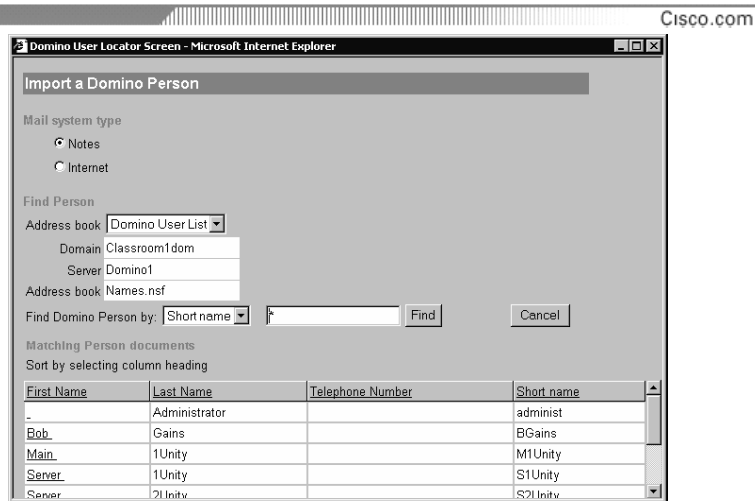
Step 3   Click the Find button.

Choose correct Template and Add Extension

Cisco.com

Add Subscriber

Subscriber Information
First name: Bob
Last name: Gains
Display name: Gains ,Bob
Extension:
Fax ID:
Template: Admin Assistant

Domino Information
User name: BGains
Server: Domino1   Select

Add   Cancel

Step 4   Choose the **Admin Assistant** template you created for the first subscriber you add.

Step 5   Type in the extension number listed for your first person. Your Extension ID need not be the same extension that you will transfer an incoming call to. All of your subscribers will be transferring to the same lab extension. There is no need to fill in the Fax ID field.

Step 6   You'll notice that the Display name: and Domino alias: fields are filled in automatically.

Step 7   Click the [Add] button.

The Add Subscriber window will change. A message will appear that says "Processing. This will take a moment. - Thanks for your patience." While that message is on the screen, Cisco Unity is filling in the data in the Domino fields to voice-enable this e-mail user, as well as the Cisco Unity account that you will now see on your screen.

Once the account has been created, you can click on any of the links in the navigation bar. You will find that the subscriber account entries mirror the settings you made in account policy or the Assistant Administrators template (which uses the Admin Assistant class of service)

Step 8   Add the other 4 subscribers from your list. Be sure to choose the **{Default Subscriber}** template when adding these subscribers.

Step 9 For each subscriber do the following tasks:

■ Record a voice name (Profile page) and greeting (Greeting page)

■ Clear the **Set subscriber for first time enrollment** check box. (Profile page)

■ Clear the **User must change password at next login** check box. (Password page)

■ Change call transfer to **Yes, ring subscriber at this number** (Call Transfer page) and set to the 2nd extension on your phone.

Call Cisco Unity using the Cisco Unity voice mail number that is listed on the server password and telephone information label. Experiment with leaving a message for one of the subscribers and then retrieving it. (Remember press * and the extension of a user to login to the account using the TUI)

Exercise Verification

You have completed this exercise when you attain these results:

■ You call the system and using the default Directory handler, you find one of your new subscribers

■ On the <u>Subscribers</u> page, chose the Find button ⊘ in the Title bar area.Your new Subscribers are listed, when you click the [Find] button.

Task 2: Deleting a Subscriber

This lesson will lead you through deleting a subscriber from the System Administration interface. When a Cisco Unity subscriber is deleted, the Cisco Unity-specific information is deleted from the Exchange or Domino account. Cisco Unity does not delete the Exchange or Domino account, only the Cisco Unity specific data is deleted.

Exercise Procedure

Complete these steps:

Step 1   Navigate to the Subscribers > Subscribers page and click the **Find** command icon in the title bar area.

As you can see, you can find subscribers by one of four criteria, Domino alias, extension, first name or last name. In the next text field there is an asterisk "*", the wild card character. If you have many subscribers, you can limit your searches by putting one or more characters in front of the asterisk. Because you have just a few subscribers, you can click the Find button now.

The current list of subscribers will be displayed in a few moments. You can sort that list on any of the five available fields.

Step 2   Choose one of the subscribers by clicking on their name. Do not choose either the Unity Installer or Example Administrator accounts. Deleting either of these accounts will have serious negative consequences.

Step 3   Once the subscriber's record is displayed on the screen, click the **Delete** icon in the title bar.

You will be asked to confirm the deletion in a dialog box.

Step 4   Click the **OK** button to confirm the deletion.

Remember, this only deletes the subscriber's Cisco Unity account. If you wish to completely remove this subscriber you will need to delete their Active Directory user and Domino account as well. The best practice is to always remove the account from Cisco Unity first.

Exercise Verification

You have completed this exercise when you attain these results:

- On the **Subscribers** page, choose the Find button in the Title bar area. When you click the Find button, your deleted subscriber is not in the list

- When you call Cisco Unity on the phone and enter the extension number of the deleted subscriber, you should hear, "Sorry. I did not recognize that as a valid entry."

Laboratory Exercise 4:
Using Personal Assistant

Complete the laboratory exercise to practice what you have learned in this lesson.

Required Resources

These are the resources and equipment required to complete this exercise:

- Personal Assistant Server

- Client Workstation with telephone

- Your Personal Assistant Name, User ID, and Password

Exercise Objective

In this exercise, you will learn to use and manage your Personal Assistant account over the telephone and using the web interface..

After completing this exercise, you will be able to:

- Dial another using through voice recognition prompts

- Set up Follow Me to another location

- Set Rules defined Routing through the web interface

Task 1: Setting up your Personal Assistant Account and Voice Recognition Dialing

In this exercise you record your voice name to initiate your Personal Assistant account and call another user using the voice recognition feature.

Exercise Procedure

Complete these steps:

Step 1   From the third extension on your phone (ext. 40X), dial Personal Assistant at extension 5003.

Step 2   When prompted, record the name assigned to you by your instructor. Listen to your recorded name and accept it. Hang up the phone.

Step 3   From your 45X extension, dial into Personal Assistant at extension 5000. You will be greeted by name. When asked what you would like to do say, "Call" and an extension from 401 to 407. Personal Assistant will tell you to whom that extension belongs (provided they have recorded their voice name) and ring that phone.

Step 4   If you would like, dial back into Personal Assistant at extension 5000 and this time say, "Dial" followed by that person's name. Their phone should ring.

Exercise Verification

You have completed this exercise when you attain these results:

When the person's phone you asked Personal Assistant to call (or dial) rings.

Task 2: Using "Follow-Me"

In the task we set up and test the Personal Assistant "Follow-Me" feature.

Exercise Procedure

Complete these steps:

Step 1   Dial into Personal Assistant from your 40X extension.

Step 2   You can wait for the system to ask what you want to do or say, "Follow Me" immediately.

Step 3   You are asked to enter your PIN (12345).

Step 4   When prompted have your calls sent to the 45X extension on your phone. Accept the defaults for one day forwarding. When finished, hang up.

Step 5   From your 10X extension dial your 40X extension. Your 45X extension should ring. (Alternately you can log into Personal Assistant form you 40X extension and say your name).

Exercise Verification

You have completed this exercise when you attain these results:

- When calls to your 40X extension forwards to your 45X extension.

Task 3: Using Personal Assistant User Web Interface

In the task you use the web interface to add someone to your address book.

Exercise Procedure

Complete these steps:

Step 1   On your desktop click the **Internet Explorer** Icon.

Step 2   To access the Personal Assistant user web interface enter the following URL: http://131.107.2.241/pauseradmin

Step 3   On the sign-in screen under User ID enter your User name. For password type, **password**

Step 4   On the Personal Assistant menu click **Destinations.** Then click **Destinations.** Keep Type as **Voice** and choose an identifying name for **Destination Name** (for example, "test" or "class").

Step 5   Under **Number or email-based paging address**, enter your **45X** extension. Click **Save**.

Step 6   On the Personal Assistant menu click **Callers**. Then click **Address Book.** On the next screen click **Add Caller.** Add a new caller with your 2XX extension as your work phone.

Step 7   From your 40X extension dial into Personal Assistant. When answered say, "Call " the new person you added in Step 6. Your 2XX should ring.

Exercise Verification

You have completed this exercise when you attain these results:

Your 2XX extension rings when you tell Personal Assistant to call the new person.

Task 4: Using Personal Assistant User Web Interface to set Rules Based dialing.

In this task you will create a new rule set to control when and where your phone rings.

Exercise Procedure

Complete these steps:

Step 1 On the Use Web Interface Menu click **Rules.** Then click **Rules-Set**.

Step 2 In the Rule-Set Name field, enter an identifying name for the rule-set you are creating. Click **Add Rule-Set**. You will see the new rule-set added to the rule-set list.

Step 3 In the rule-set list find the rule you added and click **Add Rule**.

Step 4 On this screen you set "rules", based on caller information, on where to send the caller. Set some call parameters, but do not make it too complicated. Only one criterion. Under **Destination,** set the call to go to the destination you created during Task 3. (Caution: If you use time of day settings, be mindful of the computer's time settings). Click **Save**.

Step 5 On the Personal Assistant Menu click **Rules**. Then click **Activate Rule-Set**. You are free to choose to activate the rule you created by date or days of the week. When complete click **Update**.

Step 6 To test your new rule, call from your 1XX extension to your 40X extension. Your destination phone should ring.

Exercise Verification

You have completed this exercise when you attain these results:

Your rule-set functions as programmed.

Task 5: Personal Assistant User Web Interface: Settings

In this section we look at other settings possible your Personal Assistant account.

Exercise Procedure

Complete these steps:

Step 1 On the Personal Assistant menu click **Preferences**. Then click **Settings**.

Step 2 Take a moment and look at the other settings possible for your Personal Assistant account.

Exercise Verification

You have completed this exercise when you attain these results:

You have an understanding of other settings that are possible in Personal Assistant.

Task 6: Voice Mail Browsing

In this section you will use Personal Assistant to browse you Unity voice mailbox. Personal Assistant will accept touchtone or voice commands. For instance in your mailbox you can check messages by saying "Read first message". To delete a message say "delete ", to go to the next message say, "Next". If you would like to leave a message for another user say, "Send", or "Send Message".

Exercise Procedure

Complete these steps:

Step 1   Dial into Personal Assistant from your 40X extension. At anytime after Personal Assistant answers say "Voice Mail". You are prompted to log in with your PIN.

Step 2   Once in your mailbox use voice commands to leave a message for another subscriber.

Step 3   Retrieve the message another subscriber has left for you.

Exercise Verification

You have completed this exercise when you attain these results:

You are able to leave a message for another subscriber and check messages left for you.

Laboratory Exercise 5:
An Audiotext Application

Complete the laboratory exercise to practice what you have learned in this lesson.

Overview

Every advanced application you build depends on call handlers of one sort or another for their success. A call handler is a highly flexible set of call processing instructions all wrapped in one package. The structure of a call handler looks very much like a subscriber's own box. Automated attendant and audiotext applications use one-key dialing options so callers can navigate through menus of choices to gain the information they need about a particular topic. The range of applications is virtually unlimited.

Required Resources

These are the resources and equipment required to complete this exercise:

■   A Cisco Unity system configured in labs 1, 2, & 3.

■   The password and telephone information at each work station

■   The steps in this exercise

Exercise Objective

In this exercise, you will build a series of call handlers, a menu of one key dialing options, and an interview handler. Then you will enable one-key dialing for the call handlers and create a Homework Hotline application. Finally, you will use Cisco Unity Greeting Administration to modify a greeting.

After completing this exercise, you will be able to:

■   Plan and map an audiotext application

■   Build call handlers

■   Record call handler greetings to reflect specific application needs

■   Build an interview handler

■   Create access to the Cisco Unity Greeting Administration conversation

The Audiotext Application

For our lab today the president of your company, Funk N. Wagnalls, wants to set up a way for callers to get frequently requested company information and some community service information. The key features he would like to offer are: an automated way for callers to find employees, a listing of the job opportunities at your company, and a quick exit to a live operator during business hours. Mr. Wagnalls is also supporting a local school that is testing whether Cisco Unity will support a homework hot line application and a community public announcement recording. As a test, Mr. Wagnalls would like you to set up a way for 1 teacher to record 4 separate homework assignments and be able to change them from any touchtone telephone at any time. You have assured Mr. Wagnalls that his new Cisco Unity system will do this.

Map of the application

When building an audiotext application, one of your first steps should be to map out the application on paper and then write the scripts for the greetings. We have done the planning work for you on this project and present it here as an example of the details you should take into account when planning an audiotext application.
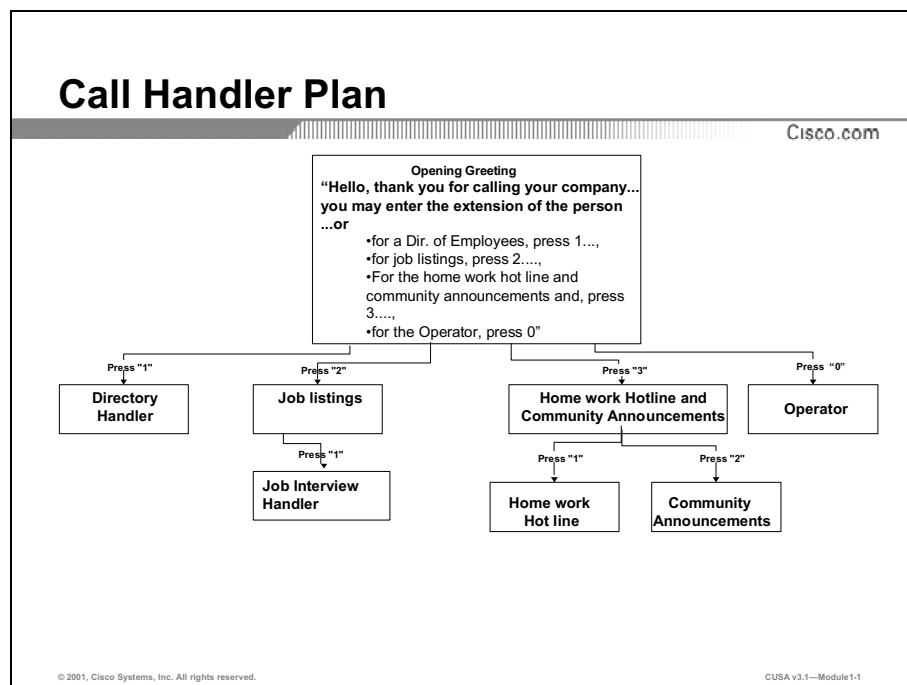
Scripts for the application

Whenever you are putting together an audiotext application, it is best to write out the scripts in detail before beginning to record. This makes the recording session go more smoothly because reading from a prepared script is much easier than ad-libbing. In addition, a written script can be distributed for review before building anything. Take a minute to glance over the scripts now.

Opening Greeting

"Thank you for calling <your company>. You may enter the extension of the person you wish to reach at any time. For a directory of employees, press 1; for job listings, press 2; for the Homework Hotline and Community Announcements, press 3; and for the Operator, press 0 or stay on the line and someone will be with you shortly."

Job Listings

"The following are the current job openings: Human Resources Event Logistics Engineer, Director of Information Systems, Grounds and Office Maintenance Engineer (must have own transportation and tools) and Office Assistant to the Community Coordinator. If you would like to apply for any of these jobs, please press 1 and begin the interview process"

Job Interview Handler

Question 1 "What is your name"?

Question 2 "What number can you be reached at"?

Question 3 "What job would you like to apply for?"

Question 4 "You have 60 seconds to convince me to hire you, Go!"

Homework Hotline and Community Announcements

"For a list of homework assignments press 1; for the community announcement press 2."

Community Announcement

"Thank you for choosing the community announcement. Today's announcement is a great big thank you to <*name of your choice here*> for being such a great supporter of the Watermelon Launching Distance contest and the Landing Zone Rebuilding Committee!"You may notice that there are only five scripts at this level. The Directory handler and the Operator already exist. You will use one-key dialing on the caller input page of the Opening Greeting call handler to assign the destinations as mapped.

Call Handler Plan

Cisco.com

```
Homework Hotline

"Thank you for choosing the Homework Hotline!"...
for first period Science, press 1...,
for second period Math, press 2....,
for third period Metal Shop, press 3....,
for fourth period Astrophysics, press 4...."
```

Press "1"	Press "2"	Press "3"	Press "4"
Science assignment	Math assignment	Metal Shop assignment	Astrophysics assignment
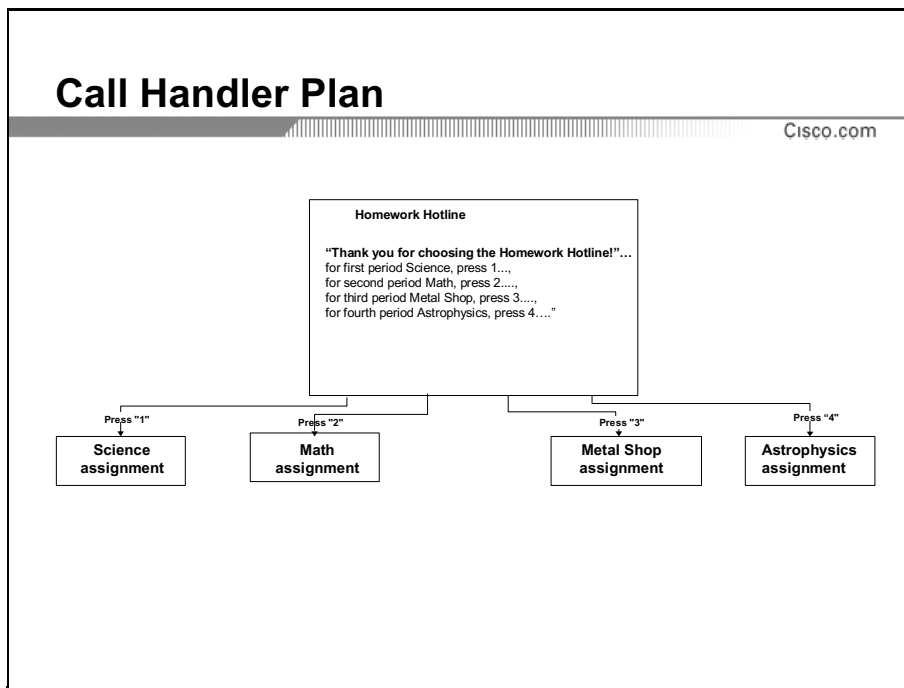
The Homework Hotline Menu

"Thank you for choosing the homework hotline. For first period Science, press 1; for second period Math, press 2; for third period Metal Shop, press 3; for fourth period Astrophysics, press 4; to hear this list again press 5. Thank you for using the Homework hotline."

Science assignment

"Science fair project proposals are due on Thursday."

Math assignment:

"Please do the exercises at the end of section 3-1 and 3-2 in your book. Do the even number exercises only."

Metal Shop Assignment:

"Remember to bring in three pieces of metal for the sculpture assignment on Wednesday."

Astrophysics Assignment:

"Build a scale model of the solar system using an uncooked pea as the smallest planet. Calculate all distances using the average distance from the sun. Bring in models of all planets and the sun. Be ready to describe the size facility you will need for your model. Extra credit points will be given for creativity in model use."

Now that you have taken a look at the maps and scripts, you can begin building the application.

Task 1: Building the first Call Handlers

Complete these steps:

Step 1   Sign in to the console.

Step 2   Go to Call Management > Call Handlers.

Step 3   Click the **Add** icon ⊕ and type the name `Job Listings` in the text entry box. Indicate that this is a **New handler** with the correct radio button choice and then press the Add button.

At this point Cisco Unity the new call handler does not have an owner.

Step 4   If you are not on the Profile page, click the **Profile** link to navigate there.

Step 5   Click **Change** next to Owner and select the Example Administrator.

Step 6   Record a voice name for the box. This will help you to identify the box at a later date.

The next thing to do is set a schedule that this box will follow. Because your company wants this application to act the same way all the time, you'll use the All Hours, All Days schedule that comes with Cisco Unity.

Step 7   From the Active schedule drop-down list box, choose **All Hours, All Days**.

Step 8   In the Navigation bar, click the **Call Transfer** link.

    This box will not transfer so verify that the transfer is set to **No** and click ▣ to save

Step 9   In the Navigation bar, click the **Greetings** link. This box will only use the Standard greeting for the same reasons cited earlier. Select **Standard** from the drop-down list box if it does not come up by default.

Step 10   In the Source: section of the Standard page body, select the **Recording** radio button and then record the greeting from the script for Job listings.

Step 11   In the After Greeting option, select the **Send caller to** radio button, click **Select Call Handler** and choose the Opening Greeting.

Step 12   Click the ▣ command icon to save the changes you have made to this handler.

Step 13   In the Navigation bar, click the **Interview Handlers** link.

Step 14   Click the ⊕ command icon to add an Interview handler

Step 15   Enter `Job Interview` in the Name field.

Step 16   Change the Owner of the interview handler to your name.

Step 17   Under Caller Response options, click **Change** and select the same person you select in Step 16.

Step 18   Click the **Questions** link, enter the text and record the questions from the script.

Step 19   When you are finished recording the four questions click the ▣ command icon to save the changes you have made to this handler.

Step 20   Now perform Steps 2-10 again to create the Homework Hotline and Community Announcements menu call handler, the Community Announcements call handler and the menu for the Homework Hotline choices. These call handlers will not need an interview Box added.

Exercise Verification

You have completed this exercise when you attain these results:

■ You can click the command icon and see the new call handlers you have created.

Task 2: Create the Call Handlers for the Homework Hotline

Exercise Procedure

One consideration when building an audiotext application, or anything else made of call handlers, is ownership. A subscriber or public distribution list on the system must have ownership of each call handler. Ownership controls who will be allowed to make changes to the application at a later date via Cisco Unity Greeting Administration (CUGA). For the Homework hotline call handlers you build, use one of the subscribers you created in lab exercise 3. Fill in the details below for the homework hotline. The subscriber who will use CUGA will need to know their extension, telephone password and the extensions you assign to the call handlers. As you have seen, you have the option of using an extension number with any call handler. Because CUGA requires an extension for the call handler, please add an extension to the call handlers that you build that will use CUGA (the Homework Hotline Call Handlers). Make sure the extensions do not conflict with your phone system numbering plan. Any call handler that you do not plan on using CUGA with does not need an extension assigned.

Owner name _____

Owner extension _____

Owner password _____

Science Assignment call handler extension _____

Math Assignment call handler extension _____

Metal Shop Assignment call handler extension _____

Astrophysics Assignment call handler extension _____

Exercise Procedure

Complete these steps:

Step 1 Go to Call Management > Call Handlers.

Step 2 Click the Add icon ⊕ and type the name `Science Assignment` in the text entry box. Indicate that this is a **New handler** with the correct radio button choice and then press the Add button.

Step 3 If you are not on the Profile page, click the Profile link to navigate there.

Step 4 Record a voice name for the box. This will help you to identify the box at a later date.

Step 5 Change the owner of this box to the subscriber you choose before.

Step 6 From the Active schedule drop-down list box, choose **All Hours, All Days**.

Step 7 In the Extension (optional) field, enter the extension to the call handler you assigned above.

Step 8 In the Navigation bar, click the Call Transfer link.

This box will not transfer, so set the transfer to **No** and click 🖫 to save.

Step 9 In the Navigation bar, click the <u>Greetings</u> link. This box will only use the Standard greeting for the same reasons cited earlier. Select **Standard** from the drop-down list box if it does not come up by default.

Step 10 In the Source: section of the Standard page body, select the **Recording** radio button and then record the greeting from the script provided earlier.

Step 11 When done recording, click 🖫 to save.

Step 12 In the After Greeting section choose **Send caller to** and select the **Opening Greeting** call handler.

Step 13 Click the **Save** button.

Step 14 Perform these steps again to create the Math, Metal Shop and Astrophysics call handlers.

Exercise Verification

You have completed this exercise when you attain these results:

- You can click the 🔍 command icon and see the new call handlers you have created.

- You can navigate to individual call handlers and play the recorded scripts on the <u>Greeting</u> page and play the recorded name on the <u>Profile</u> page.
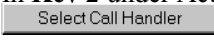
Task 3: Configure Caller Input to Map One Key Dialing
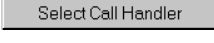
This lab will lead you thru entering information in the caller input pages of the various call handlers to allow for one-key dialing from one call handler to another

Exercise Procedure

Complete these steps:

Step 1 Go to Call Management > Call Handlers.

Step 2 Click the ⊘ command Icon then click to the Find button and select the **Opening Greeting** call handler.

Step 3 Click the **Greetings** link and record the Opening Greeting from the script provided.

Step 4 Click on the **Caller input** link of the Opening Greeting call handler

Step 5 In **Key 1** under Action: choose the **Send caller to** radio button. Call handler comes up as the default choice (it is first on the list in alphabetic order). Select the **Directory Handler** option.

You could make many other selections here based on where you want this key press to take the caller; including another subscriber, directory handler, interview handler, Cisco Unity Greeting Administrator, hang up or sign in.

Step 6 In **Key 2** under Action: choose the **Send caller to** radio button. Click the Select Call Handler button.

Step 7 In the Call Handler Selection window, leave the "*" wildcard character in the text entry box and click the Find button. Make sure the drop down box next to conversation: is selected to **Send to greeting for**. Click the Job Listings call handler or click to highlight it and then press the Select button.

Step 8 In **Key 3** under Action: choose the **Send caller to** radio button. Click the Select Call Handler button. Click the Homework Hotline and Community Announcement menu call handler or click to highlight it and then press the Select button.

Step 9 When you have mapped these 3 keys click the 🖫 command icon to save the changes you have made to this handler.

Step 10 Perform these steps again to configure the caller input for the other call handlers that are using one-key dialing. Refer back to the map of the application and the scripts.

Step 11 When you are done adding the one-key dialing information to your call handlers you should be able to call in and listen to the prompts you have recorded and use the one-key dialing options. There is a great tool to track which call handler greeting is playing from the Unity server desktop. This tool is in the Tools Depot and is the Status Monitor tool.

Step 12 Close or minimize the Cisco Unity System Administration interface.

Step 13 Click Start > Run and enter
`C:\commserver\techtools\statusmonitor.exe`.

Step 14 In the Status Monitor window, check the **Application**, **Display**, and **Conversation** check boxes.

Step 15 Launch the Status Monitor for Port one.

Step 16   Call into your Cisco Unity system and navigate through the menus using the one-key dialing options stated in the greetings you have recorded.

Step 17   If you have any one-key dialing failures, then watch what call handler greeting is playing when the failure happens and make changes accordingly.

Step 18   When you have finished testing your audiotext application, stop the monitors and exit the Status Monitor program.

Exercise Verification

You have completed this exercise when you attain these results:

■   You can call the Cisco Unity system and use the one-key dialing options in the greetings you have recorded.

Task 4: Configuring Cisco Unity Greeting Administration access

This lab will guide you thru a simple way to give subscribers access to the CUGA conversation. This method is not recommended for a field implementation. Ask your instructor to give you some examples of a more secure way to implement CUGA access on a production system. The main issue is maintaining a level of security that keeps hackers from recording over your audiotext greetings. There are several ways to make access to the CUGA conversation secure. For our class needs, you will do this in a quick and simple way.

Exercise Procedure

Complete these steps:

Step 1   Go to Call Management > Call Handlers.

Step 2   Click the 🔍 command Icon then click to the ⬚Find button and select the **Opening Greeting** call handler.

Step 3   Click on the **Caller Input link** of the Opening Greeting call handler.

Step 4   In **Key 7** under Action: choose the **Send caller to** radio button. Select the **Greeting Administrator** conversation.

Step 5   When you are finished click the ▣ command icon to save the changes you have made to the Opening Greeting call handler Caller Input page.

Step 6   Go back to the notes you wrote down in Task 2 to verify you have the information needed to use CUGA

Step 7   Call your Cisco Unity system and press the digit 7 during the opening greeting, then use the information about the Homework Hotline Call Handler owner, telephone password and Call Handler extensions to change the Metal Shop Assignment greeting. Change the greeting to the following:

"Thank for calling the Homework Hotline for the Metal Shop homework assignment. This week's project is to design a better watermelon launcher for the annual Watermelon Launching contest. Your design should exceed the distance of last year's winner that was able to send a twelve-pound watermelon 275 yards! Good luck and always remember to design safely!"

Exercise Verification

You have completed this exercise when you attain these results:

■   Call into your Cisco Unity system and dial the digit 3 during the Opening Greeting, dial the digit 1 during the Homework Hotline and Community Announcements menu, dial the digit 3 during the Homework Hotline menu of choices and you listen for the greeting you changed via the CUGA conversation.

Laboratory Exercise 6: Emergency Dial outs

Complete the laboratory exercise to practice what you have learned in this lesson.

Overview

Many organizations have service technicians on call at all times to render assistance when it is needed. In many cases this means having dispatchers available in addition to the technicians required to provide adequate coverage. With a Cisco Unity system you can take advantage of its ability to do automated dial outs to provide faster service with messages left in the callers own words.

In order to set this up properly you must provide several things:

- An option in the Opening Greeting that informs callers of the possibility of emergency help.

- A call handler that can take a message that contains all of the information needed to provide effective service to the caller.

- A subscriber's account that can receive the messages left from callers and then dial out to a paging service.

In this exercise, you will program the Message notification section of a subscriber account so that it will call out to a paging service in a cascaded fashion; first alerting one technician, then proceeding to others if the first doesn't pick up the message. We will also examine SMTP text notification and voice mail notification

Required Resources

These are the resources and equipment required to complete this exercise:

- A Cisco Unity system configured during labs 1-3 & 5

- The password and telephone information at each work station

- The steps in this exercise

Exercise Objective

After completing this exercise, you will be able to:

- Configure the delivery number and schedule for Subscriber message notification

- Configure the Schedule and text for SMTP message notification

- Configure escalated dialing

Task 1: Emergency Subscriber Configuration

This lesson will guide you thru configuring a virtual subscriber account.

Exercise Procedure

Complete these steps:

Step 1   Launch the SA and navigate to the <u>Subscribers</u> > <u>Subscribers</u> link

Step 2   Pick one of the subscribers you built in the previous labs and modify the account.

Step 3   Set up the subscriber with the following attributes:

- On the Profile page:

  — Clear the check boxes beside:

    - Set subscriber for self-enrollment

    - List in phone directory

  — Set the Active schedule to All Hours, All Days

  — Change the First name to `Emergency Message` and the Last name to `Recipient` and rerecord the name of the Subscriber as *<Emergency Message Recipient>*.

- On the Phone Password page in the Change policy section:

  — Clear the check box beside **User must change password at next login**

  — Check the box beside **User cannot change password**.

  — Set the password to `911911` and confirm it.

- On the Call Transfer page in the Transfer incoming calls to subscriber's phone? section

  — Select the **No (send directly to subscriber's greeting)** radio button. This box will never transfer a call to a live extension.

- On the Greetings page

  — Record a short greeting. *"You have reached the technician's call box. It isn't possible to leave a message here. If you'd like to speak to someone, press 0 now."*

  — Leave a second or two of silence at the end of the greeting to allow callers who get here by mistake time to act. Set the After greeting radio button to **Send caller to**, click **Select Call Handler**, click **Find**, and choose the Goodbye call handler. This handler will not be used for taking messages directly.

Step 4   Click the Save button in the Title bar area

We will return and add the notification options we need for this handler after we have set up the interview handler.

Exercise Verification

You have completed this exercise when you attain these results:

■   Verify the changes you have entered have been saved

Task 2: Add an Interview Handler to Collect Emergency Requests

Exercise Procedure

An interview handler is a tool for efficiently collecting the information technicians will need to do their job effectively. This box will send its messages to the message recipient of the box, Emergency Message Recipient.

Complete these steps:

Step 1   Click Call Management > Interview Handler to look at any interview handler.

If this is a new system, the Example Interview is the only interview available by default.

Step 2   Click the Add ⊕ command icon and leave the default **New Interview Handler** radio button chosen. Type the name `Emergency Interview` in the text entry box.

Step 3   Click the Add button. After a few moments the Emergency Interview call handler will appear.

Step 4   Change the owner of this box to Example Administrator. There is no need to specify an extension, as this handler will be used exclusively to take messages.

Step 5   Record a voice name for the handler.

Step 6   In the Caller response Options section, choose **Deliver response to** the subscriber Emergency Message Recipient you modified earlier.

Step 7   In the Response urgency portion of the page, select the **Ask caller** radio button.

In the After Interview action verify that the action is call handler and the call handler chosen is the Goodbye call handler.

Step 8   In the Navigation bar, click the **Questions** link.

The Questions page will now appear on screen with Question 1 ready for you to supply with recording and timing information. When an interview handler is created, it can contain a maximum of twenty questions. Each question contains one empty text entry box for the text of the question, a place to record the question and a field that tells how long the system will record a response from a caller. This time, expressed in seconds, is the maximum time it will record. If a caller takes less time, the reply will reflect that.

Step 9   Write the text of the first question "*Who is calling?*" in the text entry field and then record the question using the Media Master.

Step 10   Choose `10` for the number of seconds to record a reply.

Step 11   Enter the text and record these greetings for each of the following questions (the number in parentheses is the value you should enter in the seconds field for each):

    — *What company do you work for?* (15 seconds).

    — *Where may we contact you?* (10 seconds).

    — *Please describe your problem.* (45 seconds).

Step 12   Click the Save button 🖫 in the Title bar area

Exercise Verification

You have completed this exercise when you attain these results:

- Listen to the questions individually to verify they are in the correct order.

Task 3: Changing the Opening Greeting to Offer Emergency Access

Exercise Procedure

Complete these steps:

Step 1   Go to Call Management > Call Handlers.

Step 2   Click the ⬤ command Icon then click to the [Find] button and select the **Opening Greeting** call handler.

Step 3   Record a new greeting

"Thank you for calling <your company>. You may enter the extension of the person you are trying to reach at any time. For a directory of employees, press 1; for job listings, press 2; for the Homework Hotline and Community Announcements, press 3; For Emergency response, press 4; and for the Operator, press 0 or stay on the line and someone will be with you shortly."

Step 4   Click on the **Caller Input** link of the Opening Greeting call handler

Step 5   In **Key 4** under Action: choose the **Send caller to** radio button, and select Interview Handler.

Step 6   Select the **Emergency Interview** interview handler from the list.

Step 7   Click the Save button 🖫 in the Title bar area

Exercise Verification

You have completed this exercise when you attain these results:

- Call your Cisco Unity system and while the Opening greeting is playing, press 4 and answer all the interview questions.

Task 4: Set Up Message Notification for the Emergency Message Recipient Subscriber

This lesson will guide you through configuring message notification for a subscriber.

Exercise Procedure

Complete these steps:

Step 1   Launch the SA and navigate to the <u>Subscribers</u> > <u>Subscribers</u> link

Step 2   Pick the **Emergency Message Recipient** you modified in Task 1.

Step 3   Click on the **Message Notification** link

Every subscriber on a Cisco Unity system has the option to have their voice messages delivered to them at any of up to twelve devices on a highly flexible schedule. While most subscribers call in to pick up messages, there may be subscribers for whom this option can be very handy. When Cisco Unity does a dial out from a configured device to deliver a message, it expects the call to be answered and then will begin the conversation saying, "This is the Cisco Unity voice messaging system calling with a message for *<name of subscriber>*. When using the notification option to send a message to a pager, you create a long dial out string that will wait while the paging service answers; deliver a short numeric message and then hang up, ending the call early.

Setting the first notification

The Notification Device section of the Message Notification page contains a drop down list box with twelve options; home phone, pager, second pager, 5 alternate phone numbers, spare phone, work phone, and two text pagers. You can target any telephone number as a valid number to be dialed by the Phone devices, the Pager devices will dial out with the expectation of waiting a set amount of time and then outpulsing a number that will be received by a pager company and delivered to a pager's display. The text pager devices simply send an SMTP message to any SMTP address. Text pager notification depends on an SMTP gateway to function. In a stand-alone, voice mail-only application, text pagers will fail and the Unity messaging account will receive a Non Delivery Receipt (NDR) and forward that NDR message to the Unaddressed Messages distribution list.)

In the main body of the Message Notification page, you specify settings for all of the options associated with each notification device; its phone number and any other dialing string, what kind of messages you wish to be notified about, the schedule to use and how often to retry if there is no answer or a busy signal. You'll go through the creation of one notification device in detail and then you'll get the specifications for the other three devices and be asked to implement them. We'll work on the notification device labeled Spare Phone.

Step 4   Select the **Spare Phone** device.

Step 5   In the text entry box labeled Phone Number: put the 2nd extension of your lab phone. Because this will always ring at a telephone, not a paging service, you will not include any extra digits or the options for them.

Step 6   In the Status: area of the page, choose the **Enabled** radio button.

Step 7 In the Notify subscriber of: section of the page, confirm that the check box beside **Voice Messages** is selected and that the box in the **Only if urgent** column is not checked.

Step 8 Set the Notification Schedule so that it is active from 01:00 until 23:00 (11:00 p.m.). Monday through Friday.

In the Notification Options: section of the page, you set up Cisco Unity's behavior if the call is not answered or encounters a busy signal. You have a wide variety of options here. How you configure the settings is highly dependent on the devices to which you are sending notification. If you are sending to telephones that have voice mail, you'll usually set the number of rings to wait so that the second voice mail will not take the delivery of the message. For example, if your home voice messaging service goes to voice mail after 4 rings you would set the number of rings to wait to 2 or 3. If you encounter a busy signal, you'll probably try again sooner than you would on a no-answer condition. You can also set an option so that if notification fails, you can try another device. You'll set those options for the first telephone now.

Step 9 In the Notification Options: section, confirm that the **Send initial notification after how many minutes** is set to 0. Be sure that the box beside **Restart notification each time a new message arrives** is checked.

Step 10 In the If device does not answer: section, set the **Rings to wait** to 2, the **Number of retries** to 3 and the **Amount of time to wait** to 5 minutes.

Step 11 In the If device is busy: section, leave the default settings with the number of retries to 4 and the amount of time to wait to 5 minutes.

Because you will be setting up a cascading dial out pattern, you'll set the rest of the devices to use a delay before they are notified.

You'll set up the other three devices now.

Step 12 For the Pager you will set the following values:

1. Phone Number: 2nd extension of your lab phone (for testing purposes)

2. Extra digits: 911#

3. Options for extra digits: Clear the **Try to detect connection before dialing extra digits** check box

4. Check the **Seconds to wait before dialing extra digits**: check box and set it to 10 seconds

5. Status: **Enabled**

6. Notify subscriber of: **all Voice messages**

7. Schedule: 01:00 – 23:00., Monday through Friday

8. Notification Options: same as **Steps 9, 10, & 11** and set the **Send initial notification after how many minutes?** to 10

Step 13 For the Home Phone you will set the following values:

1. Phone Number: first extension on your test phone.

2. Extra digits: This is a test; there is no pager available for extra digits.

3. Options for extra digits: Clear the **Try to detect connection before dialing extra digits** check box

4. Clear the Check box for **Seconds to wait before dialing extra digits**.

5. Status: **Enabled**

6. Notify subscriber of: **all Voice messages**

7. Schedule: 01:00 – 23:00, Monday through Friday

8. Notification Options: same as **Steps 9, 10 & 11** and set the **Send initial notification after how many minutes?** to 15

Step 14 For the Text Pager 1 you will set the following values:

1. To: <yourserver>@classroomx.com i.e., Server6@Classroom1.com

2. From: `your company Cisco Unity`

3. Text: `An urgent situation requires your attention.`

4. Status: **Enabled**

5. Notify subscriber of: **all Voice messag**es

6. Schedule: 01:00-23:00, Monday through Friday

7. Notification Options: same as **Steps 9, 10 & 11** but set the **Send initial notification after how many minutes?** to 30

Some explanation of the extra digits dial out string is in order. The 911 is a message that your technician will understand to be a request that they call and pick up messages from the emergency box. You could also use the subscriber ID (the extension ID) of the box as a reminder. The "#" character, when sent to a paging service, usually notifies the service that you are finished with your message.

Paging Dial outs

Let's analyze what you have set the system to do. When a caller leaves a message in the Emergency Interview box, Cisco Unity delivers it to the message recipient. Because the message recipient's box has notification options turned on between 01:00-23:00, it immediately begins the dial out process. It calls the phone of the first technician immediately, 22 hours a day, 5 days a week. Depending on what it encounters (no answer or busy) it then waits either 5 or 10 minutes. If there is still a new message in the box, it will repeat the process. It then calls the pager of the second technician during the same schedule if there is still a new message after 15 minutes. Depending on what it encounters (no answer or busy) it then waits either 5 or 10 minutes. If there is still a new message in the box, it will repeat the process. If the retry process fails and the new message is still there after 20 minutes, the third technician will be called; again on a 22-hour, 5-day basis. If delivery is unsuccessful for30 minutes, it will send a text message to the pager belonging to the technicians' manager. This will be done every 5 or 10

minutes. As you can see, a great deal of flexibility is available with these options. It is possible to vary the schedules a great deal; you can dial out to pagers or regular telephones; the amount of time and number of rings can be customized to meet the needs of those answering the calls.

Exercise Verification

You have completed this exercise when you attain these results:

■ Call your Cisco Unity system and follow the prompts to leave a message in the Emergency Interview box. Wait for the message delivery from the various devices you have set up.

■ Launch Status Monitor from the Tools Depot icon and monitor Port 2 for dial out activity.