

Lucent Technologies
Bell Labs Innovations



DEFINITY[®] AUDIX[®] System

Release 3.2.4
Administration

585-300-507
Comcode 107894214
Issue 6
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- Answered by the called station
- Answered by the attendant
- Routed to a recorded announcement that can be administered by the CPE user

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EMC Directive 89/336/EEC
Low Voltage Directive 73/23/EEC

The "CE" mark affixed to the equipment means that it conforms to the above Directives.

Acknowledgment

This document was prepared by the Product Documentation Development group, Lucent Technologies, Denver, CO and Columbus, OH.

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About This Document

This document describes how to administer the Lucent DEFINITY[®] AUDIX[®] System. Since the DEFINITY AUDIX System provides one of two types of switch integration methods — either the display set (DS) type or the control link (CL) type — this document also discusses the differences in the features between the two modes as well as the differences in administration procedures. It covers ongoing administration strategies considering both DS and CL integration and also provides background and conceptual information, special considerations, and ramifications of administrative functions for each integration type.

This document is designed to allow the DEFINITY AUDIX system administrator to quickly find information about performing specific administrative tasks. Its focus is on how, when, and why to perform these tasks. Use this document with its companion reference, *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, which contains detailed information about each administration screen that is used to perform DEFINITY AUDIX system administration.

Intended Audiences

This document is intended for the person(s) who administers the DEFINITY AUDIX system.

Prerequisite Skills or Knowledge

This document does not assume prerequisite skills or knowledge. However, training for DEFINITY AUDIX system administration is available and is strongly recommended.

How This Document Is Organized

- Chapter 1, "Introduction", provides an overview of the DEFINITY AUDIX system administration process and outlines the responsibilities of the DEFINITY AUDIX system administrator.
- Chapter 2, "Preparing for DEFINITY AUDIX System Operation", describes initial administration prerequisites and your initial administration tasks. Special considerations for DS and CL integration are addressed.
- Chapter 3, "Feature Administration", describes procedures for activating and using DEFINITY AUDIX features, including outcalling, bulletin board, broadcast messages, sending restrictions, and priority messaging. It also describes which features are available for each type of switch integration.
- Chapter 4, "Ongoing Preventive Maintenance", describes the responsibilities of the DEFINITY AUDIX system administrator and lists preventive maintenance procedures that should be performed on a daily, weekly, or monthly basis.
- Chapter 5, "Ongoing Subscriber Administration", describes how to add, change, and remove subscribers.
- Chapter 6, "Ongoing Data Administration", describes how DEFINITY AUDIX data are organized, how to backup filesystems, and how to customize the default call answer and voice mail greetings.
- Chapter 7, "Alarms, Logs, and Audits", describes how alarm and error logs are generated by DEFINITY AUDIX background tests and also describes the various audits that are performed automatically or manually to update filesystems and correct problems in the system.
- Chapter 8, "Traffic Reports", describes DEFINITY AUDIX traffic reports, how to interpret them, and how to make appropriate corrections. It also compares traffic and performance (per port) for DS and CL integration.
- Chapter 9, "Automated Attendant", describes how to set up and maintain DEFINITY AUDIX automated attendants.
- Chapter 10, "Ongoing System Security", provides suggestions for both modes of switch integration about making your DEFINITY AUDIX system secure and minimizing toll fraud.
- Chapter 11, "Lucent INTUITY Message Manager and LAN Considerations", provides information for handling DEFINITY AUDIX system administration and other issues associated with the Lucent INTUITY Message Manager.
- Appendix A, "Communicating with Subscribers", contains sample change-request, user information, and user feedback survey forms to customize and distribute to subscribers.

A glossary, abbreviations, and index also are included in this document.

How to Use This Document

This document describes administrative strategies and procedures for the DEFINITY AUDIX System. Use this document in conjunction with *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211. The screens reference document contains specific instructions for using each screen.

Conventions Used in This Document

The following typographic conventions are used in this document:

- Information that appears on your terminal screen — including displays, field names, prompts, and error messages — is shown in constant-width type. Information that you are to type just as it appears in the document is shown in constant-width bold type. Here is an example:

At the when? prompt, type **no**

If the system is not yet ready to receive your input, you receive the following error message:

```
#1: System is not ready; try again in five minutes.
```

- Terminal keys that you are to press are shown in boxes. For example, an instruction to press the return, carriage return, or equivalent key might appear in this document as:

Press **RETURN**.

- Two or three keys that you are to press at the same time (that is, you are to hold down the first key while pressing the second key and, if appropriate, the third key as well) are enclosed together, separated by hyphens, in a curved-edge box. For example, an instruction to press and hold **ALT** while typing the letter "d" appears in this document as:

Press **ALT** **D**.

- Variables for which you or the system substitute a word specific to your own application are shown in italic type. For example, an error message that appears on the screen with the name of your own specific filename might appear generically in this document as:

```
Your file filename is formatted incorrectly.
```

Related Resources

In addition to this document, the DEFINITY AUDIX documentation set includes the following:

Title	Number	Issue
<i>DEFINITY AUDIX System — Documentation Guide</i>	585-300-011	4 or later
<i>DEFINITY AUDIX System — System Description</i>	585-300-205	5 or later
<i>DEFINITY AUDIX System — Feature Descriptions</i>	585-300-206	4 or later
<i>Planning for the DEFINITY AUDIX System</i>	585-300-904	5 or later
<i>DEFINITY AUDIX System — Installation and Upgrade</i>	585-300-111	5 or later
<i>DEFINITY AUDIX System — Installation Checklist</i>	585-300-109	4 or later
<i>Switch Administration for the DEFINITY AUDIX System</i>	585-300-509	4 or later
<i>DEFINITY AUDIX System R3.1 — Screens Reference</i>	585-300-211	1 or later
<i>DEFINITY AUDIX System — Maintenance</i>	585-300-110	4 or later
<i>DEFINITY AUDIX System — R3.0 to R3.1 Change Description</i>	585-300-404	1 or later
<i>GBCS Products Security Handbook</i>	555-025-600	3 or later
<i>AUDIX Administration and Data Acquisition Package</i>	585-302-502	11 or later
<i>AMIS Analog Networking</i>	585-300-512	5 or later
<i>A Portable Guide for Voice Messaging</i>	585-300-701	2 or later
<i>Voice Messaging Quick Reference</i>	585-300-702	3 or later
<i>Multiple Personal Greetings Quick Reference</i>	585-300-705	4 or later
<i>DEFINITY AUDIX System Subscriber Artwork Package</i>	585-300-703	4 or later
<i>Voice Messaging Outcalling Quick Reference</i>	585-300-706	1 or later
<i>Voice Messaging Wallet Card</i>	585-300-704	2 or later
<i>AUDIX Business Card Stickers</i>	585-304-705	2 or later

AUDIX Helpline Information

The Lucent AUDIX helpline is a centralized telephone information service that provides a fast and convenient way for DEFINITY AUDIX administrators and technicians to report problems and get information about DEFINITY AUDIX capabilities and administration procedures.

Calls to the AUDIX helpline are handled by Lucent personnel using an automated tracking system. You only need to identify yourself, the name of your company, and the IL or main listed number of your DEFINITY AUDIX system to the support representative who answers your call. (Of course, if your company has multiple locations of DEFINITY AUDIX systems, you may need to provide more identifying details to the support representative, such as your location or the name of your system.)

Once you have established your identity, your pertinent information (name, location, configuration, maintenance contract information, recent system trouble history) is displayed on the support representative's screen. The support representative can then answer your questions or help you isolate and solve your problem either by talking you through a particular troubleshooting procedure or by remotely accessing your system and performing the troubleshooting procedure.

Lucent AUDIX HELPLINE

1-800-56-AUDIX (1-800-562-8349)

8am to 5pm Monday through Friday

(Helpline hours are for the time zone where the call originates.)

(800 numbers are valid in the U. S. only.)

Who Should Call the AUDIX Helpline

The helpline is intended to provide support for DEFINITY AUDIX administrators and technicians. DEFINITY AUDIX subscribers should not call the helpline directly. Instead, subscribers should direct their questions or problems to their DEFINITY AUDIX administrator, who can solve most routine subscriber issues or call the helpline for assistance.

What to Do Before You Call

Gather all relevant facts prior to calling the helpline. Alarm reporting should include the resource type, location, and fault code found on the Display Alarms screen. You should also display the Activity Log when reporting a subscriber's problem with his/her mailbox.

What Does the Helpline Cost

Basic helpline service is provided at no extra cost to customers who have warranty or maintenance contracts. The helpline is available to other DEFINITY AUDIX users on a fee-per-call basis.

How to Make Comments About This Document

A reader comment card follows the title page. While we have tried to make this document fit your needs, we are interested in your suggestions for improving it and urge you to fill it out.

If the reader comment card has been removed from this document, please send your comments to:

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Room 22-2H15
Denver, Colorado 80234

Introduction

1

This chapter provides an overview of the DEFINITY AUDIX system administration process and outlines the responsibilities of the DEFINITY AUDIX system administrator.

Overview

The DEFINITY AUDIX system is a voice mail system — a computerized method of using a touch-tone telephone to send and receive verbal messages (voice mail). The DEFINITY AUDIX system allows subscribers (individuals who have DEFINITY AUDIX service) to use keypad commands on a touch-tone telephone to create, edit, send, receive, save, and delete voice mail messages. The DEFINITY AUDIX system also can answer calls for subscribers and record verbal messages from callers. Lucent INTUITY Message Manager (IMM) offers a visual interface for the DEFINITY AUDIX system at a personal computer that has IMM client software and local area network access to the DEFINITY AUDIX server.

DEFINITY AUDIX system administration is the ongoing process of making the DEFINITY AUDIX system work to the satisfaction of each subscriber. The administrator is responsible for making the system work efficiently from both the system side and the user side. This requires both technical and interpersonal skills and is an ongoing responsibility that can take many forms, including the following:

- Setting up subscribers and customizing their service options
- Recording voice fragments, including subscriber names and customized system announcements
- Coordinating switch and DEFINITY AUDIX system administration when new features are activated

- Analyzing audits and traffic reports and taking corrective action when appropriate
- Establishing and maintaining communication with the subscriber community, responding to problems, and correcting misconceptions
- Troubleshooting and correcting problems as they occur

As the administrator, you must also be acquainted with the two possible types of switch integration used by your DEFINITY AUDIX System.

Display Set (DS) integration provides voice mail integration with the switch through use of display and other messages sent from the switch to the port board.

The control link (CL) mode connects to the switch using the BX.25 control link and provides up to 16 voice ports.

Some of the features and capabilities available to you will vary slightly depending on which mode of integration is used by your company. Differences between the two modes will be discussed as relevant throughout this document.

What Is New with This Issue

The following paragraphs introduce the differences between the AUDIX system current as this book goes to press and the AUDIX system that preceded it.

Digital Networking

New with DEFINITY AUDIX 3.2 is DEFINITY AUDIX digital networking, an optional feature that provides users with the ability to exchange voice messages with users on other DEFINITY AUDIX systems, INTUITY AUDIX systems, and AUDIX R1 systems. The remote system may be colocated with or geographically distant from the local DEFINITY AUDIX system. DEFINITY AUDIX digital networking uses the proprietary AUDIX digital protocol to exchange voice messages, subscriber profiles, and message status information with other AUDIX systems. Digitally networked systems are much more secure than AMIS analog systems.

Administration and all other aspects of AUDIX digital networking are treated at length in a book dedicated to the subject: *DEFINITY AUDIX System Digital Networking*, 555-300-534.

Autoattendant Routing Table

DEFINITY AUDIX provides a conditional routing capability. You can use the routing table and its associated screens to base automated attendant operation on as many as four *business schedules* and as many as four *holiday schedules*.

The business schedule just mentioned divides the 24-hour day into two parts called *day service* and *night service*. Calls can be routed to one mailbox for day service, and to another for night service. A business may, for example, set day-service hours to be the period when the business is open, and it may send calls to a night-service mailbox during the remaining hours. Hours can vary from day to day throughout the week.

The business schedule also provides for *alternate-service* hours. This is a period of time that you can define when calls may be sent to a third destination during either day- or night-service hours. This period may be used by some businesses to provide a special automated attendant to handle calls from other time zones during the transition from day to night service. (Another business may use the period simply to cover an operator during lunch hour.)

The previously-mentioned *holiday schedules* make it possible to deviate from the normal business schedule for a day at a time. You might use these schedules to play different greetings and to handle calls differently on holidays. There are four holiday schedules. On each of them, you can record up to 26 dates along with the automated-attendant mailbox to be used on each date.

Menu Tree Tester

The definition of an automated attendant menu is complete when all of its submenus are defined and all the voice prompts including any announcements such as attendant menus are recorded. DEFINITY AUDIX provides a convenient way of testing the structure of a menu so that callers will not be inconvenienced by an incomplete automated-attendant menu tree.

Security Enhancements

Transfer out of the AUDIX System

Your DEFINITY AUDIX system, like all voice messaging and automated attendant systems, is subject to unauthorized long distance call attempts (toll fraud). Most such attempts occur as a caller tries to transfer out of the AUDIX system.

Using release 3.2, you must have filled in a transfer dialplan before you can enable transfer out of the AUDIX system. Once filled in, this form specifies extensions to which a caller may transfer. Callers may not transfer to unlisted extensions nor to extensions expressly prohibited on the form.

The new transfer dialplan puts the destinations of call transfer outside the AUDIX system completely under your control.

Administration Password Aging

Password aging was added to the administration login password to reduce the potential for unauthorized system access. Three parameters were added to define the limits associated with password aging. Although administered separately, password aging options for the administrator now equal those enjoyed by subscribers. These are the new parameters:

Expiration Interval: This field displays the maximum number of days that the administrator's login is valid before it expires. If a "0" is entered, the login will not automatically expire.

Minimum Age Before Change: This field displays the number of days which must pass before the administrator can change the password again. If a "0" is entered, the administrator can change their password as often as they want.

Expiration Warning: This field displays the number of days before the system warns the administrator that their password is about to expire. If a "0" is entered, the system will not warn the administrator until the day the password expires.

Change Extension Numbers

The DEFINITY AUDIX system provides an easy way to move a series of extension numbers from one block of numbers to another. Use the Change Extensions form to move the numbers instead of changing over each number individually. If you use it to move numbers on the local machine, it will also move all of the covering extensions in the given range of numbers.

You can use this form to move as little as one extension from one number to another. Or you can use it for a much bigger job: perhaps to change the length of every extension number in your system from four digits to five.

Administrative Interface

The DEFINITY AUDIX system administrative interface is made up of a series of interactive screens you display on your system administration terminal. Each screen consists of fields that display information or require information to be entered.

- Various administrative screens are used to add, change, remove, or display information relating to the DEFINITY AUDIX system and its subscribers. Each administrative and maintenance screen is described in *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211. In that document, Chapter 1 contains complete instructions for using the administration terminal to access the DEFINITY AUDIX system screens; Chapter 2 provides tables to help you locate the screens easily.

Types of Administration

The DEFINITY AUDIX system administration process includes four distinct types of administration:

- Switch administration — Establishes communications between the DEFINITY AUDIX system and the switch and specifies Call Answer (CA) coverage paths and Leave Word Calling (LWC) translations for individual subscribers. As the DEFINITY AUDIX system administrator, it is your responsibility to ensure that all required switch administration is completed at the appropriate time before DEFINITY AUDIX initial administration and on an ongoing basis as new subscribers are added to your DEFINITY AUDIX system. Switch administration requirements and ramifications are described in Chapter 2, "Preparing for DEFINITY AUDIX System Operation".
- System administration — Includes tasks you perform to establish system parameters and activate or deactivate DEFINITY AUDIX features. Some tasks are performed during initial administration by Lucent technical personnel, and some are performed by you as required as part of your DEFINITY AUDIX system administration. DEFINITY AUDIX system administration requirements and ramifications are described in Chapter 2, "Preparing for DEFINITY AUDIX System Operation", and Chapter 3, "Feature Administration".
- Subscriber administration — Includes tasks you perform to add new subscribers to your DEFINITY AUDIX system and to change or remove existing subscribers as their DEFINITY AUDIX system requirements change. These tasks are performed during initial administration by Lucent technical personnel and later by you as required as part of your DEFINITY AUDIX system administration. Subscriber administration requirements and ramifications are described in Chapter 3, "Feature Administration", and Chapter 5, "Ongoing Subscriber Administration".

- Data administration — Includes monitoring filesystem space, backing up data, recovering backed-up data, and creating customized system voice announcements. These tasks are performed as required as part of your DEFINITY AUDIX system administration. Data administration and ramifications are described in Chapter 6, "Ongoing Data Administration".

All types of administration except switch administration are performed using the DEFINITY AUDIX system administrative screens.

Administrative Phases

DEFINITY AUDIX system administration occurs in three sequential phases that are addressed in this document:

- Planning administration — Includes checking prerequisite switch administration and organizing information for input during initial administration. It is important for you to be involved in the system configuration process to learn as much as possible about system features and equipment and about how the DEFINITY AUDIX system interconnects with the switch. Refer to *Planning for the DEFINITY AUDIX System*, 585-300-904, for a description of this phase of DEFINITY AUDIX administration.
- Initial administration — Includes initial system, data, and subscriber administration that must be completed before the DEFINITY AUDIX system can be used by the general user population. Much of this phase is described in *DEFINITY AUDIX System — Installation and Upgrade*, 585-300-111, and is generally performed by Lucent technical personnel. It is during this phase that Lucent sets up the switch integration method selected by your company.
- Ongoing administration — Includes all administrative activities that are performed during normal DEFINITY AUDIX system operation after initial administration, including:
 - Subscriber administration
 - Feature administration
 - Preventive maintenance
 - Data administration
 - Monitoring alarms, logs, and audits
 - Traffic reports
 - Setting up automated attendants
 - System security

This ongoing phase of DEFINITY AUDIX system administration is described in this document.

Each phase in the administration process may include one or more of the administration types (switch, system, subscriber, data) that were introduced in the previous section.

System Management Tools

DEFINITY AUDIX system management involves evaluating information about your system's performance and taking appropriate actions. This task is part of your ongoing administrative responsibilities. System management information is generated from the following sources:

- Alarms, logs, and audits — DEFINITY AUDIX system diagnostic programs recognize and/or resolve problems that may occur within system files. The Activity Log is a unique type of log that does not generate error or alarm notifications but tracks and displays a history of activities involving subscriber mailboxes. Other diagnostic programs that monitor the system while running in the background find errors as they occur and run internal tests or audits that attempt to correct problems. If problems cannot be corrected internally, they are logged as faults that generate alarms. System audits run automatically each night or as administered using the DEFINITY AUDIX system administration screens. Audits also are run automatically when faults are logged by software during normal DEFINITY AUDIX system operation. These processes are described in Chapter 7, "Alarms, Logs, and Audits".
- Traffic reports — DEFINITY AUDIX report-generating programs collect data about your system's activities during specified hours, days, or months. These reports are used to evaluate actual system use compared to projected use and are helpful in predicting your future equipment requirements. Traffic reports are described in Chapter 8, "Traffic Reports".
- AUDIX Administration and Data Acquisition Package (ADAP) — Collects and transfers DEFINITY AUDIX screens data (such as subscriber, traffic, and billing information) to a PC from the DEFINITY AUDIX system administration terminal port. The data is transferred to a PC database and stored in a format compatible with dBASE III PLUS™. Once this data is collected and downloaded to a PC, it can be presented in standard reports generated by ADAP, or programs can be written to present this data in formats that fit your specific needs. This software package is described in *AUDIX Administration and Data Acquisition Package*, 585-302-502.

DEFINITY AUDIX Administrator Responsibilities

Your responsibilities as a DEFINITY AUDIX system administrator include the following tasks:

- Performing the initial system administration tasks such as changing the system password, customizing system announcements (optional), setting up the automated attendants, and distributing documentation to subscribers. This administration is described in Chapter 2, "Preparing for DEFINITY AUDIX System Operation".
- Determining which DEFINITY AUDIX features to make available to subscribers and performing system and subscriber administration that activates, deactivates, modifies, or monitors these features. This administration is described in Chapter 3, "Feature Administration".
- Performing ongoing daily, weekly, and monthly preventive maintenance tasks to monitor system performance. This administration is described in Chapter 4, "Ongoing Preventive Maintenance".
- Performing ongoing subscriber administration to add, change, and remove subscribers as new employees are added to the DEFINITY AUDIX system, as new features are made available, and as subscribers change locations or leave your company. This administration is described in Chapter 5, "Ongoing Subscriber Administration".
- Performing ongoing data administration including backing up filesystems, customizing system greetings, and changing announcement versions. This administration is described in Chapter 6, "Ongoing Data Administration".
- Monitoring system alarms, the administration log, and system audits to ensure that your system is performing properly and to correct administrative errors that may occur. This administration is described in Chapter 7, "Alarms, Logs, and Audits".
- Monitoring traffic reports that provide detailed information about the DEFINITY AUDIX system and subscribers to ensure that your system is performing properly and to spot potential problems and trends that may require intervention on your part. This administration is described in Chapter 8, "Traffic Reports".
- If you use AUDIX ADAP collection features, you also may be responsible for setting up these features, collecting raw data from the DEFINITY AUDIX system on a PC, and producing additional traffic and financial management reports. AUDIX ADAP is described in *AUDIX Administration and Data Acquisition Package*, 585-302-502.

- If you are using the Audio Messaging Interchange Specification (AMIS) Analog Networking feature or the Message Delivery feature, you will be responsible for initial and ongoing administration of these features. This administration is described in *AMIS Analog Networking*, 585-300-512.
- If you use the Automated Attendant feature, you also will be responsible for setting up and managing automated attendants. This administration is described in Chapter 9, "Automated Attendant".
- Maintaining and monitoring the DEFINITY AUDIX system for system security. Security issues and preventive measures are described in Chapter 10, "Ongoing System Security".
- If you are using INTUITY Message Manager, coordinating with your Local Area Network (LAN) administrator when administering the DEFINITY AUDIX system as a server on a LAN and when isolating problems to the server or the LAN.
- Interacting with your subscribers, ensuring that they are properly trained, correcting their misconceptions, troubleshooting their problems, and listening to their needs.
- Understanding how your DEFINITY AUDIX system works so that you can fix problems as they occur and also anticipate problems before they occur. This information is contained throughout this document and the entire DEFINITY AUDIX system documentation package, through administrator training classes, and through the AUDIX helpline.

Preparing for DEFINITY AUDIX System Operation

2

This chapter describes the administrative activities that you should complete before subscribers start using the DEFINITY AUDIX system.

Overview

Your responsibilities during the initial administrative phase begin after the Lucent service technicians at your site have installed the DEFINITY AUDIX system, performed (with you) acceptance tests to verify that the system is working properly, set up the switch integration method selected by your company, and administered the DEFINITY AUDIX system subscribers.

Activities described in this chapter are listed in the order in which they should be performed during this phase. During the ongoing administration phase, you again may need to perform some of these activities on a regular basis, though not necessarily in the order listed here. Your initial tasks include the following:

- Logging into the DEFINITY AUDIX system through the administration terminal
- Creating your own personal password for security
- Setting the system password



NOTE:

The system password that you set affects only the *cust* login. The Lucent Technical Services Organization (TSO) maintains separate passwords so that they can perform remote maintenance activities on your system as appropriate.

- Deciding how you will administer DEFINITY AUDIX system data, including backing up and recovering data and customizing system announcements
- Customizing system announcements and/or fragments (optional)
- Customizing automated attendants
- Distributing appropriate DEFINITY AUDIX system documentation to new subscribers

Besides the tasks in the list above, there are a number of other tasks that also might be completed during this preparatory phase. For example, you could modify default values in certain fields on the administrative forms. However, you may wish to wait until the system has been in use for some time before changing the defaults. This will give you a chance to evaluate actual usage requirements and make changes based on those requirements.

Initial Administration Prerequisites

Before you can begin your phase of initial administration, you must verify that the necessary switch administration has been completed, and you must know how to use the DEFINITY AUDIX administration terminal to access and modify DEFINITY AUDIX administrative screens.

Switch Administration

Switch administration sets up communications between the DEFINITY AUDIX system and the switch and defines where the DEFINITY AUDIX system fits in the call-coverage paths of individual DEFINITY AUDIX subscribers.

This administration is performed by Lucent technical personnel during DEFINITY AUDIX system installation. Before you begin DEFINITY AUDIX system administration, verify with your switch administrator and/or Lucent personnel that the switch administration has been completed. Refer to *Switch Administration for the DEFINITY AUDIX System*, 585-300-509, for specific switch administration requirements for your switch type and the switch integration method that is being used.

Using the Administration Terminal and Administrative Forms

DEFINITY AUDIX system administration is performed at a data terminal or PC connected to the DEFINITY AUDIX administration port. The following terminals are supported for the DEFINITY AUDIX system:

- 513
- 4410
- 4425

- 5420
- PC (using the ADAP package)
- 715 (The 715 terminal provides the ability to toggle back and forth between the DEFINITY AUDIX system and switch administration screens. For more information about the toggling ability of the 715 terminal, refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211.)
- DEFINITY G3 Management Applications (G3-MA). For more information on the G3-MA, refer to *DEFINITY Communications System Generic 3 Management Applications Operations*, 585-229-202, and *DEFINITY Communications System Generic 3 Management Applications Quick Guides*, 585-229-204.

The terminal should have been installed and tested during DEFINITY AUDIX system installation. Refer to Chapter 1 in *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for information about using the administration terminal.

The screens displayed on the administrative terminal, called the DEFINITY AUDIX administrative screens, are used to add, change, remove, or display information relating to the DEFINITY AUDIX system and its subscribers. These screens are referred to in this document and described in detail in *DEFINITY AUDIX System R3.2— Screens Reference*, 585-300-211.

Online help is available when you are using administrative screens. This program provides three levels of information: path-line help, screen help, and field help. All three levels of help information are available for every administrative and maintenance screen.

For more information about using DEFINITY AUDIX screens and online help, refer to Chapter 1 in *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211.

Passwords

This section describes the login and system passwords.

There are four login IDs that can access DEFINITY AUDIX screens. One of these is the *cust* login, which is specifically allocated for administration. This is the only login that you, the system administrator, will use. The other login IDs are reserved for Lucent personnel and are used to install the DEFINITY AUDIX system and to perform remote maintenance operations on your system as appropriate.

The DEFINITY AUDIX system is delivered with a default password for the *cust* login. The system technicians who install your system may assign login passwords to one or more of the Lucent login IDs but they will not change the login password for the *cust* login ID. You should change the password for the *cust* login as described in the next section.

The system password is a second level of system security for the *cust* login. Only you, the DEFINITY AUDIX system administrator, have the ability to establish the system password. It will not exist until you add it as described in the next section.

For maximum system security, you should change the *cust* login password and the system password periodically. See Chapter 10, "Ongoing System Security", for information on choosing and changing passwords to maintain a high level of system security.

Customer Initial Administration Tasks

This section describes the tasks that you should perform once you have received your DEFINITY AUDIX system.

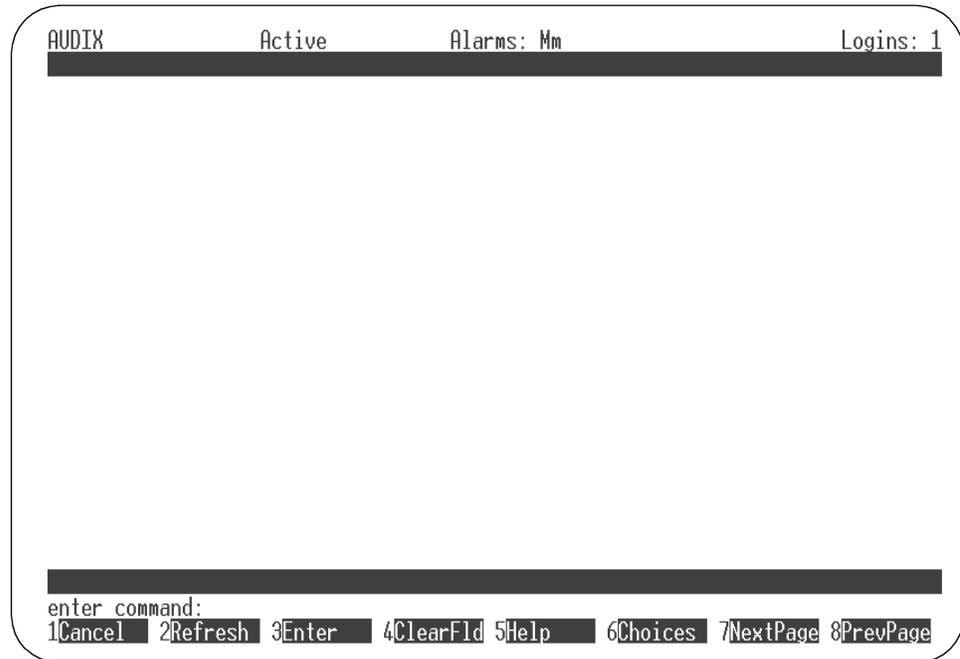
Task 1: Logging into the DEFINITY AUDIX System

To administer your DEFINITY AUDIX system, you must first log in at your administration terminal.

To log in:

1. Enter **cust** (the administrative login ID) at the login prompt.
2. Enter **custpw** (the default login password) at the password prompt.
3. Press **RETURN** at the system password prompt.
4. Enter **513** or the appropriate terminal type at the terminal type prompt.

After you have logged in, the screen displays:



From this screen you can access DEFINITY AUDIX screens to perform administration tasks or type **logoff**.

Task 2: Changing Your Passwords

After you are logged in, change the default login password and the system password to passwords of your choosing.

Change the Login Password

Change the login password for the *cust* login ID. You will use this new password with the *cust* login ID each time you log in to perform DEFINITY AUDIX system administration.

Use the Password screen to change your login password. Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of this screen.

Change the System Password

Change the system password. You will use this new system password each time you log in to perform DEFINITY AUDIX system administration.

Use the System-Parameters Password screen to change the system password. Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of this screen.

NOTE:

If you forget your login ID, your login password, or the system password once you have changed them, you must contact the AUDIX Helpline to reassign the system default password or login ID. This is a complicated procedure that may require re-entering system translations and other information, and this may incur charges for the Technical Services Organization (TSO) engineer's time. Some of this information may be difficult to duplicate. Therefore, *do not forget your login ID or passwords.*

Task 3: Customizing System Announcements

Your DEFINITY AUDIX system comes with the announcement sets that you chose for your system. You may customize these announcement sets for your company. Refer to "Customizing Announcements" in *Chapter 6, "Ongoing Data Administration"*. This section of Chapter 6 also provides procedures for Changing the Default Call Answer Greeting and Changing the Default Voice Mail Greeting. You should verify that the system announcements are suitable for your application before you allow subscribers to begin using the DEFINITY AUDIX system.

Task 4: Customizing Automated Attendants

The Automated Attendant feature allows you to set up automatic answering services that provide callers with a voice menu of options for transferring calls to other extensions. For example, an automated attendant can answer your company's phone and prompt callers to dial extensions directly if they know the number or to press the appropriate key on their touch-tone phones in response to voiced menu options. The automated attendant can have as many as 10 menu options, corresponding to the buttons 0 through 9 on a touch-tone telephone.

If possible, you should customize automated attendant announcements before you allow subscribers to use the DEFINITY AUDIX system. However, you will probably find that the way the automated attendant feature is used will change with system usage.

Customizing automated attendants and announcements is discussed in detail in Chapter 9, "Automated Attendant".

Task 5: Distributing Documentation to Subscribers

At this point, it is important for you to provide your subscribers with the appropriate documentation to help them use the DEFINITY AUDIX system properly. Appendix A, "Communicating with Subscribers", includes several template letters that you can customize and distribute to subscribers to help you in this endeavor. Select the appropriate template and make the necessary changes. The following DEFINITY AUDIX documentation is recommended also:

- *A Portable Guide to Voice Messaging*, 585-300-701
- *Voice Messaging Quick Reference*, 585-300-702
- *Multiple Personal Greetings Quick Reference*, 585-300-705
- *Voice Messaging Wallet Card*, 585-300-704
- *Voice Messaging Business Card Stickers*, 585-304-705
- *Outcalling Quick Reference*, 585-300-706

You should decide which documents will best suit your subscribers' needs and then order the appropriate number of documents from the Customer Information Center (CIC) at (800) 432-6600. Additional ordering information is located on the back of the title page of this document.

These tools will provide your subscribers with easy-to-follow instructions for DEFINITY AUDIX operation and, as a result, will make your job much easier.

If this documentation has not been ordered already, contact your Lucent Account Executive for details.

What to Do After Initial Administration

Basic DEFINITY AUDIX initial administration is now completed. At this point, you have established basic DEFINITY AUDIX service for your initial subscribers and set system parameters.

Your next task is to determine which DEFINITY AUDIX features you will use and to activate or deactivate those features as required for your system. Features are discussed in Chapter 3, "Feature Administration".

You also should review Chapter 4, "Ongoing Preventive Maintenance", for some insight into your ongoing responsibilities as administrator of the DEFINITY AUDIX system. Set up a daily, weekly, and monthly ongoing maintenance schedule and make it an important part of your routine.

⇒ NOTE:

Your DEFINITY AUDIX system has been carefully designed to be very secure. However, it is your responsibility to take administrative precautions to ensure and maintain the maximum amount of system security possible. Therefore, it is recommended that you review and follow the suggestions in Chapter 10, "Ongoing System Security", before allowing your subscribers to use the system.

You will need to administer additional subscribers as system usage increases. These tasks are described in Chapter 5, "Ongoing Subscriber Administration".

This chapter describes administration you may need to perform to set up and use individual DEFINITY AUDIX system and subscriber features. *DEFINITY AUDIX System — Feature Descriptions*, 585-300-206, contains more detailed information and administration procedures for all features.

Overview

Besides the preliminary and initial administration described in Chapter 2, “Preparing for DEFINITY AUDIX System Operation”, you may need to perform additional administration to activate or deactivate DEFINITY AUDIX features and to modify feature parameters to meet your specific requirements.

You should review each feature individually and make decisions about its usage in your organization before administering your DEFINITY AUDIX subscriber population and making the system live.

As detailed in Table 3-1, Feature Comparison Between Switch Integration Methods, some features are available to users of Control Link switch integration and not to users of Display Set integration, and vice versa. This table will give you an idea how some features vary for each switch integration method.

In addition, each of the DEFINITY AUDIX features and their administration requirements are summarized in this chapter.

 **NOTE:**

Unless otherwise noted, the feature described is available for all switch integration methods.

For more information about individual features, refer to *DEFINITY AUDIX System — Feature Descriptions*, 585-300-206.

Table 3-1. Feature Comparison Between Switch Integration Methods

Feature	DS Integration	CL Integration
Integrated Message Notification	no	yes
LWC stored on DEFINITY AUDIX	no	yes
Call Transfer out of AUDIX ¹	basic	basic or enhanced
Call Transfer into AUDIX	no*	yes
Time Synchronization	yes	yes
AMIS Networking	yes	yes
Call Screening	yes	no
☒ (R) available on Call Answer	no	yes

1. Transfer can be accomplished *indirectly*.

AMIS Analog Networking

Audio Messaging Interchange Specification (AMIS) Analog Networking is a DEFINITY AUDIX feature that permits subscribers to exchange voice mail messages with any other voice mail system that also has AMIS analog capabilities, anywhere in the world. Messages can be exchanged with subscribers on remote voice mail systems with AMIS capabilities, including Lucent or other vendors with AMIS capability. AMIS network outcalls will be made using the System announcement set. AMIS Analog Networking is an optional feature that is not included in the basic DEFINITY AUDIX system and must be purchased separately.

You can administer a range of remote systems that can be addressed via AMIS two-step addressing; individual remote voice mail systems do not need to be administered. However, you also can choose to administer any specific remote voice mail systems with heavy AMIS analog traffic for AMIS one-step addressing (this simplifies the addressing procedure). Remote subscribers on remote systems administered for one-step addressing can be administered on the local DEFINITY AUDIX system.

For complete instructions and information on AMIS Analog Networking, refer to *AMIS Analog Networking*, 585-300-512. AMIS Analog Networking is available for all switch integration methods.

Alarm Origination

The Alarm Origination feature enables the DEFINITY AUDIX system to call you or a remote maintenance center when a major or minor alarm has occurred. If this feature is not activated, no call can be sent. To display the Alarm Origination feature, use the System-Parameters Maintenance screen.

Announcements and Announcement Sets

Up to nine announcement sets may be installed on the DEFINITY AUDIX system at one time as long as enough disk space is available for both the announcement sets and voice text storage.

You can look at and modify the composition of system announcements heard by subscribers. This requires very precise intervention and is recommended only when necessary. In addition, announcement sets are available to allow you to record, change, or listen to short sections of DEFINITY AUDIX voice prompts called *fragments*. Announcements and announcement sets are administered via the **change/remove/copy announcement**, **change/remove/copy annc-set**, **change/remove/copy fragment**, and **change system-parameters features** screen-activation commands.

The number of announcement sets available for DEFINITY AUDIX is always expanding. If you are interested in using (for example) several languages for your announcements, contact your Lucent sales outlet to acquire the most recent list of announcement sets.

ADAP

The AUDIX Administration and Data Acquisition Package (ADAP) is a data collection and reporting tool that transfers raw data from your DEFINITY AUDIX database to a personal computer (PC) for further analysis. This software package includes a set of menu-driven standard reports that work in conjunction with the dBASE III PLUS relational database program, and a separate MS-DOS-based command language for retrieving data from DEFINITY AUDIX database files for use in customized reports. This command language also can be used to modify subscriber data in the database files from the PC. Refer to *AUDIX Administration and Data Acquisition Package*, 585-302-502, for more information about setting up and using this software.

Automated Attendant

The Automated Attendant feature allows you to set up the DEFINITY AUDIX system to answer extensions and prompt callers to press appropriate keys on their touch-tone telephones to transfer to desired extensions or leave messages for individual subscribers. You can set up any number of automated attendants, and you can nest them so that an option selected from one attendant menu dials another automated attendant to provide a completely new menu of options. Callers can be transferred directly to DEFINITY AUDIX mailboxes from automated attendant menu options without going to the switch, allowing you to efficiently handle DEFINITY AUDIX coverage for shared extensions and non-resident subscribers with an automated attendant.

The first stage of an automated attendant in a multilingual environment might ask the user to select a language. Subsequent stages can implement the auto-attendant function in the language chosen.

To administer an automated attendant:

1. Access the Subscriber screen. Set the **Call Answer Language Choice** field to "n" and press **(NEXTPAGE)** to call up the Subscriber Class Of Service Parameters screen.
2. Type **auto-attendant** in the **PERMISSIONS, Type:** field to establish the subscriber as an automated attendant. This action adds a third page to the screen, Subscriber Automated Attendant Menu, on which to administer the attendant. To access this page, press **(NEXTPAGE)**.
3. Record the attendant menu using your touch-tone telephone. You can record as many languages within the Automated Attendant as needed. Since you record the Automated Attendant menu, an Automated Attendant is not limited to two languages. If you have the Multilingual feature set to ON, Automated Attendants can use the Multiple Personal Greetings feature as long as the **Call Answer Language Choice** field is set to "n". If you set the **Call Answer Language Choice** field to "y", the first menu in the automated attendant should be one where the caller chooses a language (such as press 1 for English or press 2 for French Canadian); then you can set up separate menu trees for each language.

Refer to Chapter 9, "Automated Attendant", for complete instructions on setting up and using automated attendants.

Broadcast Messages

The Broadcast Messages feature allows selected subscribers to send broadcast messages to all local subscribers and selected remote subscribers. Permission to send broadcast messages can be assigned on a per-subscriber basis or by class-of-service. You should limit permission to send broadcast messages to yourself or to a few selected subscribers to avoid overuse of this feature. Any user with broadcast permission can interact with the system in the language of her or his choice. The broadcaster should consider the appropriateness of broadcasting a uni-lingual message versus a multilingual message to a multilingual community.

The broadcast message is seen as the first message in the subscriber's mailbox regardless of subsequent message activity. The subscriber can retrieve, listen, save, and — if the message is not private — forward the message. Broadcast messages are not actually distributed. Instead, subscribers hear the message from a mailbox that is administered as the broadcast mailbox. Since the message is not actually sent, the sender can specify a date when the message should no longer be played.

The sender can also specify whether or not notification of the message is to be provided; if so, the message activates the message-waiting indicator (MWI), stutter dial tone, and/or outcalling as if the broadcast message was a new message.

⇒ NOTE:

You are urged not to specify notification for broadcast messages under normal circumstances because lighting the MWI on every subscriber's phone simultaneously can severely impact the DEFINITY AUDIX system and switch performance. Note that even if you attempt to limit the impact by scheduling the message delivery during out-of-hours, each subscriber will find their message notification mechanism active the next morning, causing a large burst of DEFINITY AUDIX system traffic.

⇒ NOTE:

A hearing-impaired user who uses only TDD for communications with the DEFINITY AUDIX system will not see anything on the TDD for a voiced broadcast message. The system administrator may want to send a TDD message to TDD users informing them of the message.

Setting Up the Broadcast Mailbox

The broadcast mailbox is associated with a "phantom" subscriber. (A "phantom" subscriber in the DEFINITY AUDIX system is one that is administered on a Subscriber screen in the DEFINITY AUDIX system for an extension that logically exists in the DEFINITY AUDIX system but is not administered on the switch.) This phantom subscriber must be added to the system before anyone will be allowed to create and send a broadcast message or login announcement. The `PERMISSIONS, Type` field *must* be set to "none" to disallow call answer permission for this subscriber. The phantom subscriber is identified as the broadcast mailbox by a "y" in the `Broadcast Mailbox?` field. You *must* specify "y" when *initially* adding the phantom subscriber, because you will not be able to change the value in the broadcast mailbox later (to change the broadcast mailbox value, you must delete the subscriber record and re-enter it). The broadcast mailbox extension is identified on the System-Parameters Features screen for reference.

Login ID and Password

Subscribers with broadcast permission *do not* normally need to use the broadcast mailbox login ID and password to create broadcast messages. Therefore, consider carefully how many individuals are given the extension and password of the broadcast mailbox. The only reason to log into this mailbox is to prematurely purge a broadcast message or login announcement before its scheduled expiration time or to scan the mailbox to see what broadcast messages are present. If you scan messages in the broadcast mailbox, *do not* press while scanning messages (the message being scanned will be totally deleted from the system and no one will hear that message again).

Message Storage and Deletion

When a subscriber with broadcast permission creates a broadcast message, the message is stored in the subscriber's outgoing mailbox until the scheduled delivery time when it is delivered to the broadcast mailbox. The subscriber can change the message's text and status prior to delivery the same as any voice mail message originated by the subscriber.

After the message is delivered to the broadcast mailbox, it is no longer owned by the originator and can be deleted only by logging in to the DEFINITY AUDIX system using the broadcast mailbox extension and password. Broadcast messages are deleted automatically two days after the delivery date unless otherwise specified during message creation.

The size of the broadcast mailbox is defined on the Subscriber screen. The maximum length of individual broadcast messages is defined by each originator's maximum message length on page 2 of the Subscriber screen. A maximum of 16 messages can be in the broadcast mailbox at one time. However, because broadcast messages will be presented to subscribers before their other messages, use restraint with this feature to avoid overwhelming subscribers with message headers that must be scanned before they can hear their personal messages.

The List Measurements Feature and List Measurements Subscriber screens include information about the number of broadcast messages that are sent during their respective reporting periods.

Administration

To administer broadcast messaging:

1. Choose one of the following:
 - If permission to create broadcast messages is by class-of-service, use the List Subscriber screen (or the AUDIX ADAP) to verify that only the intended subscribers are members of that class-of-service. Then set broadcast permission to "both" or "voice" on the appropriate Class of Service screen.
 - If permission to create broadcast messages is on a per-subscriber basis, set broadcast permission to "both" or "voice" on the Subscriber screen for each individual subscriber who will have that permission.
2. Set up a phantom subscriber for the broadcast mailbox on the Subscriber screen using a DEFINITY AUDIX extension that is not administered at the switch. Set the **Broadcast Mailbox?** field to "y" (you must set the broadcast mailbox to "y" when you initially create the phantom subscriber because you cannot change the field on an existing subscriber). Set PERMISSIONS, Type to "none" for this subscriber. Make sure the mailbox size is large enough to hold at least 16 messages, and that incoming mailbox retention times are longer than the number of days you will want to keep broadcast messages active in your system.

To create a broadcast message:

1. Using your touch-tone phone, log in to the DEFINITY AUDIX system as a subscriber who has broadcast permission, and press **(1)** to record a message.
2. Record the message, and press **(#)** to approve the message.
3. Indicate that there are no additional recipients by pressing **(#)**.
4. Press **(8)** in response to the voice prompts to make the message a broadcast message.

5. If you want the message to be private, press **1** in response to the voice prompts, and subscribers will be unable to forward the message. In the delivery options menu, you also can specify filing or future delivery. Press **4** to file a copy of your broadcast message. Press **3** to specify delivery for some time in the future.
6. Optionally, press *** M** to hear the second-level broadcast options menu, and then press **1** to notify recipients of the broadcast message (not recommended under normal circumstances) or **2** to change the message expiration date from the default (two days after delivery date) up to a year in the future. Press **#** as prompted to approve your broadcast option changes, and return to the delivery options menu.
7. Press **#** in response to the voice prompts to approve the delivery options.

Note that the broadcast messages you create are "delivered" into one and only one mailbox, the special broadcast mailbox. Subscribers will hear broadcast messages from this broadcast mailbox, although they will have the perception that the messages are in their own mailboxes. Subscribers must press *** D** after hearing a broadcast message, or the DEFINITY AUDIX system will make a copy of that message in the subscriber's mailbox in the unopened or old category, depending on whether or not they listened to the message body.

To change or delete a broadcast message:

- To change the message text or delivery instructions *before* the scheduled delivery, log in to the DEFINITY AUDIX system using the extension and password of the person who created the message, press **4** to check outgoing messages, and edit as you would for any outgoing message. To change message options (broadcast, private, notification), activate or deactivate options as prompted. To change broadcast options (notification, expiration date), press *** M** at the delivery options menu to hear the broadcast options menu and make changes as appropriate.
- To purge a broadcast message *after* the scheduled delivery but before the expiration date, log in to the DEFINITY AUDIX system using the extension and password of the broadcast mailbox, scan the incoming mailbox until you find the broadcast message you wish to purge, and press *** D** to delete it.

⇒ NOTE:

If you delete a broadcast message that has had message waiting notification turned on, it will take the system an audit cycle to turn off all the Message Waiting Indicators (MWIs). To minimize subscriber confusion, if a broadcast message with message waiting notification is deleted from the broadcast mailbox or expires while MWIs are lit for it, subscribers will hear a message, "Broadcaster has deleted this broadcast message" when they respond to the broadcast message notification. This new broadcast deleted message will be purged from subscriber mailboxes when the nightly audits run and MWIs that are still lit will be turned off at that time.

Bulletin Board

The Bulletin Board feature allows you to set up extensions that callers can dial to hear recorded messages. The *message* is actually the personal greeting of the extension assigned to the bulletin board. Bulletin board extensions also can be included on automated attendant menus.

To administer a bulletin board:

1. Use the Subscriber screen to create a bulletin board subscriber. If callers want to reach the bulletin board directly, use an extension administered at the switch. Otherwise, use an unadministered extension. This is the extension you will use for the bulletin board. Assign this subscriber a name that describes its function (for directory purposes), and assign the **PERMISSIONS**, **Type** field to "bulletin-board" or create a class-of-service for bulletin boards using the Class of Service screen.
2. Using your touch-tone telephone, log in to the DEFINITY AUDIX system as the subscriber you just created, and record the bulletin board message as that subscriber's personal greeting.
3. To test your administration, you can call the bulletin board extension if it has been administered on the switch.

Refer also to the Multiple Personal Greetings feature, which describes how to establish up to nine different personal greetings that may be activated automatically during specified time periods (such as prime time or out-of-hours) or depending on the caller (such as internal or external). This feature may be useful for bulletin boards.

Call Answer

The Call Answer feature allows the DEFINITY AUDIX system to answer calls for subscribers who are busy or unavailable. The system greeting for a subscriber with the **Call Answer Language Choice** field set to "y" on the Subscriber screen includes an announcement in the secondary language instructing the user to enter *1 for the secondary language. Subscribers may record personal greetings that will be played automatically when the DEFINITY AUDIX system answers calls for them. If subscribers have a primary and a secondary language, they should record greetings in both languages; and, the primary language greeting should instruct the caller to press *1 to switch to the secondary language. Refer to Appendix A, "Communicating with Subscribers", for a Template Letter for the Multilingual Feature.

The Call Answer feature works in conjunction with the call forwarding and call coverage features in the switch. Subscribers who will have call coverage by the DEFINITY AUDIX system must be administered with the (PERMISSIONS, Type set to "call-answer") on the associated Class Of Service screen for that class-of-subscribers or on the Subscriber screen for individual subscribers. In addition, the switch must be correctly administered to provide the call coverage or call forwarding switch features that are required to direct calls to the DEFINITY AUDIX system for call answering.

A caller can designate a message as priority for any extension having call answer coverage to the DEFINITY AUDIX system if the **Priority on Call Answer** field is set to "y" on the System-Parameters Features screen. Callers also can designate the message as private.

On systems using Control Link switch integration, there may be another capability to the Call Answer feature. This is the use of **(*) (R)** to restart the DEFINITY AUDIX login session from the beginning. The subscriber can press **(*) (R)** anytime during a DEFINITY AUDIX call-answer session. Then the subscriber can access his/her mailbox and retrieve messages without having to hang up and redial into the DEFINITY AUDIX system. This capability is especially convenient if a subscriber is calling long distance.

⇒ NOTE:

It is important to verify that the **PERMISSIONS, Type** field is set to "call-answer" for subscribers whose calls cover to the DEFINITY AUDIX system. If this field is not set correctly, the DEFINITY AUDIX system will not answer the call, but one of its ports will be tied up until the caller hangs up. The DEFINITY AUDIX system warns you when this happens via the Administration-Log screen.

Call Screening

The Call Screening feature is available only for the DP mode of switch integration. This feature allows subscribers with digital phones to listen to or intercept call answer messages as they are being left by callers. Use **(*) (*) (X)** (exit AUDIX) to drop the DEFINITY AUDIX system and intercept the call. The subscriber uses this feature directly from his/her touch-tone telephone, and the feature requires no special administration by the DEFINITY AUDIX system administrator.

Changing the DEFINITY AUDIX Extension Length

This procedure, while rarely required, can save you from having to delete and re-enter all subscribers if your switch numbering plan changes. Changing the number plan requires that the switch and its DEFINITY AUDIX system be updated with the new extension numbers.

To change the DEFINITY AUDIX system extension length:

1. Change the extension length on the Machine screen to the new length and also change the start and end extensions to match the new length.
2. Reboot the system using the Reset System Reboot screen.
3. Change the system covering extension on the System-Parameters Features screen to the new number.
4. Change the DEFINITY AUDIX port extensions on the Voice-Group screen to the new numbers.
5. Busyout all network and voice ports on the machine to be changed.
6. Enter **change extensions** (or **ch e**, for short).



CAUTION:

This is a powerful screen. It is safe to use only if you have planned in advance exactly what you need to have it do.

A screen similar to the following appears:

```

drmf18 Active Alarms: wA Thresholds: lower Logins: 1
change extensions Page 1 of 1
CHANGE EXTENSIONS

Machine Name: local
Change extensions beginning with: 0000 Ending with: 9999
To new extension beginning with: 20000 Ending with:

PROGRESS REPORT

Changed extensions from: through:
to: through:
Number of extensions changed: 0

Changing covering extensions?
Number of changed covering extensions: 0

enter command: change extensions
1Cancel 2Refresh 3Enter 4ClearFld 5Help 6Choices 7NextPage 8PrevPage

```

Figure 3-1. Change Extension Screen

7. Enter the name of the machine to be affected.

On the sample screen, *local* appears in this field. The keyword *local* indicates the machine you are currently operating. This screen can also be used (during a separate session) to change extension numbers on a remote machine by entering any administered remote machine name.

8. Enter the boundaries of the extension numbers to be moved.

Here, you enter two numbers: the beginning (smallest affected) extension number, and the ending (largest affected) extension number. (In the example, the extensions to be moved are those currently numbered between 0000 and 9999.)

9. Enter the new beginning extension number.

Here you enter the beginning number of the new block of numbers to which the extensions named in the preceding step are to be moved. (In the example, extension number 0000 is to be changed to number 20000, and numbers up through 9999 are to be changed to corresponding numbers above 20000. For example, an extension 9947 becomes extension 29947.)

All other fields are display fields.

10. Press **(ENTER)** (F3) to initiate the process. The system fills in the **Ending with** field and asks you to confirm your intent.

11. Press **ENTER** (F3) again. The system will fill in the display fields as it works.
If for some reason you have to press **CANCEL** during this operation, a certain amount of work will already have been done by the program. Recover as follows:
 - a. Note the numbers shown in the display fields. They will indicate approximately where the program stopped working.
 - b. Next, list extensions to find exactly which numbers have been changed and which have not. (Use the **list e** command for this purpose.)
 - c. Finally, plan what needs to be done to recover, and use the **ch e** command to change extension numbers as necessary.
12. If your DEFINITY AUDIX system has the Outcalling feature, but is limited to extensions that are on the switch, change the **Maximum Number Digits** field on the System-Parameters Outcalling screen to the new extension length.
13. Enter the new extension numbers in the **TIMEOUT PARAMETERS, Extension** field on the Switch-Link screen.
14. Reboot the system using the Reset System Reboot screen.

Alert subscribers to these changes since they will have to use more or fewer digits when logging in, addressing voice mail, and calling other extensions. They also should check their outcalling number; if it is an extension in the switch numbering system, they will have to re-enter it.

Class of Service

The Class of Service feature provides 12 unique service classes containing different combinations of features or mailbox parameters for use by subscribers with varying service requirements. Service classes are predefined on Class Of Service screens and can be individually modified to meet your specific requirements. Each subscriber is assigned a class of service by associating his/her Subscriber screen with a specific Class Of Service screen, or individual subscriber service options can be customized by entering service information directly on the individual's Subscriber screen.

End of Message Warning

The End of Message Warning feature is enabled by you and causes message recording to be interrupted a predefined amount of time before the maximum recording length is reached. The DEFINITY AUDIX system announces that "n" seconds of recording time remain and prompts the user to resume recording. You can define the End of Message Warning feature on a system-wide basis. You also can define individual warning times for DEFINITY AUDIX subscribers who want to override the system-wide warning time.

You can activate the End of Message Warning feature on the System-Parameters Features screen (page 2). If the `Feature Active?` field is set to "n", warnings will not be played, regardless of the system-wide or subscriber-specific warning times. If the subscriber-specific warning time is blank, the system-wide warning time is used. If the warning time is set to zero (0) seconds, the end of message warning will not be given. Warning times may be anything between 15 to 60 seconds.

The End of Message Warning feature is not considered a separate feature since it is applicable to call answer, voice mail, responding to voice mail, and creating personal greetings. It does not apply to the recording of announcement fragments, machine names, or subscriber names.

Enhanced Disconnect Detection

In North America, the United Kingdom, Australia, Belgium, Holland, and a few other countries, the DEFINITY switch is able to detect the following screens of disconnect signaling employed:

- Open loop (analog trunks)
- Polarity reversal (analog trunks)
- Bit Oriented Signaling (digital trunks)

The DEFINITY switch does not recognize tone-based disconnect signaling; and, in some countries, there is no disconnect signaling. When the DEFINITY AUDIX system does not receive reliable disconnect information, valuable storage space on the DEFINITY AUDIX system may be used needlessly because the system continues recording longer than is necessary.

The Enhanced Disconnect Detection feature allows the DEFINITY AUDIX system administrator to turn on one or two different mechanisms for detecting disconnects when the DEFINITY switch is unable to provide reliable disconnect information. The two optional mechanisms are:

- *Tone Based Disconnect.* The Central Office switch sends tones to the DEFINITY switch to indicate a disconnect. Since the DEFINITY switch does not detect the tones as a disconnect, the DEFINITY AUDIX system may append the tones to the end of outside call answer messages. If you have a problem with tones at the end of outside call answer messages, you probably need to administer tone detection. When tone detection is administered, the DEFINITY AUDIX system detects the presence of a cadenced tone with frequency content between 350 hertz (Hz) and 650 Hz and, when detected, disconnects the call.

- *Quick Silence Disconnect.* This type of disconnect signaling enhances DEFINITY AUDIX operation for calls in which there is no disconnect signaling and the line simply goes silent after the caller hangs up. When Quick Silence Disconnect is administered, the system disconnects as follows:
 - During a call answer recording, immediately upon detecting silence for an administrable period of time.
 - At all other times, immediately after two expirations of the Input Time Limit. The DEFINITY AUDIX system provides a system prompt and a help message after the first expiration. The system says *Goodbye* and disconnects after the second expiration.

When recording a message in a voice mail session (as opposed to a call answer session), the system does not disconnect upon detecting silence but disconnects after two expirations of the Input Time Limit. If you need Quick Silence Disconnect, there will be long periods of silence at the end of call answer messages. Query users for reports of these problems.

Administer the Disconnect Options on the System-Parameters Features screen.

Escape to Attendant

The Escape to Attendant feature gives subscribers the option of allowing callers to talk to a live attendant by pressing **[0]** instead of, or in addition to, leaving a message in the subscriber's DEFINITY AUDIX mailbox.

No specific DEFINITY AUDIX system administration is required to activate this feature, but the Transfer Out of AUDIX feature must be activated on the System-Parameters Features screen and the system-wide covering extension should be assigned, also on this screen, for this feature to work properly. Individual subscribers should have call answer permission. If the subscriber wants the call transferred to an extension other than the system-wide covering extension, that extension must be identified on the Subscriber screen.

Exit AUDIX

The Exit AUDIX feature allows callers to disconnect from the DEFINITY AUDIX system without hanging up by pressing **[*] [*] [X]**. This feature is particularly useful if a caller is calling from a pay telephone and wishes to make another call. It requires no specific DEFINITY AUDIX administration.

Guest Password

The Guest Password feature allows callers who are not DEFINITY AUDIX subscribers to dial the DEFINITY AUDIX system directly, enter a subscriber's extension and a system-wide guest password, and leave a message in the subscriber's mailbox. The caller cannot access any messages in the subscriber's mailbox. If the Multilingual feature is administered for the subscriber extension, it works the same for the caller using the guest password as it does when calling the subscriber directly.

Since the Guest Password feature is handled within the DEFINITY AUDIX system and does not involve the switch, it provides a convenient method for bypassing normal call coverage paths to a subscriber and leaving a message. The guest password also can be used to provide the call answer feature to DEFINITY AUDIX subscribers who do not have an extension administered at the switch, though this might be done more efficiently with an automated attendant.

To administer the Guest Password feature, enter the system-wide guest password (up to 15 characters) on the System-Parameters Features screen. Make sure the password is within the limits set by the `Minimum Password Length` field on the same screen. You also must verify that extensions to be called by guest callers have call answer (call-answer) permission on the corresponding Subscriber screen.

Lucent INTUITY Message Manager

If you purchased the Lucent INTUITY Message Manager (IMM) feature, the DEFINITY AUDIX system can be administered as a server on a Local Area Network (LAN). Each PC (or client) that accesses the DEFINITY AUDIX server must have the Lucent INTUITY Message Manager Client Software. INTUITY Message Manager lets subscribers handle DEFINITY AUDIX messages from their PC. Refer to Chapter 11, "Lucent INTUITY Message Manager and LAN Considerations", for more information.

Leave Word Calling (LWC)

The Leave Word Calling (LWC) feature is available only for the CL switch integration method. This feature converts switch-generated LWC requests from internal callers into DEFINITY AUDIX-generated standard-format LWC messages requesting a return call and identifying the caller, extension, and time of call. LWC must be administered at the switch to deliver LWC messages to the DEFINITY AUDIX system. No specific DEFINITY AUDIX system administration is required to use this feature.

Login Announcement

The Login Announcement feature allows selected subscribers to create a system announcement that will be played whenever subscribers log in to the DEFINITY AUDIX system. Permission may be assigned on a per-subscriber basis or by class-of-service. Only one login announcement can be active at any time on the system. The login announcement will go to all subscribers of the system and probably should be recorded in all system languages.

⇒ NOTE:

A hearing-impaired user who uses only TDD for communications with the DEFINITY AUDIX system will not see anything on the TDD for a voiced login announcement. If there are TDD users on the DEFINITY AUDIX system, it may be a good idea not to use the Login Announcement feature. If a login announcement is going to be used, the system administrator may want to send a TDD message to TDD users informing them of the announcement.

The sender can use all of the normal delivery options, including future delivery, and can specify an expiration date when the announcement is to be deleted automatically from the system. The sender also can specify whether subscribers can dial through the announcement or not.

Login announcements use the same mailbox as broadcast messages, but they are not voice mail and cannot be forwarded or saved by subscribers and do not generate message-waiting notification. Outcalling does not occur for these messages. The message is played until it is deleted from the system, either automatically at the specified expiration date or manually by logging in to the DEFINITY AUDIX system using the broadcast mailbox extension and password.

The broadcast mailbox is associated with a phantom subscriber administered on the Subscriber screen as described under the Broadcast Messages feature. This subscriber is identified as the broadcast mailbox by a "y" in the **Broadcast Mailbox?** field. The **PERMISSIONS**, **Type** field should be set only to "none" to deny call answer permission for this subscriber.

When a subscriber with permission creates a login announcement, the message is stored in the subscriber's outgoing mailbox until the scheduled delivery time when it is delivered to the broadcast mailbox. Prior to delivery, the subscriber can change the message's text and status. After the message is delivered to the broadcast mailbox, it is no longer owned by the originator and cannot be modified.

Only one login announcement can be in the broadcast mailbox at a time. The login announcement can be purged prior to the expiration date by logging in to the DEFINITY AUDIX system using the broadcast mailbox extension and password. The login message is deleted automatically two days after the delivery date unless otherwise specified on the Login Announcement Options menu.

The maximum length of individual messages is defined by each originator's maximum message length on the Subscriber screen. The size of the broadcast mailbox is defined on the same screen. The broadcast mailbox extension number is displayed on the System-Parameters Features screen. When you log in to the broadcast mailbox, the login announcement is not played. The List Measurements Feature screen includes information about login announcements that are sent during its reporting period.

To administer login announcements:

1. Choose one of the following:
 - If permission to create login announcements is by class-of-service, set permission to create login announcements ("login" or "both") on the appropriate Class of Service screen.
 - If permission to create login announcements is on a per-subscriber basis, set permission to create login announcements ("login" or "both") on the Subscriber screen for each individual subscriber who will have that permission.
2. Check the System-Parameters Features screen to see if a broadcast mailbox exists and to identify its extension. If there is no broadcast mailbox assigned, set up a phantom subscriber for the broadcast mailbox on the Subscriber screen (see the broadcast messages feature for more information).

To create a login announcement:

1. Using your touch-tone phone, log in to the DEFINITY AUDIX system, and press **1** to record a message.
2. Record the message, and press **#** to approve the message.
3. Press **#** again to indicate that there are no additional recipients.
4. Press **9** to make the message a login announcement. In the Delivery Options menu, you also can specify filing or future delivery. Press **4** to file a copy of your login announcement. Press **3** to specify delivery some time in the future.
5. Optionally, press ***M** to hear the second-level login announcements options menu, then press **1** to make the announcement non-dial-through or **2** to change the message expiration date from the default (two days after delivery date) up to a year in the future. Press **#** as prompted to approve your login announcement option changes and return to the message options menu.
6. Press **#** in response to the voice prompts to approve the delivery options.

To change or delete a login announcement:

- To change the message text or delivery instructions *before* the scheduled delivery, log in to the DEFINITY AUDIX system using your touch-tone phone, press **4** to check outgoing messages, and edit as you would for any outgoing message. To change the login announcement status (such as changing the message to a broadcast message), press the appropriate selections at the Delivery Options menu and activate or deactivate options as prompted. To change login announcement options (non-dial-through, expiration date), press ***M** at the Delivery Options menu to hear the Login Announcement Options menu and make changes as appropriate.
- To purge the login announcement *after* the scheduled delivery but before the expiration date, log in to the DEFINITY AUDIX system with the extension and password of the broadcast mailbox extension, press **2** to scan the mailbox to find the login announcement, and press ***D** to delete it.

Mailing List

The Mailing List feature allows DEFINITY AUDIX subscribers to create lists of names or extensions to send voice mail to instead of addressing each recipient individually. This is convenient for sending voice mail to groups who regularly receive mail, such as members of a department or project. Lists can be composed of individual subscriber names, extensions, and other lists. The creator of a list also can designate it as public or private, and public lists are available for use by other subscribers. Even if a list is public, only the owner of the list can modify it.

No specific DEFINITY AUDIX system administration is required to use this feature. However, you limit the maximum number of lists each subscriber is allowed and the total number of entries in all lists for a subscriber on the appropriate Class of Service screen for a group of subscribers or on the Subscriber screen.

Message Delivery

The Message Delivery feature permits subscribers to send DEFINITY AUDIX Voice Mail messages to any touch-tone telephone, anywhere in the world (including someone's home). This feature is an extension of the AMIS Analog Networking feature. Message Delivery is an optional DEFINITY AUDIX feature that is not included in the basic DEFINITY AUDIX system; you must purchase the AMIS Analog Networking feature to use Message Delivery.

When delivering a message, the DEFINITY AUDIX system outcalls to the specified recipient and plays a prompt five times before disconnecting. If the Multilingual feature is enabled, this prompt will be in the System announcement set. You may want to rerecord this prompt in all languages used on your system. Refer to the announcement customization guide for each language.

After a subscriber has addressed a message delivery message, the DEFINITY AUDIX system dials the recipient's telephone number. A recording informs the recipient that he/she has a message and should press to listen to the message. The DEFINITY AUDIX system then plays the message. You can choose to administer any telephone numbers to which message delivery traffic is heavy.

For complete instructions and information on Message Delivery, refer to *AMIS Analog Networking*, 585-300-512.

Message Sending Restrictions

The Message Sending Restrictions feature allows you to create as many as 15 communities within a DEFINITY AUDIX subscriber base and restrict the communities to which individual communities can send voice mail. This feature is activated or deactivated on the System-Parameters Sending-Restrictions screen; it is initially off by default.

A grid showing sender communities (1 to 15 *down* the screen) and recipient communities (1 to 15 *across* the screen) is displayed, and you enter an "r" at each intersection on the grid where a sending community is restricted from addressing a receiving community. For example, an "r" placed at the intersection of sender community 1 and recipient community 2 on the grid restricts members of community 1 from sending voice mail to members of community 2.

The default community for each machine is defined on the Machine screen. This default can be overridden for individual subscribers on the Remote-Subscriber screen.

The List Measurements Community screens display counts of the number of messages sent and blocked for each community.

Multilingual

The Multilingual feature allows the system administrator to specify, for each subscriber, any one of the installed announcement sets as their Login Announcement Set. The subscriber's Login Announcement Set defines the language the subscriber uses when interacting with the DEFINITY AUDIX system. The Multilingual feature also allows the subscriber to provide call answer users with a choice between two languages for greetings and prompts when interacting with the DEFINITY AUDIX system. The called subscriber's Call Answer Primary Announcement Set and Call Answer Secondary Announcement Set determine the languages the call answer user can use after being forwarded to the DEFINITY AUDIX system.

The Multilingual feature can provide messaging service to hearing-impaired people on the same DEFINITY AUDIX system used for hearing people. An announcement set using the tone-based protocol for Telecommunications Devices for the Deaf (TDDs) can be run simultaneously with verbal announcement sets. See the "TDD" feature later in this chapter.

Lucent must turn on the Multilingual feature on the System-Parameters Customer-Options screen by entering "y" (yes) in this field. The system administrator must identify a "System" and an "Administrative" announcement set on the System-Parameters Features screen.

The Multilingual feature is activated for each subscriber on the Subscriber screen, or the feature may be administered per class-of-service on the Class of Service screen for all subscribers assigned a given class-of-service. Complete the following fields on either screen.

- Login Announcement Set
- Call Answer Primary Announcement Set
- Call Answer Secondary Announcement Set
- Call Answer Language Choice

If the Call Answer Language Choice field is "y" (yes), call answer calls to the subscriber's mailbox are greeted using the primary language and the caller is instructed in the secondary language to enter *1 to switch to the secondary language. If the Call Answer Language Choice field is "n" (no), call answer calls to the subscriber's mailbox do not have the option of switching to the secondary language. If the Call Answer Language Choice field is "y" (yes) for a subscriber, the subscriber may *not* use the Multiple Personal Greetings feature.

If the `Call Answer Language Choice` field is "y" (yes) for a subscriber, the subscriber can record personalized greetings in the languages listed as the primary and secondary announcement sets on the Subscriber or Class of Service screen. When recording their primary personal greeting, the subscriber must instruct the caller to enter *1 to switch to the alternate language. If the subscriber does not record a personal greeting, a system greeting in the chosen language is played.

Automated Attendants are administered with the `Call Answer Language Choice` field set to "n" (no) on the Subscriber or Class of Service screen. You can record as many languages within the Automated Attendant as needed. Since you record the Automated Attendant menu, an Automated Attendant is not limited to two languages. Automated Attendants can use the Multiple Personal Greetings feature as long as the `Call Answer Language Choice` field is set to "n" (no).

Multiple Personal Greetings

The Multiple Personal Greetings feature allows subscribers to record and store up to nine personal greetings and to activate as many as three of them at once for different call types (internal/external, busy/no-answer, out-of-hours). For example, one greeting can be activated for internal calls, a second for external calls, and a third for out-of-hours calls. Alternatively, one greeting can be activated for calls when the subscriber's phone is busy, a second for when there is no answer, and a third for after-hours calls. The Multiple Personal Greetings feature is not available to subscribers that use the Multilingual feature and have the `Call Answer Language Choice` field set to "y" on the Subscriber or Class of Service screen.

Internal/external and busy/no answer call types are mutually exclusive; the subscriber can specify separate greetings for internal and external calls *or* for busy and no answer calls, but not for both call types or a combination of both call types. Note that out-of-hours calls are answered with the out-of-hours greeting regardless of whether the call is internal/external or busy/no-answer. Even if subscribers choose not to provide separate greetings for different call types, the multiple personal greetings feature is useful for setting up a library of different personal greetings to activate for different occasions, such as during lunch or while on vacation.

Since automated attendants and bulletin boards are technically DEFINITY AUDIX subscribers who are administered via a Subscriber screen, this feature also can be used to provide menu prompts for automated attendants and announcements for bulletin boards that vary depending on whether the caller is an internal or external caller and if the call is placed during normal business hours or not.

This feature, which is initially on by default, is activated or deactivated for the entire system on the System-Parameters Features screen. All other administration for multiple personal greetings is performed by individual subscribers using their touch-tone telephones and the DEFINITY AUDIX voice menu prompts:

- When multiple personal greetings are not activated, subscribers can record a single personal greeting and activate it instead of the DEFINITY AUDIX system greeting.
- When multiple personal greetings are activated, subscribers can record up to nine personal greetings (identified as greetings 1 through 9) and activate any one of them at any time instead of the DEFINITY AUDIX system greeting (identified as greeting 0). Subscribers also can specify which call types (if any) to identify, and they can activate different greetings (including the DEFINITY AUDIX system greeting) for each identified call type. (You may need to increase mailbox sizes for individual subscribers who use all nine greetings or who record lengthy personal greetings.)

Several administrative rules apply for activating and deactivating the multiple personal greetings feature:

When you *activate* multiple personal greetings on the System-Parameters Features screen:

- If a subscriber's personal greeting has been recorded, it is saved as greeting #1.
- If the greeting was activated, it will be used for all call types.
- If the greeting was not activated, the system greeting will be used for all call types and greeting #1 will be inactive.
- If no personal greeting was recorded, the system greeting will be used for all call types.

When you *deactivate* multiple personal greetings on the System-Parameters Features screen:

- If a subscriber has recorded multiple greetings, greeting #1 is saved as the personal greeting and greetings #2 through #9 are deleted.
- If greeting #1 is active for *each* of the call types, it will remain active as the personal greeting.
- If greeting #1 is not active for all call types, the system greeting will be activated and greeting #1 will be saved but as an inactive greeting.

Multiple personal greetings should be left on under most circumstances. The only reason to deactivate multiple personal greetings is if you are running out of message space and already have asked subscribers to delete unneeded messages and greetings but still suspect that there are lots of greetings out there.

⇒ NOTE:

If you deactivate multiple personal greetings, the space used by multiple personal greetings is not freed up until the subscriber mailbox audit has run. The subscriber mailbox audit runs automatically each night or can be run manually using the Audit Mailboxes screen.

Name Record by Subscriber

The Name Record By Subscriber feature allows subscribers to record their names in their own voices for use as a name fragment by the DEFINITY AUDIX system in place of the name that you would normally record yourself. When you enable this feature, subscribers who are new DEFINITY AUDIX users will be directed by the DEFINITY AUDIX system to record their name when they log in for the first time. Activating this feature will significantly decrease your workload.

Alternatively, you or any other subscriber with announcement control on the Subscriber screen, still can record names for subscribers when the name record by subscriber feature is active. In this case, subscribers are not prompted to record their names when they first log in, since there is already a name recorded; but, they still can change the recording to be in their own voices at any time. This is convenient for allowing individual subscribers to either use the system-voiced name or their own voices, depending on personal preference.

Subscribers will be able to change their name recording at any time when the feature is active by pressing (5) at the DEFINITY AUDIX activity menu and then following the voice prompts from the DEFINITY AUDIX subscriber administration menu to re-record the name recording.

The recorded name is voiced by the DEFINITY AUDIX system when the subscriber logs in and also when the subscriber's name appears in a message header, system greeting, message verification, name addressing confirmation, and (*)(*)(N) directory request. This feature, which is initially on by default, is activated for the entire system on the System-Parameters Features screen.

Online Help

The Online Help feature provides general or detailed help at the press of a function key when you are using the DEFINITY AUDIX screens. There are three levels of online help:

- *Path line help* — Displays all legal commands that may be selected from the current point in the path. This help information is displayed if **CHOICES** or **F6** is pressed when the cursor is on the PATH line.
- *Screen help* — Displays information about the screen that is currently on the terminal screen, including the screen's purpose and the function key commands that are valid for it. This help information is displayed if **HELP** or **F5** is pressed when a screen is displayed on the screen.
- *Help* — Displays information about the field on which the cursor is currently located on a displayed screen. This help information is displayed when you press **CHOICES** or **F6**.

No specific DEFINITY AUDIX system administration is required to use this feature.

Outcalling

The Outcalling feature allows the DEFINITY AUDIX system to call a subscriber on the phone or a pager for message notification instead of, or in addition to, notification by a MWI or stutter dial tone. This is useful for receiving DEFINITY AUDIX messages at a home phone or at a phone in another business-related location, or to program the DEFINITY AUDIX system to outcall to a paging service and enter a callback number.

This feature is not recommended for use as an emergency pager since the DEFINITY AUDIX system does not treat outcalling as its highest priority during busy periods and may not be fast enough for emergency applications. If the Multilingual feature is active on your system, the DEFINITY AUDIX system uses the Login Announcement Set of the subscriber when it outcalls.

This feature, which is initially off by default, is activated or deactivated on the System-Parameters Outcalling screen. Permission to use outcalling then can be assigned on a per-subscriber basis or by class-of-service. You control the hours during which outcalling is permitted (up to three periods each day), the maximum number of ports that can be used simultaneously for outcalling, and the maximum number of digits (up to 60) that subscribers can specify for the outcalled number. Subscribers administer outcalling numbers and permissible hours (the same as or a subset of the system's permissible hours) using the DEFINITY AUDIX voice menu.

To administer outcalling:

1. Activate outcalling and set up system outcalling restrictions using the System-Parameters Outcalling screen.
2. Choose one of the following:
 - If permission to use outcalling is by class-of-service, activate outcalling on the appropriate Class of Service screen.
 - If permission to use outcalling is on a per-subscriber basis, activate outcalling on the Subscriber screen for each individual subscriber who will have that permission.
3. Restart the system using the Reset System Reboot screen to activate changes made on the System-Parameters Outcalling screen.

Outcalling uses any available ports, up to the maximum specified on the System-Parameters Outcalling screen. Outcalling always selects the highest numbered DEFINITY AUDIX ports first. You may want to limit outcalling during prime hours to free more ports for other DEFINITY AUDIX system access.

The maximum number of digits subscribers can specify as their outcall number can be limited to prevent subscribers from making long-distance calls. Administrators should consider using this as a method of diminishing the risk of toll fraud occurrences. (Refer to Chapter 10, "Ongoing System Security", for more information about minimizing toll fraud.) The maximum number of digits is 60. The 60-digit maximum allows a DEFINITY AUDIX subscriber to program the DEFINITY AUDIX system to outcall to a paging service, enter a mailbox id, and enter a callback number. Limiting the number of digits may adversely affect subscribers who want to have their pagers alerted through outcalling. A subscriber can embed a "#" anywhere in the outcalling digit string since #s are common delimiters for radio paging services.

The Lucent INTUITY Message Manager (IMM) audio interface uses Outcalling ports to complete a call to a subscriber's telephone. If you are using the IMM feature with your DEFINITY AUDIX system, you may need to increase the number of Outcalling ports.

See also "Priority Outcalling" in this chapter for information about using outcalling for priority messages only.

Priority Messages

The Priority Message feature allows specified subscribers to send voice mail marked *priority* to other DEFINITY AUDIX subscribers. Also, callers can specify a call answer message as *priority*. Priority messages are delivered before other new messages, and they are presented before any other new messages (except broadcast messages) when the recipient logs in to the DEFINITY AUDIX system. Priority messages are identified as such when heard; a priority message also can be marked private.

Activate priority messaging on the appropriate Class of Service screens if permission to create priority messages is by class-of-service or on the Subscriber screen of individual subscribers if permission is on a per-subscriber basis. The List Measurements Feature and List Measurements Subscriber screens include information about priority messages sent during the specified reporting periods.

Priority Outcalling

The Priority Outcalling feature allows subscribers to specify that outcalling calls inform them of the delivery of priority messages *only*. Individual subscribers activate or deactivate this feature using the DEFINITY AUDIX voice prompts. No specific DEFINITY AUDIX system administration is required to use this feature. However, the outcalling feature must be activated for the system on the System-Parameters Outcalling screen, and subscribers must be administered to use outcalling on the appropriate Class of Service screen or on individual Subscriber screens.

Security Password

The Security Password feature prohibits unauthorized access to the DEFINITY AUDIX system. It prevents nonsubscribers from accessing confidential information, messages, and lists.

Password Aging requires subscribers to change their password at an interval defined by the system administrator. Password Aging enhances overall system security and helps protect against toll fraud by making the DEFINITY AUDIX system less vulnerable to break-ins.

Administer Password Aging on the System-Parameters Features screen. Turning Password Aging on immediately expires all passwords. Also, the system administrator can expire all passwords at any time by turning Password Aging off, then on again. The Password expiration interval field specifies the number of days that a password is active on the DEFINITY AUDIX system. The Minimum age before change field specifies the minimum number of days which must pass before a subscriber can change his/her password after a successful change. The expiration warning field specifies the number of days prior to password expiration the system notifies the user of impending expiration.

If Password Aging is active, the system administrator can force the expiration of a subscriber's password by entering "e" in the password field of the Subscriber screen.

System Clock

The System Clock feature provides a real-time clock that is used to issue a time and date stamp for messages and for message scheduling. This clock can either be manually set or synchronized with the switch on the Set Time screen.

TDD

The DEFINITY AUDIX system offers the TDD-compatible (Telecommunications Device for the Deaf) announcement set. The Americans With Disabilities Act (ADA) encourages employers to make reasonable accommodations for employees with disabilities, including employees who are hearing-impaired. The Multilingual feature makes it possible to provide the TDD announcement set on the same DEFINITY AUDIX system as voice announcement sets, satisfying the messaging needs of both groups of users with one system.

Install the TDD announcement set on your DEFINITY AUDIX system as you would any other announcement set (the TDD announcement set is a purchasable option). The TDD announcement set requires more storage space than any of the other announcement sets. Refer to *DEFINITY AUDIX System — System Description*, 585-300-205, for an estimate of the amount of storage space required by the TDD announcement set. Check the amount of space available on the List Measurements Load Day screen to ensure that there is enough disk space to install the announcement set and still have adequate voice text storage space. The documentation shipped with the TDD announcement set also provides an estimate of the number of blocks of storage the announcement set occupies on the system.

Assign the TDD announcement set to users either on the Class of Service screen or on the Subscriber screen. The TDD announcement set can be the Login Announcement Set, the Call Answer Primary Announcement Set, or the Call Answer Secondary Announcement Set.

There are several considerations when deciding how to administer the Multilingual feature and call coverage for the hearing-impaired TDD user. For example:

- Do you expect the hearing-impaired person to receive voice calls?
- Does the person have sufficient hearing ability to listen to voice messages?
- Is your company able to provide call coverage to a TDD translator service for hearing-impaired users who cannot listen to voice messages?

It may be more practical to set the Multilingual feature `Call Answer Language Choice` field to "n" (no) on the Subscriber or Class of Service screen unless both the primary and secondary announcement sets are TDD-based (such as U.S. English TDD and another TDD-based language which may be available in the future).

In the example below, Mary Jones has no hearing and does not speak; and her company has an in-house TDD translation service to handle incoming voice calls. The `Call Answer Language Choice` field is set to "n" (no) for Mary, and she has one personal greeting.

The system administrator, or another speaking person, records the first part of Mary's personal greeting which is very short. If the TDD announcement set is the Login Announcement Set for Mary Jones, the greeting prompts are in TDD; in which case, the speaker removes the handset from the TDD acoustic coupler when the GA prompt displays on the TDD, voices the greeting, and then returns the handset to the acoustic coupler either to record the TDD part of the greeting or to await more prompts.

The following could be the voice part of a greeting recorded for Mary Jones:

"This mailbox belongs to a hearing-impaired user, Mary Jones. To leave a voice message, press zero now."

Pressing zero would send the caller to the extension of a hearing person who can transcribe voice messages to TDD messages and send them to the mailbox of Mary Jones. The transcriber needs to be administered as a covering extension on the Subscriber screen for this arrangement. The second part of Mary's personal greeting is in TDD, probably recorded by Mary or the person who recorded the voice part of the greeting. The TDD part of the greeting needs to be recorded during the same recording session as the voice part. (In other words, Mary's greeting contains both voice and TDD. The voice part is first and very short so that it does not cause a delay in the TDD greeting seen by the TDD caller. The TDD part immediately follows the voice part.)

The above example illustrates one possible scenario for administering the TDD user. Consider the TDD user's needs, the requirements of his or her job, and call coverage capabilities available at your company.

TDD Automated Attendant

You can create TDD automated attendants using the TDD announcement set. You need a TDD to administer the TDD automated attendant menus (available from any Lucent Product Representative); a TDD with a buffer is recommended because you will want to edit the menu before downloading it to the DEFINITY AUDIX system. It also is recommended that you have the TDD announcement set running when you administer the automated attendant menus. If the TDD announcement set is not running when you record an automated attendant menu, you can put your ear to the handset resting in the acoustic coupler to hear the spoken DEFINITY AUDIX announcements. If you are not familiar with using a TDD, refer to the user's guide that came with the TDD.

Refer to the “Automated Attendant” feature earlier in this chapter for instructions on setting up an automated attendant. Instead of recording the attendant menu using the telephone, you type the menu using the TDD keyboard. Also, refer to Chapter 9, “Automated Attendant”, for more detailed instructions on automated attendants. It is strongly recommended, but not required, that you have separate telephone numbers for TDD automated attendants and for voiced automated attendants. Otherwise, TDD users may see either nothing or unreadable characters resulting from voice prompts or greetings, and hearing users may encounter some TDD messaging *noise*.

Mode Synchronization. TDDs use the Baudot communications protocol in which the same five-bit code can represent either a letter or a non-alphabetic character, such as a number or figure. (For example, the binary code 00001 is both the letter E and the number 3.) This sharing of five-bit codes is made possible by having two modes, a letters mode and a numbers/figures mode.

If a receiving TDD is set to letters mode (by receiving the five-bit code 11111), then the TDD assumes all subsequent five-bit character codes received are letters. By contrast, if a receiving TDD is set to numbers/figures mode (by receiving the five-bit code 11011), then the TDD assumes all subsequent five-bit character codes received are numbers and figures. This is important; when a TDD is not in the same mode as the device that is transmitting to it, the characters that display on the receiving TDD will make no sense to the user.

All DEFINITY AUDIX TDD announcements contain the appropriate mode reset codes to ensure that the receiving TDD stays mode-synchronized with the DEFINITY AUDIX system during menu playback. It is, however, the system administrator’s responsibility to ensure mode synchronization when recording TDD menus.

Some TDDs have both a letters key and a numbers/figures key for switching to the indicated mode. If the first character in a menu is a letter, press the letters key before you type anything else; or, if the first character in a greeting is a number or figure, press the numbers/figures key before you type anything else.

Most TDDs do not have a letters key and a numbers/figures key. If you do not have separate letters and numbers/figures keys, synchronization of modes is less convenient but can be accomplished in the following way:

- If the first character you need to type is a letter, enter a slash (/); then press the space bar a few times before you start typing. This causes the system to reset to letters mode.
- If the first character you need to type is a number or figure, type **x**; then press the space bar a few times before you start typing. This causes the system to reset to numbers/figures mode.

General guidelines on generating menus. TDD users need to use both the TDD keyboard and the touch-tone telephone keypad. The instructions contained in automated attendant menus must make it clear which device to use. You might want to use *dial* when the user needs to use the telephone keypad and *type* when the user needs to use the TDD keyboard.

When using a TDD to type directly to the DEFINITY AUDIX system, the DEFINITY AUDIX system captures and preserves any hesitations in typings, misspellings, and so on. For this reason, it is recommended that system administrators use a TDD with a built-in buffer and completely edit the menu before calling the DEFINITY AUDIX system to download the buffer. Refer to your TDD user's guide for instructions on editing and downloading the TDD buffer.

Traffic Reports

The Traffic Report feature provides subscriber, community, feature, and port activity measurements for a DEFINITY AUDIX system, AMIS Analog Networking, and Message Delivery by the hour, day, or month. This information is used to monitor actual system use and determine if an appropriate level of service is being provided.

Traffic data collection is activated or deactivated on the System-Parameters Features screen. The prime collection hours (your normal business hours) also are defined on this screen. Collection instructions, including the types of information to collect and for what periods, are specified on the individual Measurements screens that produce and display the reports.

Refer to Chapter 8, "Traffic Reports", for information about administering and using DEFINITY AUDIX traffic system reports.

Transfer into AUDIX

Transfer into AUDIX is both a switch feature and a DEFINITY AUDIX feature. If your AUDIX system uses *enhanced transfer* out of AUDIX, a covering user can transfer the calling party directly into the called subscriber's mailbox for Call Answer treatment. This capability is *not* available with *basic transfer*. However, a covering user still can accomplish a transfer into mailbox *indirectly* by re-entering the called subscriber's extension.

For more information on this feature, refer to *DEFINITY AUDIX System — Feature Descriptions*, 585-300-206.

Transfer Out of AUDIX

The Transfer Out of AUDIX feature allows a DEFINITY AUDIX subscriber who calls the DEFINITY AUDIX system (or any caller who is redirected to the DEFINITY AUDIX system) to use the **(*) T** (Transfer) command to exit and transfer to any extension given permission on the *transfer-dialplan* screen.

Call transfer is used to transfer out of the DEFINITY AUDIX system to another extension. Call transfers out of AUDIX can be completed only to numbers you have administered on the *transfer-dialplan* screen. There are two types of call transfer: basic and enhanced. Depending on your hardware and choice of port emulation, Basic Call Transfer may be available with either kind of switch integration. Enhanced Call Transfer is available only with Control-Link switch integration. Use the System-Parameters Feature screen to define the TRANSFER TYPE.

Call Transfer Dialplan

Before you can enable transfer out of the AUDIX system, you must have filled in a transfer dialplan. This form gives you control in detail over user call transfers and helps to prevent toll fraud. Once filled in, this form specifies extensions to which a caller may transfer. Callers may not transfer to unincluded extensions nor to extensions expressly prohibited on the form. You may want, for example, to forbid call transfer to extensions beginning with "9" if this number causes access to an outside line.

Use the *change transfer-dialplan* screen to prepare for transfers out of the AUDIX system.

To write a transfer dialplan:

1. Access AUDIX Administration and enter the command: **ch tr** (for *change transfer-dialplan*). The *TRANSFER DIALPLAN* screen appears. On the screen are two headings. Each heading appears over a matrix within which you are to enter mailbox extension numbers.
2. As you enter the screen, the cursor is in the first position under the heading that calls for permitted extension numbers. In this position and in positions to the right of and below this first position, enter numbers with these characteristics:
 - Each entry must represent extensions to which it is safe for any caller to be transferred.
 - Each entry must be as long as a valid mailbox extension for this system.
 - Each entry must begin with a number. Subsequent digits may be represented by an "X" or "x" which can be taken to mean "any number." Consequently, the entry "7XXXX," means "any number between 70000 and 79999."

- No X/x can precede a number.
 - No two permitting entries can overlap each other.
3. Move the cursor to the first position under the heading that calls for restricted extension numbers. In this position and in positions to the right of and below this first position, enter numbers with these characteristics:
- Each entry must represent extensions to which transfer from the AUDIX system should be forbidden.
 - Each entry must be as long as a valid mailbox extension for this system.
 - Each entry must begin with a number. Subsequent digits may be represented by an "X" or "x" which can be taken to mean "any number." Consequently, if 7XXXX is permitted, but 75XXX is restricted, one can transfer from AUDIX to any number beginning with "7" except for numbers between 75000 and 75999.
 - No X/x can precede a number.
 - No two restricting entries can overlap each other.

Basic Call Transfer

Basic Call Transfer uses a switchhook-flash method to send the transfer command over voice ports. The DEFINITY AUDIX system goes off-hook, waits for a dial-tone, dials the transfer number, then waits again for the connection to complete. If the called number is busy, callers will hear nothing and must hang up (callers are not automatically returned to DEFINITY AUDIX).

Basic call transfer out of the DEFINITY AUDIX system is activated or deactivated on the System-Parameters Features screen. When this feature is disabled, the return call, Escape to Attendant, and Automated Attendant features also are disallowed because these features rely on call transfer capability. Call transfer is limited to numbers given permission to transfer on the *transfer-dialplan* screen. See Chapter 10, "Ongoing System Security" for more information.



WARNING:

Your system is more susceptible to toll fraud with Basic Call Transfer than it is with Enhanced Call Transfer. Refer to Chapter 10, "Ongoing System Security", for more information on guarding your system against toll fraud.

Enhanced Call Transfer

With Enhanced Call Transfer, the DEFINITY AUDIX system collects all the relevant data and sends it to the switch using a transfer message. Since Enhanced Call Transfer allows transfer requests only to valid extensions on the switch, callers attempting to place unauthorized long-distance calls by transferring out of the DEFINITY AUDIX system will hear a message stating that the number they dialed is not a valid extension and their transfer request is denied.

Enhanced Call Transfer offers the following features:

- The transfer is quick.
- There are two Transfer Types that apply when the caller presses 0 to escape to the operator after being forwarded to the DEFINITY AUDIX system:
 - `enhanced_no_cover_0` treats the call as a *redirected* call. The call will not be subject to call coverage or call forwarding as defined for the specified destination extension.
 - `enhanced_cover_0` treats the call as a *direct* call providing call coverage and call forwarding as defined for the destination extension.
- If the call fails (i.e., the called extension is busy or an invalid number is entered), the DEFINITY AUDIX system reports the failure condition to the caller.
- A failed transfer is not abandoned. Instead:
 - All callers may request another transfer by pressing `* T` again.
 - Callers who have been redirected to the DEFINITY AUDIX system through Call Answer and cannot complete a transfer still can leave a message for the called party.
 - Callers who dialed the DEFINITY AUDIX system directly and cannot complete a transfer are returned to the previous DEFINITY AUDIX activity.

- A transfer attempt does *not* return to the DEFINITY AUDIX system under two conditions
 - A call reaches an unattended phone and no call-coverage is available (the phone rings indefinitely).
 - The system administrator specifies, on a system-wide basis, that calls transferred to the switch are to be treated as *redirected* calls (enhanced_no_cover_0 in the `Transfer Type` field). This applies when the caller presses 0 or *0 to escape to the operator after being forwarded to the DEFINITY AUDIX system. If the call is redirected, the call will not be subject to call coverage or call forwarding as defined for the specified destination extension. Thus, if the destination is busy or forwarded (including Send-All-Calls); the transfer will fail and the switch will reconnect the caller to the DEFINITY AUDIX system. The system then prompts the caller for alternative actions. Call transfer is limited to numbers given permission to transfer on the *transfer-dialplan* screen. See Chapter 10, "Ongoing System Security" for more information.

⇒ NOTE:

Enhanced Call Transfer is an effective way to prohibit callers from transferring out of the DEFINITY AUDIX system and placing unauthorized long-distance phone calls (also known as toll fraud).

For more information on the call transfer feature and related system security issues, refer to Chapter 10, "Ongoing System Security".

Voice Mail

The Voice Mail feature allows subscribers to record messages for delivery to other subscribers' voice mailboxes. This is different from call answer, where a caller (subscriber or not) is transferred into the DEFINITY AUDIX system to leave a message for a subscriber who does not answer his or her phone. No specific DEFINITY AUDIX system administration is required to use this feature.

Voice Mailbox

The Voice Mailbox feature provides a storage area on the DEFINITY AUDIX hard disk where subscriber messages are stored. DEFINITY AUDIX subscribers are automatically assigned a voice mailbox when administered on the Subscriber screen. Each subscriber controls access to his or her voice mailbox with a password.

The system administrator controls characteristics of the voice mailbox such as the sequence of messages for playback, the length of time to store messages, and the amount of disk space assigned for the mailbox. This administration is performed either on the appropriate Class of Service screen for all subscribers assigned a given class-of-service or directly on the Subscriber screens of individual subscribers.

Ongoing Preventive Maintenance

4

This chapter describes your ongoing maintenance responsibilities as an administrator. It lists administrative tasks that must be performed on a regular basis to ensure that your system is running efficiently and to thwart potential problems through early diagnosis.

Overview

Preventive maintenance that you perform on a regular basis is the key to problem-free operation and a major part of your responsibility as a DEFINITY AUDIX system administrator. Preventive maintenance tasks range from checking alarm logs and taking corrective action to monitoring system performance and projecting your company's future DEFINITY AUDIX system capacity requirements based on current usage and expected growth.

It is very important that you establish a regular routine for performing administrative maintenance. Problems that tend to compound themselves can be identified and corrected early when maintenance is performed regularly, and information that is collected for analysis will be more reliable if samples are compared for identical collection periods.

Preventive maintenance tasks that must be performed on a daily, weekly, and monthly basis are described in this chapter. These are followed by tasks you can perform on an as-needed or periodic basis to measure your system's performance efficiency and project future capacity requirements.

Your Responsibility as an Administrator

Responsibility for maintaining your DEFINITY AUDIX system is split between you and other Lucent organizations as follows:

- The Lucent Technical Service Center (TSC) is responsible for remote maintenance on your machine in response to system alarms that are sent to the TSC by your DEFINITY AUDIX system. While responding to these alarms, TSC personnel will also respond to error log information they notice that could help prevent further problems, but they do not routinely check your error logs except when responding to alarms. If you choose to turn off alarm origination or otherwise prevent incoming maintenance logins, the TSC cannot be responsible for remote maintenance of your system.
- You are responsible for the daily, weekly, and monthly tasks described in this chapter, which include backing up filesystems and responding to errors reported in the system administration log.

Daily Preventive Maintenance Tasks

Perform the following preventive maintenance tasks each day, preferably the first thing every morning:

1. Log in to the system at your administration terminal.
2. Check the status line for system alarms (major, minor, and warning).
If the status line displays **M**, **m**, **w**, or **A**, alarms are present. Check the Alarm Log and the Administration Log for local errors as described in Chapter 7, "Alarms, Logs, and Audits".
3. Check the status line for system threshold alarms (lower, middle, or upper) as described in Chapter 7, "Alarms, Logs, and Audits". This chapter suggests corrective actions you might consider implementing.
4. Monitor DEFINITY AUDIX system traffic by reviewing the traffic reports for the current day and previous day:
 - list measurements feature day
 - list measurements load day
 - list measurements special-features day

These reports, described in Chapter 8, "Traffic Reports", provide a wide range of information about how your DEFINITY AUDIX system is being used and how efficiently it is performing. Study the reports with a critical eye, looking for problems and potential problems that may be gleaned from report statistics. When you do this every day, discrepancies from normal traffic patterns will be easy to spot.

Weekly Preventive Maintenance Tasks

Perform the following preventive maintenance tasks each week:

1. Back up appropriate data on a removable tape.

The critical filesystems are backed up automatically each night or each week. Normally, you will not have to back up any extra data. Refer to Chapter 6, "Ongoing Data Administration", under "Backing Up Filesystems and Subdirectories", for information about backup suggestions for individual filesystems.

2. When a removable tape is full, the DEFINITY AUDIX system rewinds to the beginning of the tape, and does the indicated backup(s), removing *all* previous backups. To prevent all previous backups from being deleted, you may want to swap out this tape with a new one before it fills up. Refer to Chapter 6, "Ongoing Data Administration", under "Backing Up Filesystems and Subdirectories", for instructions on replacing the removable tape when it becomes necessary.
3. If your DEFINITY AUDIX system is new or if you have recently added a number of subscribers, monitor DEFINITY AUDIX port usage and capacity to determine if your system is providing an acceptable grade of service. It is recommended that you monitor port and disk usage regularly and plot it over time to anticipate a need for additional ports or a larger disk.

For more information about port capacities, refer to Chapter 8, "Traffic Reports".

Monthly Preventive Maintenance Tasks

Perform the following preventive maintenance tasks each month:

1. Check system limits and update as necessary.

System limits, which define system-wide parameters such as the maximum number of subscribers allowed, the total number of messages allowed across all subscriber mailboxes, and the total number of lists allowed per subscriber are defined on the System-parameters Limits screen.

System limits parameter information should be updated each month to reflect your actual operation, and even more frequently during the initial months of system operation when new subscribers and features are added to the system and system activity increases. You must monitor limits carefully since disk space is limited.

2. If you are not monitoring DEFINITY AUDIX port and disk usage and capacity on a weekly basis, do so on a monthly basis to determine if your system is providing an acceptable grade of service and to plan for future growth.
3. Clean the removable tape on an as-needed basis. Your DEFINITY AUDIX system comes with a tape-cleaning kit that you can use occasionally to keep your tape in good shape.

This chapter describes subscriber administration that is performed as required during normal DEFINITY AUDIX system operation.

Overview

Ongoing subscriber administration includes administrative activities that you must complete daily as well as some that you must complete only occasionally. Many of these procedures may have been performed already during the initial administrative phase (for example, adding subscribers to the system).

Either you or Lucent add the initial set of subscribers to the system during the initial phase, but personnel changes within your company will require that you also add and remove subscribers on a continuing basis. There are also procedures described in this chapter that were not described in previous chapters (for example, changing subscriber names).

There are two general categories of ongoing subscriber administration — routine administration and problem solving:

- Routine subscriber administration involves activities such as adding and removing subscribers and changing their passwords, names, and extensions.
- Problem-solving can involve anything from answering simple questions about using the DEFINITY AUDIX system to determining why a subscriber is not able to create messages.

A *sample* subscriber change-request form is shown in Appendix A, "Communicating with Subscribers", to give you one way in which subscribers can communicate their problems to you.

Adding New Subscribers

After the initial group of subscribers has been added, you must still regularly add subscribers as new employees join your company or existing employees without DEFINITY AUDIX service are added. Adding a subscriber involves assigning the individual a login and (optionally) a password, defining a set of permissions called *class of service* options that control the individual's DEFINITY AUDIX service, and (optionally) recording the subscriber's name as it will be spoken by the DEFINITY AUDIX system.

Use your administration terminal to add subscriber information (name, extension, password, and service options) to the DEFINITY AUDIX system.

Perform the following steps to add new subscribers:

1. Inform the switch administrator that new subscribers are being added and that call coverage paths need to be established for them. DEFINITY AUDIX system switch administration requirements are described in Chapter 2, "Preparing for DEFINITY AUDIX System Operation".
2. Add subscriber information (name, extension, and service options) to the DEFINITY AUDIX data filesystem.

Use the Subscriber screen to add new subscribers to the DEFINITY AUDIX system. Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of this screen.

Alternatively, you may use the AUDIX Administration and Data Acquisition Package (ADAP) to enter new subscriber information directly into the DEFINITY AUDIX directory database. This is convenient for entering a large number of subscribers since you can enter them as a group instead of entering them individually on the Subscriber screen. Refer to *AUDIX Administration and Data Acquisition Package*, 585-302-502, for more information about using ADAP.

3. Assign subscribers an initial password that is less than the minimum password length defined on the System-Parameters Features screen. When the subscriber logs on to the DEFINITY AUDIX system for the first time, he or she then will be forced by the DEFINITY AUDIX system to enter a new password that is at least as long as the required minimum. This is a good way to ensure that subscribers do not continue using the default password you assign them initially. Also if the Password Aging feature is active, subscribers will be required to change their password according to the Password expiration interval defined on the System-Parameters Features screen.

4. If none of the predefined classes of service meet a particular subscriber's needs, you can customize the subscriber's service options by assigning a class of service and then changing information via the Subscriber screen. The subscriber's service options then are independent of the assigned class of service and will not be updated by changes made to any Class of Service screen. For more information about classes of service, see "Evaluating Subscriber Classes of Service" in this chapter.
5. Either you or the subscriber must make a voice recording of the subscriber's name for use as a voice fragment that the DEFINITY AUDIX system speaks during call answering. If the Name Record By Subscriber feature is used, the DEFINITY AUDIX system will prompt subscribers to speak their own names the first time they log in. It is recommended that you activate this feature since it will significantly decrease your workload. Otherwise, you must record all of the subscriber names yourself. Refer to "Creating and Changing Subscriber Name Recordings" below for instructions on recording subscriber names.
6. If you enter a large number of subscribers, you may want to manually back up the names filesystem when you are finished. This data is normally backed up automatically each Sunday, but you may want to protect your work in the interim if you have recorded name fragments for a large number of users. To perform a demand backup of the subscriber names data, execute the **save weekly** command. You also may want to back up system data, though your exposure to data loss is not as great because the system data filesystem is backed up automatically each night. However, to perform a demand backup of system data, execute the **save nightly** command. Refer to "Backing Up Filesystems and Subdirectories" in Chapter 6, "Ongoing Data Administration", for more information about manually backing up data.

⇒ NOTE:

The next step is not necessary if you are using the CL switch integration method.

7. If you are using the Display Set mode of switch integration, run the *switch-names* audit once you have added all of the new subscribers. This audit can take anywhere from 5 to 30 minutes and will not impact system performance in any significant way. The audit matches each voice name with a valid local or remote subscriber on the switch. For more information about audits, refer to Chapter 7, "Alarms, Logs, and Audits".

You may add each subscriber as the request to do so comes in, or you may prefer to wait until you have several requests and then add a group of subscribers. In any case, you should notify new subscribers once they have been given service and, if you have assigned a default password, inform each subscriber of the password.

Creating and Changing Subscriber Name Recordings

Even if Lucent personnel added subscribers during the initial administration phase, you (or the subscriber) must still record voiced name fragments for each subscriber. Lucent does not make these recordings during initial administration.

The subscriber name recording is the spoken name you record for each DEFINITY AUDIX subscriber. This fragment is spoken by the DEFINITY AUDIX system during call answering, such as "Your call is being answered by AUDIX. John Jones is not available." The first fragment (*Your call is being answered by AUDIX.*) and the third fragment (*is not available.*) are DEFINITY AUDIX system fragments; the second fragment (*John Jones*) is the subscriber's recorded name fragment.

You have two options for recording subscriber name fragments:

- Have subscribers record their own name recordings — the recommended option.

The name record by subscriber feature must be activated on the System-Parameters Features screen. When this feature is active, subscribers will be prompted the first time they log on to voice their name for use as a name fragment. However, if you choose to record subscriber names before they log in for the first time, they will not be prompted to record their name but will have the option of doing so using the DEFINITY AUDIX subscriber administration voice menu.

- Record them yourself in a voice that sounds similar to the one in which the DEFINITY AUDIX system fragments were recorded.

Record subscriber names using the extension that has announcement control permission.

1. Log in to the DEFINITY AUDIX system using your touch-tone telephone.
2. Access the administrative menu.
3. Identify the subscriber's extension.
4. Speak the name in response to DEFINITY AUDIX voice prompts.

The procedure for changing subscriber name recordings is the same as for creating the recording: you simply record over the old recorded name using the same procedure. If the Name Record by Subscriber feature is activated, subscribers can select options from the DEFINITY AUDIX voice menu to re-record their names. Typically, you would do this when a subscriber has married and changed her name, for example, or when a subscriber is not satisfied with the pronunciation or quality of the name recording. Additionally, a subscriber might like to re-record his/her name to include certain status information like, "John Jones on vacation until October 10," or "Mary Smith out on business until November 1."

If you do not use the Name Record By Subscriber feature (or want to record the names initially even though you will allow subscribers to change the recording), perform the following steps to create or change a subscriber's name recording:

1. Dial the DEFINITY AUDIX system extension.
2. Enter your extension (the one that has announcement control permission) followed by the pound sign (#) when prompted.
3. Enter your password followed by the pound sign (#) when prompted.
4. Press (9) to perform system administration.
5. Press (4) to record a subscriber's name.
6. Enter the extension of the subscriber whose name you are about to record followed by the pound sign (#) when prompted.
7. Speak the subscriber's name clearly when prompted.
8. Press (#) to signify the end of the recording.
9. When you are finished with this subscriber, choose one of the following:
 - Repeat steps 6 — 8 for each additional subscriber to be added.
 - Press (*)(R) to return to the activity menu, or just hang up to exit from the DEFINITY AUDIX system.

Removing Subscribers

Removing a subscriber means deleting the subscriber's name and extension from the system directories and the subscriber's name fragment from the names filesystem. You need to remove subscribers any time they leave your company or no longer require DEFINITY AUDIX service. This process requires fewer steps than adding a subscriber because both the name fragment and the subscriber's name and extension records can be removed in one step.

Use the Subscriber screen to remove DEFINITY AUDIX subscribers. Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of this screen.

After the subscriber is removed, all records pertaining to the subscriber are deleted automatically by DEFINITY AUDIX audits that are executed every Friday night. For more information about audits, see Chapter 7, "Alarms, Logs, and Audits".

Reassigning Subscriber Default Passwords

If subscribers forget their passwords, you must reassign a default password to allow them to again log in to the DEFINITY AUDIX system. The subscriber then should change the default password to a unique, personal password.

Use the Subscriber screen to reassign default passwords. Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of this screen.

Although reassigning a default password is simple, it is time-consuming for you. Therefore, ask subscribers to choose passwords that are easy for them to remember (but not easy to decode by others).

Unlocking Locked Subscriber Logins

For security purposes, the DEFINITY AUDIX system accepts only three unsuccessful login attempts per subscriber session (call to the DEFINITY AUDIX system) before disconnecting. The DEFINITY AUDIX system also monitors the number of unsuccessful consecutive login attempts per subscriber. If this number exceeds the number defined on the System-Parameters Features screen, the DEFINITY AUDIX system *locks out* that subscriber's login ID, thus preventing further system access. The subscriber cannot access the DEFINITY AUDIX system until you unlock the subscriber's login.

Use the Subscriber screen to unlock subscriber logins. Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of this screen.

NOTE:

If a subscriber is repeatedly being locked out of the DEFINITY AUDIX system, some unauthorized person may be attempting to tamper with that subscriber's mailbox. Report this to the subscriber's manager or to your company security office before unlocking the login ID. In addition, if the unsuccessful login attempts have been made from an extension other than that of the owner of the mailbox, the Administration Log will contain information about the break-in attempts.

Changing a Subscriber's Name or Extension

Subscribers may request that their names be changed in the system directory for a variety of reasons, or they may be assigned a different extension.

Use the Subscriber screen to change subscriber names or extensions in the DEFINITY AUDIX directory. Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of this screen.

Alternatively, you may use ADAP to change subscriber information directly in the DEFINITY AUDIX directory database. Refer to *AUDIX Administration and Data Acquisition Package*, 585-302-502, for more information about using ADAP.

If you change a subscriber's name, you or the subscriber must record a new name fragment over the subscriber's existing name fragment to reflect this change. Refer to "Creating and Changing Subscriber Name Recordings" earlier in this chapter for instructions.

Names or extensions may be changed without disrupting mailing lists. A unique subscriber ID that is unrelated to the name or extension is associated with the subscriber's mailbox for lists and personal directories. Lists are automatically updated for name changes. For example, if Jane Doe is on a mailing list and her name has been changed to Jane Smith, then the list will be updated automatically to reflect the change.

Listing Subscribers by Name or Extension

DEFINITY AUDIX subscribers and their extension numbers can be listed on your display screen, either alphabetically by name or numerically by extension. When listed alphabetically, the assigned class of service name or number also is displayed for each subscriber.

Use the list Subscriber screen to list DEFINITY AUDIX subscribers alphabetically or the list Extensions screen to list DEFINITY AUDIX extensions numerically. Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of these screens.

Evaluating Subscriber Classes of Service

Each subscriber's class of service is controlled by service options that you administer to best meet individual subscriber requirements. These service options control features such as addressing mode (by name or by extension) and the order in which messages are read out to the subscriber.

Use the Class of Service screens to display and change individual classes of service, and the list cos command to list all service classes. Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of these screens.

The Class of Service screen contains fields that, together, represent the full set of administrable service options. After defining classes of service, you then can assign a particular class of service to each subscriber you add to the DEFINITY AUDIX system with the Subscriber screen. The DEFINITY AUDIX system then automatically assigns the subscriber all of the service options predefined by that class of service.

Your system includes 12 class of service names (*class0 - class11*). All 12 classes of service are available for you to modify and rename as required to define classes of service which meet different types of subscriber requirements within your organization. The default class of service is *class0*. Initially, the other 11 classes of service are populated with the same values as *class0* until you decide how to customize them to suit subscriber needs.

The particular service options that subscribers within your organization will require may not be immediately obvious. Initially, you may want to assign all subscribers the default class of service. Or, you may want to modify one of the other classes of service and then assign it to all subscribers. Either method will provide subscribers with adequate interim service. Once you become familiar with the needs of your organization, you will be better able to identify the classes of service that are most useful. Then you can use the Class of Service screen to meet these needs.

If you modify certain fields for a particular class of service after subscribers have been assigned that class of service, those subscribers will automatically have the same fields updated on their subscriber records. For example, if you change the `INCOMING MAILBOX Order` field from "fifo" to "lifo" for the class of service named *class8* (cos 8), then all subscribers with either *class8* or 8 in the `cos` field on their Subscriber screen also will have the `INCOMING MAILBOX Order` field changed automatically.

For further explanation of the Class of Service screen, refer to the *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211.

Class of service options defined in a specific class of service can be overridden on a subscriber-by-subscriber basis.

Use the Subscriber screen to change individual subscriber class of service options. Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of this screen.

Customizing the subscriber's class of service by entering information directly in the class of service fields on the change Subscriber screen overrides the values of the assigned class of service. You also can change the following options for an individual subscriber on the Subscriber screen:

- **Covering extension**
You can change the subscriber's default covering extension if you give the subscriber the Escape to Attendant feature.
- **Permission types**
You can change the following permission types for a subscriber:

Permission Type	Meaning
auto-attendant	Automated Attendant
bulletin-board	Bulletin Board
call-answer	Call Answer
none	No Call Answer — Voice Mailbox only

- **Message retention**
You can change the retention period for both old and new, incoming and outgoing voice messages.
- **Message length**
You can change the length (in seconds) of voice mail messages, call answer messages, and end-of-message warnings.
- **Mailbox size**
You can change the size (in seconds) of a subscriber's mailbox.
- **Lucent INTUITY Message Manager**
You can enable or disable INTUITY Message Manager IMAPI access and IMAPI voice file transfer for a particular subscriber.
- **Multilingual**
You can customize Multilingual usage for a particular subscriber.

- PERMISSIONS, Outcalling
You can enable or disable whether a subscriber can activate Outcalling, which alerts a subscriber to new messages by placing a call to that subscriber.
- PERMISSIONS, Priority Messages
You can enable or disable whether a subscriber can send priority voice mail messages to other subscribers.
- PERMISSIONS, Broadcast
You can change the type of broadcast messages that can be created by a subscriber — voice, login, both, none.

Changing the DEFINITY AUDIX Extension Length

This procedure, while rarely required, can save you from having to delete and re-enter all subscribers if your switch numbering plan changes. Changing the number plan requires that the switch and its DEFINITY AUDIX system be updated with the new extension numbers. This procedure can be made faster by using ADAP.

To change the DEFINITY AUDIX system extension length:

1. Change the extension length on the Machine screen to the new length and also change the start and end extensions to match the new length.
2. Reboot the system using the Reset System Reboot screen.
3. Change the system covering extension on the System-Parameters Features screen to the new number.
4. Change the DEFINITY AUDIX port extensions on the Voice-Group screen to the new numbers.
5. Change subscriber extensions using the Subscriber screen to add or delete the leading digit in compliance with the new switch numbering system. Also on this screen, change the personal covering extension (if one was assigned). If this subscriber is also an Automated Attendant, go to page 3 of the screen and change any extensions as appropriate.
6. If your DEFINITY AUDIX system has the Outcalling feature, but is limited to extensions that are on the switch, change the `Maximum Number Digits` field on the System-Parameters Outcalling screen to the new extension length.
7. Enter the new extension numbers in the `TIMEOUT PARAMETERS, Extension` field on the Switch-Link screen.

8. Reboot the system using the Reset System Reboot screen.
9. Alert subscribers to these changes since they will have to use more or fewer digits when logging in, addressing voice mail, and calling other extensions. They also should check their outcalling number; if it is an extension in the switch numbering system, they will have to re-enter it.

Subscriber Features

Besides the features that you learned about in Chapter 3, "Feature Administration", there are a number of features used by DEFINITY AUDIX subscribers with which you should familiarize yourself. Reviewing each feature individually will help you to train subscribers to use DEFINITY AUDIX features effectively, taking full advantage of DEFINITY AUDIX functionality.

Automatic Message Scan

The Automatic Message Scan feature allows a subscriber to have all new messages played without requiring additional button presses. The subscriber then can listen to just headers, just messages, or both headers and messages continuously from the first new message to the last. The subscriber controls this feature through the DEFINITY AUDIX voice menu prompts. No specific DEFINITY AUDIX system administration is required for this feature.

Delivery Scheduling

The Delivery Scheduling feature allows subscribers to schedule delivery of voice mail messages to other subscribers for any day and time up to a year in the future using their touch-tone telephones and DEFINITY AUDIX voice prompts. Normally, the DEFINITY AUDIX system delivers messages immediately. No specific DEFINITY AUDIX system administration is required to use this feature.

Dial-By-Name

The Dial-By-Name feature allows callers who do not know a subscriber's extension to dial ***T** (transfer out of AUDIX) and ***A** (alternate addressing) and then dial the subscriber's name to call the extension. No specific DEFINITY AUDIX system administration is required to use this feature; however, you must have the Call Transfer Out of AUDIX feature activated to use ***T**.

Directory

The Directory feature allows callers to dial ***N** (names and numbers directory) command to find out the name or extension of a DEFINITY AUDIX subscriber. No specific DEFINITY AUDIX system administration is required to use this feature.

Full Mailbox Answer Mode

The Full Mailbox Answer Mode feature enables the DEFINITY AUDIX system to respond to a call directed to a full mailbox with the subscriber's personal greeting, if active, followed by system announcements. The announcements inform the caller about the full mailbox condition and offer other available call answer options, such as dialing **[0]** to reach a covering extension or operator. The full mailbox system announcements cannot be dialed through, although the list of options can be. If the caller does not respond within an administered time period, the call is transferred automatically to the covering extension. The covering extension must be administered on the Subscriber or System-Parameters Features screen or the DEFINITY AUDIX system will disconnect the call after the timeout period.

No specific DEFINITY AUDIX system administration is required to use this feature. The default number of seconds that the DEFINITY AUDIX system will wait for a response to a full mailbox announcement is five seconds. You can change this on the System-Parameters Features screen.

Personal Directory

The Personal Directory feature allows individual subscribers to create a private list of up to 25 customized names for frequently-called subscribers. These names can be shorthand abbreviations or the same as the corresponding directory names. This list is searched first when the subscriber uses addressing by name, transfer by name, or the directory feature. No specific DEFINITY AUDIX system administration is required to use this feature.

Playback and Recording Control

The Playback and Recording Control feature can be used by anyone entering the DEFINITY AUDIX system to create, leave, or listen to messages. This feature allows subscribers to edit voice mail and call answer messages they create and allows callers to edit call answer messages they create, using the touch-tone keys on their phone. No specific DEFINITY AUDIX system administration is required to use this "cut-and-paste" capability.

Private Messages

The Private Messages feature allows subscribers to designate outgoing voice mail as private. If this feature is activated, recipients will be unable to forward these messages. A private message cannot be forwarded by the recipient. To mark a message private, press **[1]** during the delivery options menu. No specific DEFINITY AUDIX system administration is required to use this feature.

Security Password

The Security Password feature protects your DEFINITY AUDIX system from unauthorized access by requiring that subscribers enter a numeric password in addition to their extension number when logging in to the DEFINITY AUDIX system. A default numeric password is assigned on the Subscriber screen for each subscriber. Subscribers then change this password when they log in for the first time (and as required on an ongoing basis) using their touch-tone telephone in response to DEFINITY AUDIX voice prompts. If Password Aging is on for the system, subscribers will be required to change their password periodically when the password expiration interval has been reached.

There is no specific DEFINITY AUDIX system administration required to use the security password. You can control the minimum number of characters required for DEFINITY AUDIX passwords and set up Password Aging on the System-Parameters Features screen. Subscriber passwords must be at least as many characters as defined on this screen and not more than 15 total characters.

⇒ NOTE:

If you, the administrator, assign a default password of less than the minimum number of digits specified on the System-Parameters Features screen when adding new subscribers, the new subscribers will be forced to change their password the first time they log on to the DEFINITY AUDIX system. For security purposes, this is a good way to ensure that subscribers change their default passwords before they begin using DEFINITY AUDIX services.

Untouched Message

The Untouched Message feature allows a subscriber to hold a message in the *new* category after listening to it, leaving message notification active for the message. This is done by the subscriber using the *** * H** (hold) command from the DEFINITY AUDIX voice menu. No specific DEFINITY AUDIX system administration is required to use this feature.

Responding to Subscriber Issues

Subscribers occasionally need help with problems or answers to questions (if they are not getting their messages and don't know why, for example). They also are likely to make simple requests (they want name addressing instead of extension addressing).

In either case, it is up to you to resolve issues that arise. This requires familiarity with the system. Familiarity will help you to relate sometimes inexact or hazy descriptions of problems brought to you by subscribers with the correct diagnoses and solutions. Suppose, for example, a subscriber comes to you saying that he or she is trying to send a message to another subscriber but the

DEFINITY AUDIX system has indicated that the message is undeliverable. Because you know the system so well, you might correctly conclude that this is because the recipient's mailbox is full. The solution is either for the recipient to delete any unnecessary messages or for you to increase the recipient's mailbox size.

This is an overly simplified example but one that illustrates the kind of situation that you might experience. To simplify dealing with subscribers in these types of situations, you should develop some method by which subscribers may communicate with you. The two obvious possibilities are in writing and by phone. A "Subscriber Change-Request Form" is shown in Appendix A, *Communicating with Subscribers*.

You might wish to use a similar form within your company. Such a form has two functions:

- It allows subscribers to request (in writing) changes they would like made in their service attributes.
- It allows subscribers to report complaints and problems.

Asking subscribers to write things down also will allow you to keep a record of the communication.

The other avenue for communication might be by telephone via the DEFINITY AUDIX system. You could set up a special mailbox for yourself specifically for DEFINITY AUDIX system issues. Subscribers then could call this number any time to express an opinion, idea, or issue about the DEFINITY AUDIX system.

You will have to interact with subscribers on a regular basis. Therefore, choose a method for handling their issues that suits you as well as meets their needs.

Remote Subscriber Administration

A remote subscriber is one who subscribes to a remote machine connected to the local machine. Remote subscribers can exchange voice messages with local subscribers. As these contacts take place, the local DEFINITY AUDIX system stores address information for remote subscribers so contacted.

You can expand this information by manually administering remote subscribers as described in *DEFINITY AUDIX System Digital Networking*, 585-300-534.

This chapter describes data administration that is performed as required during normal DEFINITY AUDIX system operation.

Overview

Ongoing data administration includes activities that you perform as a part of your daily or weekly routine, and other activities that you need to perform only when circumstances dictate action on your part. For example, increases in the number of subscribers and system usage will require that you regularly check the available free space within the filesystems to keep the data manageable.

How DEFINITY AUDIX Data Are Organized

DEFINITY AUDIX software is organized into filesystems that contain the system software, subscriber information, system announcements, and voice messages that comprise the DEFINITY AUDIX system. Filesystems are stored on your DEFINITY AUDIX system's hard disk.

In order to properly administer your DEFINITY AUDIX system and keep it running efficiently, you must understand three basic concepts about filesystem organization:

- Volumes — The physical disks upon which information is stored
- Filesystems — Organized collections of information (files) on the volumes
- Files — Information stored within each filesystem

To help understand these concepts, think of a filing cabinet, its drawers, and the files within each drawer as shown in Figure 6-1, Example of Volume, Filesystems, and Files. In this analogy, the filing cabinet represents a DEFINITY AUDIX system volume. It is divided into drawers (or filesystems), each of which contains different kinds of information. Filing cabinet drawers perform the same organizational function in the filing cabinet as filesystems perform within a volume. Finally, each drawer in the cabinet contains files. These files hold data of a similar topic and function in the same way as software files within the filesystems.

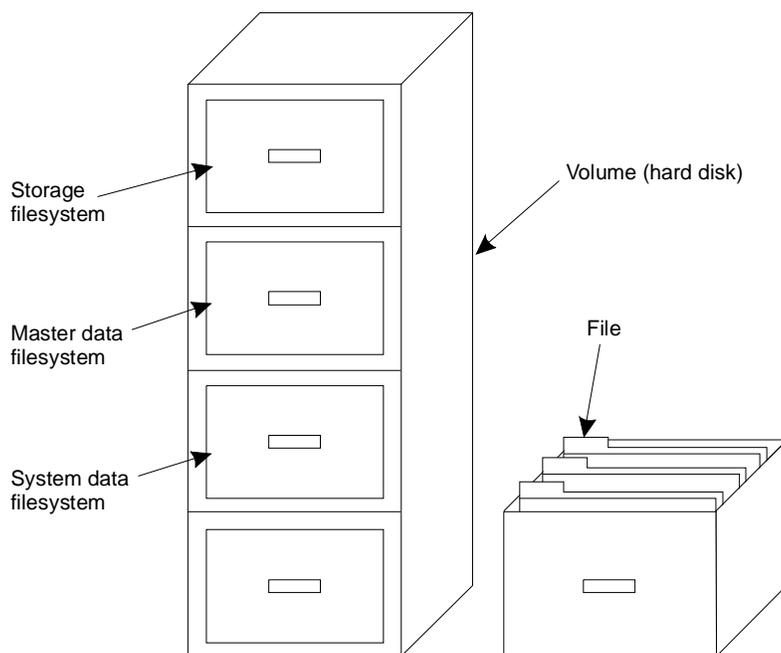


Figure 6-1. Example of Volume, Filesystems, and Files

Volumes

Volume is the software term for a disk. A hard disk is the only kind of disk in the DEFINITY AUDIX system. A hard disk is a permanent disk that is used to store DEFINITY AUDIX filesystems.

Removable tapes are used for backing up DEFINITY AUDIX filesystems and installing new software. For more information on backing up data, refer to "Backing Up Filesystems and Subdirectories" later in this chapter.

Filesystems

A filesystem is a collection of files and their associated directories. Filesystem information may be backed up and recovered during the course of DEFINITY AUDIX system administration. It is possible for some filesystems to grow to the limits of the allocated disk space, jeopardizing overall system efficiency. Therefore, it is important for you to understand filesystems. Table 6-1, DEFINITY AUDIX Filesystems, describes the filesystems with which you will be concerned:

Table 6-1. DEFINITY AUDIX Filesystems

Filesystem	Automatic Backup?	Use
Storage	Names Directory is backed up Sunday P.M.	Contains DEFINITY AUDIX voice messages and personal greetings (Voice Text Directory), announcement fragments (Announcement Directory) for all announcement sets, and subscriber and machine names (Names Directory). The size of this filesystem is fixed.
Master Data	No	Contains non-voice DEFINITY AUDIX data for management devices residing on the multi-function board (MFB). Contains the error logs, alarm log, activity log, event log, and traffic billing information.
System Data	Nightly	Contains message headers, mailing lists, subscriber profiles, and message-waiting lamp status. Contains the delivery request file and subscriber mailboxes.

Filesystem Interactions

During normal operation, DEFINITY AUDIX filesystems work independently of each other under the direction of a set of software managers. These managers, in tandem with hardware and firmware managers, allow the files, filesystems, and system hardware to work smoothly together.

Since filesystems are handled separately, it is possible for different filesystems to contain conflicting information. For example, if a subscriber is removed from the DEFINITY AUDIX system, the System Data filesystem may contain mailing lists that include the deleted subscriber's name.

To reconcile possible conflicts among filesystems, software programs called audits run each night to check for inconsistencies and, where possible, update information in filesystems to correct problems. For example, audits remove all references to a deleted subscriber, including deleting the subscriber's name from mailing lists and canceling message deliveries to that subscriber. System audits are described in Chapter 7, "Alarms, Logs, and Audits".

Maintaining Filesystem Sizes

The DEFINITY AUDIX system does not allow for automatic filesystem growth. Filesystem size is set at the factory. Therefore, you are responsible for monitoring the amount of free space within your system. Low free space is noted on the administration terminal status line and in the administration log. For more information about the administration log, refer to Chapter 7, "Alarms, Logs, and Audits".

Table 6-2, Filesystem Capacities, illustrates the hours of storage and maximum number of subscribers allowed on each of the available disks.

Table 6-2. Filesystem Capacities

Hours of Storage	6	15	40
Maximum Subscribers	300	1000	2000

Perform the following tasks to monitor filesystem sizes and identify problems. These tasks show how to evaluate filesystem space, determine when a threshold exception has occurred, determine which filesystem has caused the exception, and take appropriate action to correct the problem.

Checking for Threshold Exceptions

Monitor the thresholds field on the STATUS line at the top of the administrative forms. This field displays the word "none" if no exceptions exist. It may take up to 30 minutes for a threshold exception to be reported or for the exception to clear if sufficient space is freed up in the filesystem. When a threshold exception occurs, the thresholds field displays one of the following messages:

Message	Description
Lower	This indicates that a lower message space threshold has been exceeded within the total message space available for voice messages. If you are using the default lower threshold that was delivered on the System-Parameters Thresholds screen, this means that 75% of the message space available has been used. Ask subscribers to delete all unnecessary messages and greetings from their mailboxes.
Middle	This indicates that a middle message space threshold has been exceeded within the total message space available for voice messages. If you are using the default middle threshold that was delivered on the System-Parameters Thresholds screen, this means that 85% of the message space available has been used. Ask subscribers to delete all unnecessary messages and greetings from their mailboxes.
Upper	This indicates that an upper message space threshold has been exceeded within the total message space available for voice messages. If you are using the default upper threshold that was delivered on the System-Parameters Thresholds screen, this means that 95% of the message space available has been used. You already should have asked subscribers to delete unnecessary messages when each of the other two thresholds were reached. Therefore, it is probably useless to ask subscribers to delete additional messages and greetings again. Instead, consider decreasing the retention times on the Class of Service screen to allow the system to automatically delete messages sooner. Then run audit mailboxes to delete messages that are older than this new retention time. If your system is currently using a 6- or 15-hour disk, you also may consider going to a larger disk.

Backing Up Filesystems and Subdirectories

Some filesystems and subdirectories are backed up on tape automatically by the DEFINITY AUDIX system on a regular basis.

You may need to manually back up pertinent filesystems and subdirectories after making major system changes, after entering large numbers of new subscribers, or when you are experiencing system problems and do not want to risk losing information that was entered since the last automatic backup.

Because of the types of data stored in the different filesystems and subdirectories, not all system filesystems and subdirectories are normally backed up. All that is required to recover from a disk crash or other major problem is a current copy of the System Data filesystem, one version of the Announcement directory of the Storage filesystem (only necessary if you customize announcements), and a copy of the Names directory of the Storage filesystem. With these filesystem or directory backups, you can recover all the necessary filesystem data except the messages in the Voice Text directory of the Storage filesystem.

There should have been three removable tapes ordered with the DEFINITY AUDIX system: one containing system programs and two that are blank.

One blank removable tape should be installed at all times for backing up the System Data filesystem (which is done automatically each night) and the Names Directory on the Storage filesystem (which is done automatically each week). This tape also is normally used to manually back up filesystems. You should periodically change the backup tape since, if it becomes full, it will overwrite your current backup. Look for warnings about a full tape in the Administration Log.

Backup requirements for individual filesystems are as follows:

Filesystem	Backup Requirements
Storage; Announcement Directory	The Announcement Directory does not require a backup unless you have customized announcements. If you make changes to customized announcements, copy this directory to a tape using the save Announcements screen after you make changes. If you do not have customized announcements, you already have a backup on the original factory tape.
Storage;Names Directory	The Names Directory contains subscriber names and is backed up automatically <i>every Sunday night</i> if administered to do so on the System-Parameters Features screen. After you record a large number of subscriber names, you may want to back this directory up immediately on a removable tape by executing the save weekly command.
Storage;Voice Text Directory	The Voice Text Directory cannot be backed up because of its size and the transient nature of its contents.
System Data	The System Data filesystem contains information that must be recovered if you lose filesystem information. Because of the importance of this data, the system data filesystem is backed up automatically <i>each night</i> at 10:00 p.m. by the DEFINITY AUDIX system. Thus, you do not need to manually back up this filesystem unless your system is experiencing problems and you want to ensure that a current copy is stored on a removable tape. You can perform a demand backup of this filesystem by executing the save nightly command.

Adding an Additional Announcement Set

You can install up to nine announcement sets on the DEFINITY AUDIX system subject to the amount of storage space that is available. Each announcement set takes up storage space on the system and may take storage space away from voice text information. Before installing another announcement set, check the amount of space available on the List Measurements Load Day screen. Ensure that there is enough storage space to install the announcement set and still have adequate voice text storage space. Refer to *DEFINITY AUDIX System — System Description*, 585-300-205, for an estimate of the amount of storage space needed by each announcement set. Refer to *DEFINITY AUDIX System — Installation*, 585-300-111, for instructions on installing the additional announcement set.

Replacing a Removable Tape

Use the following procedure to replace a tape in the DEFINITY AUDIX system:

1. Enter **remove tape** to unlock and unload the tape.
2. Remove the tape from the drive. Replace it with a new tape.
3. Type the **add tape** command. This clears any existing alarms, loads the cartridge, and adds the default ID label.

Cleaning a Tape

You need to clean the DEFINITY AUDIX tape periodically. Refer to Chapter 4 of *DEFINITY AUDIX System — Maintenance*, 585-300-110, for the tape cleaning procedure.

Recovering Backed-up Filesystem Information

Occasionally, system hardware problems may occur causing all or part of the information on the hard disk to be destroyed. You will be notified of filesystem or volume problems by an alarm indication on the STATUS line of your terminal. When an alarm is indicated, check the alarm log to determine the type of problem.

The alarm log will display a fault code indicating file trouble and a resource type indicating the filesystem that is corrupt (damaged in some way). These codes are listed in *DEFINITY AUDIX System — Maintenance*, 585-300-110. You will need to report this information to the service technician.

The service technician must determine the cause of the problem and perform a recovery of the filesystems that are corrupt. The recovery is made from the backup copies of these filesystems. For this reason it is extremely important to ensure that the nightly backups of the System Data filesystem are made and to check the removable cartridge onto which the filesystems are backed up to ensure that no current data is lost. See "Backing Up Filesystems and Subdirectories" earlier in this chapter.

⇒ NOTE:

If your files become corrupt or the disk crashes, you will have to rerecord any automated attendant menus. You might want to keep a copy of the text of automated attendant menus so that you can rerecord them precisely if necessary.

Customizing Announcements

While using the DEFINITY AUDIX voice messaging system, you hear voice prompts called *announcements*. Announcements are comprised of separate instructions called *fragments* which tell you what to do and what your options are. You can change DEFINITY AUDIX announcements to more exactly meet the needs of your business and subscribers. Use commands and procedures described in this section to change announcements.

What Are Fragments and Announcements

To effectively change announcements, you need to understand precisely what fragments and announcements are.

Fragments

The voice prompts that you hear consist of one or more pieces of recorded text called *fragments*. A fragment can be a recorded word, phrase, or sentence. Each fragment is identified by an alphanumeric code starting with the letter "f".

For example, the voice prompt *Previous login incorrect. Please re-enter extension and pound sign*, is composed of two fragments:

- **f233** *Previous login incorrect. Please re-enter extension,*
- **f224** *and pound sign*

Announcements

An *announcement* is actually a placeholder within the system that plays the fragments. For each event that may occur within the DEFINITY AUDIX system, the system permanently assigns one or more announcements, each identified by number, to that event. The system then assigns fragment number(s) to the announcement numbers.

Thus, when a caller or subscriber completes an event (normally pushing a button), the DEFINITY AUDIX system processes the announcement number assigned to that event and then plays the fragments assigned to that announcement. Each announcement is identified by a code starting with the letter "a", also known as the announcement number. For instance, "a10" is announcement 10.

Look at the sample event sequence in Figure 6-2. Announcement a815 marks the point where fragments are played when the caller connects to the DEFINITY AUDIX system. The *us-eng* voice prompt at this point says *Welcome to AUDIX. For help at any time, press *H*. As the caller continues to press more keys, additional announcements trigger the system to play the assigned fragments.

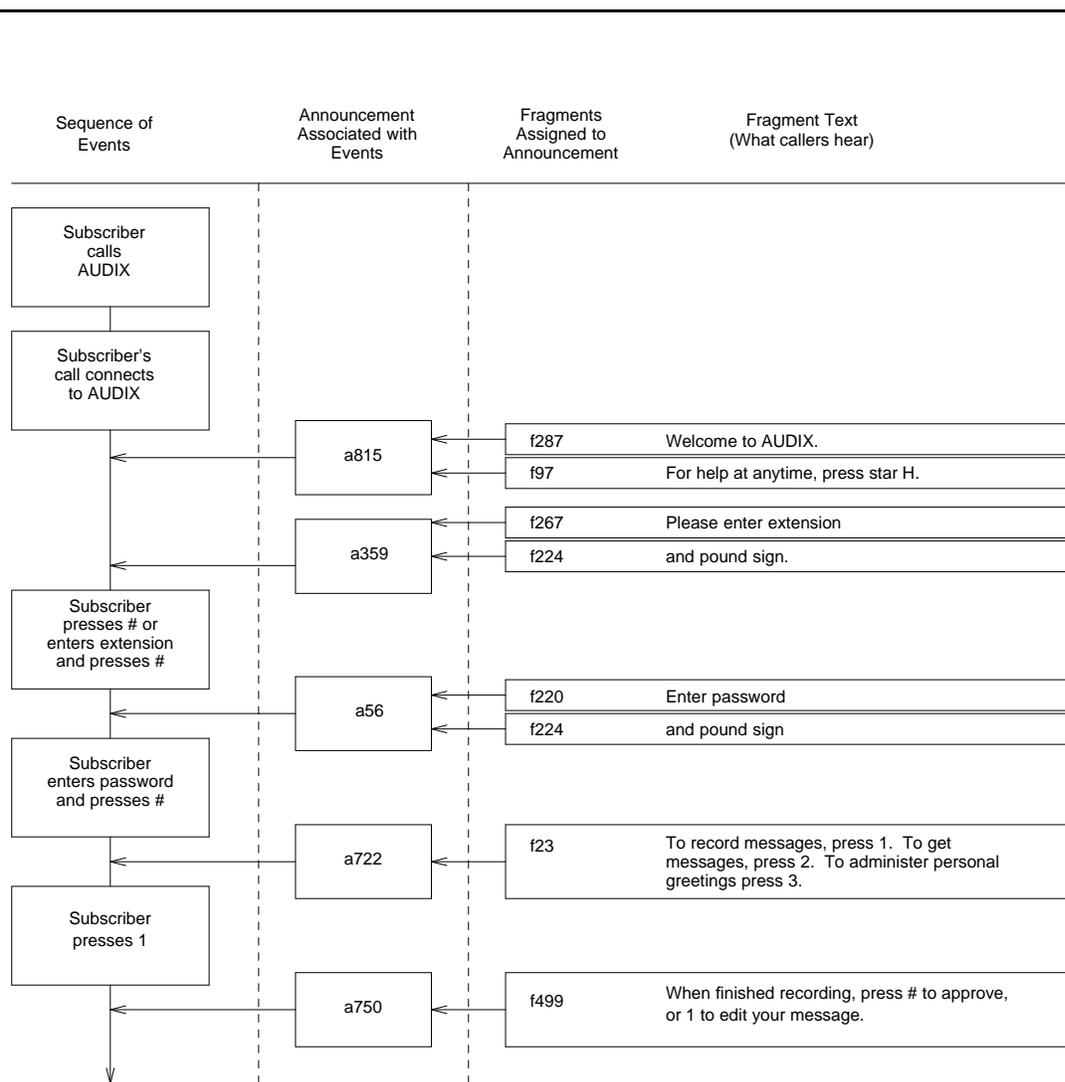


Figure 6-2. Sample of How Announcements Link Voice Fragments to Events

Announcements are fixed in place. You cannot use an announcement number to mark a different point in the DEFINITY AUDIX system. Therefore, you cannot add, change, or delete an announcement number. However, you *can* add, change, or delete fragments assigned to announcements and thereby change announcements.

System and Administrative Announcement Sets

Announcement sets are identified to AUDIX as either *system* or *administrative*. *System* means that this announcement set is the default announcement set for all system prompts and announcements. *Administrative* means that the set can be customized.

A set can be *both* system and administrative. When this is true, announcement set changes will become immediately effective for DEFINITY AUDIX users. Therefore, you should test and verify your changes to the administrative announcement set, before identifying it as the system set using the corresponding fields on the System-Parameters Features screen.

DEFINITY AUDIX Announcement Sets

A representative list of announcement sets is shown in the table below. New announcement sets are constantly under development. Contact your Lucent representative for the most recent list.

Language	Announcement Set
U. S. English	us-eng
U. S. English Terse	us-eng-t
U. S. 123	us-123
U. S. English TDD	us-tdd
British English	british
Latin Spanish	lat-span
Canadian French	french-c
German	german
Portuguese	portug
Dutch	dutch

Custom Announcement Sets

You can create and activate custom announcement sets with customized messages that meet the specific needs of your business and system users. Creating a custom announcement set consists of four steps:

1. Adding the new announcement set name to the system
2. Copying into this new set the announcements from another set
3. Changing the announcements and fragments in the custom set
4. Activating the custom set

You can customize announcements in the following ways:

- Re-recording a fragment
- Eliminating a fragment
- Adding a fragment

How you customize announcements depends on the announcement and whether the fragments contained in that announcement are used in other system announcements. The following procedures describe how to create a new announcement set, and how to alter an announcement by re-recording a fragment, eliminating a fragment, or adding a fragment.

 **NOTE:**

Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete descriptions of how to use the screens.

Creating a New Announcement Set

Before you customize announcements, you should create a customized announcement set and identify it as an *administrative* set.

Creating a custom announcement set, rather than simply changing the set received with the DEFINITY AUDIX set accomplishes two things: 1) you can identify this set as administrative so that the changes do not immediately impact the users; and 2) this prevents your changes from being replaced with a system upgrade.

The second page of the System-Parameters Features screen identifies the active and administrative announcement sets. Since you can make recorded changes only to the administrative announcement version, you must identify your custom set as administrative before making changes.

Make a copy of the announcement set you wish to change, as follows:

1. Enter **add annc-set *new-annc-set-name***, where ***new-annc-set-name*** is the name that you wish to give to the new announcement set.
2. Enter **copy annc-set** to bring up the Announcement Sets screen.
3. Enter the name of the existing announcement set in the From Announcement Set field.
4. Enter the name that you gave to the new announcement set in the To Announcement Set field.

 **NOTE:**

The copy will take place over several minutes. The Admin Log indicates when finished using a "cpas" type log entry.

5. Enter **change system-parameters features** to bring up the System-Parameters Features screen.
6. Enter the name of the new announcement set in the Administrative field on the second page of this screen.

Re-Recording a Fragment

There are at least two announcements you may want to change when you customize your DEFINITY AUDIX system:

- The default call answer greeting a caller hears when routed to a subscriber's DEFINITY AUDIX mailbox
- The default voice mail greeting a subscriber hears when calling DEFINITY AUDIX directly.

Procedures for changing the default call answer greeting and default voice mail greeting are described later.

However, the procedure for re-recording a fragment is the same for any announcement, as described below:

1. Contact the Technical Service Organization (1-800-562-8349) to obtain the number of the announcement you want to change and the text and number of each fragment contained in the announcement. Then decide which fragment(s) you want to change for that announcement.
2. Verify that the fragment is used only in those announcement(s) that you expect to be affected by your changes.

NOTE:

If a fragment is used by numerous announcements, you may not be able to re-record the fragment because of how it would affect the rest of the announcements. In this instance, create a new fragment following the "Adding a Fragment to an Announcement" instructions in this chapter.

3. Use the System-Parameters Features screen to designate the correct announcements set that you plan to change as the administrative version.
4. Use the Announcement screen to verify that the announcement you plan to change is actually composed of the fragments you expect.
5. Use the Subscriber screen to confirm that you have permission to change announcements (you must have a y in the Announcement Control field).
6. Use your touch-tone phone to log in to the DEFINITY AUDIX system.
7. At the activity menu, press **9**. (For security purposes, this option is not included in the voiced options you hear.) If you hear *Invalid entry. For help at any time, press star H*, you do not have announcement control permission.

8. When you hear *To record names, press* [4] . *To play names, press* [5] , press [1] to change the fragment. (For security purposes, this option is not included in the voiced options you hear, but plays out if you press [*] [H] for help.)
9. Enter the fragment ID as prompted and then [#] . For example, for f287, enter [2] [8] [7] [#] .
10. Record the changed fragment when prompted. You can use all the normal voice mail editing capabilities on your touch-tone phone to make sure the new fragment is exactly how you want it to sound.
11. When you are satisfied with the recording, press [#] to approve it.
12. Use the System-Parameters Features screen to designate the modified announcement set as the active version. If the active and administrative announcement versions are already the same, then *both* versions now contain the new fragment.

Eliminating a Fragment from an Announcement

You may modify some announcements by simply eliminating an existing fragment from that specific announcement. For example, you could modify the default voice mail greeting (*Welcome to AUDIX. For help at any time, press *H*) to just say *For help at any time, press *H*. by removing fragment f287 (*Welcome to AUDIX*) from the list of fragments that compose the announcement (in this case, announcement a815).

1. You need the number of the announcement you want to change. You can obtain this number from the Technical Service Organization.
2. Listen to the fragment to verify the fragment is the one you want to change.
3. Verify that the specified announcement set is designated as administrative on the System-Parameters Features screen.
4. Use the Announcement screen to eliminate the fragment from appearing in the announcement.
 - a. Enter the announcement set name in the Announcement Set field.
 - b. Enter the announcement ID in the Announcement ID field, in this case "a815".
 - c. Press [Enter] to display the fragment composition of the announcement. For this example, the fragment composition is f287, f97.
 - d. Replace f287 with f0 (f0 replaces f287 with silence), and press [Enter] .

Announcement a815 is now composed of fragments f0 and f97; callers simply hear *For help at any time, press *H*.

5. Use the System-Parameters Features screen to designate the modified announcement set as the active version. If the active and administrative announcement versions are the same, then both versions now contain the new fragment.

Adding a Fragment to an Announcement

To change the contents of a fragment for specific announcements, you must substitute an existing fragment or create a new fragment for the specific announcements you want to change. This leaves the old fragment intact for existing announcements that you want to remain unchanged.

For example, both announcement a812 and announcement a834 use fragment f87, *This call is experiencing difficulties*. If you want to change this fragment for announcement a812 only, you must create a new fragment to associate with announcement a812 in place of fragment f87. This leaves fragment f87 and its association with announcement a834 intact.

1. You need the number of the announcement you want to change. You can obtain this number from the Technical Service Organization. Verify that the fragments are used only by announcements you expect to be affected by your changes.
2. Use the Announcement screen to verify that the announcement you plan to change is actually composed of the fragments you expect.
3. Use the System-Parameters Features screen to determine if an administrative announcement version is active.

⇒ NOTE:

You can record or re-record fragments only in the administrative announcement version. If there is an active announcement version *and* it is the version you want to change, make sure that it is also specified as the administrative version.

When you are sure that the correct copy of the announcement set is designated as the administrative version, go to the next step.

4. Use the Subscriber screen to confirm that you have permission to change announcements, indicated by y in the Announcement Control field.
5. Use your touch-tone phone to log in to the DEFINITY AUDIX system.
6. At the activity menu, press **9**. (For security purposes, this option is not included in the voiced options you hear.) If you hear *Entry not understood. Try again.*, you do not have announcement control permission.
7. When you hear *To record names, press 4. To play names, press 5*, press **1** to change fragments. (For security purposes, this option is not included in the voiced options you hear.)

8. Enter the new fragment ID as prompted; in this case enter an unused number such as f4000, for instance, .

⇒ NOTE:

The fragment numbers 4000 - 4999 are reserved for customer use. Using other numbers could jeopardize the integrity of your custom fragments and announcements if these numbers are used for new fragments in later versions or updates to DEFINITY AUDIX.

9. Record the fragment when prompted. For example, your new fragment might be *This call is experiencing difficulties and cannot continue at this time*. You can use all the normal voice mail editing capabilities on your touch-tone phone to make sure the new fragment sounds exactly the way you want it to sound.
10. When you are satisfied with the new fragment recording, press to approve it.
11. Use the Announcement screen to add the new fragment, in this case f4000, to announcement a812 in place of fragment f87.
 - a. Enter the announcement set name in the Announcement Set field.
 - b. Enter the announcement number, in this case a812, in the Announcement ID field.
 - c. Press to display the numbers of the fragments that compose the announcement (fragment text does not display). To determine the text for each listed fragment, refer to Appendix B, *Announcement/Fragment Cross-Reference*. For this example, announcement a812, the fragment composition is as follows:
 - f87: This call is experiencing difficulties.
 - f1007: To playback, press 2-3.
 - d. Rewrite the fields to reflect the new composition, in this case "4000,1007" and press .

Announcement a812 is now composed of the following fragments:

 - f4000: This call is experiencing difficulties and cannot continue at this time.
 - f1007: To playback, press 2-3.

Meanwhile, announcement a834 still uses fragment f87 as before.
12. Use the System-Parameters Features screen to designate the modified announcement set as the active version. If the active and administrative announcement versions are the same, then both versions now contain the new fragment.

As an alternative to the above example, you could also create a new fragment f4000 with *and cannot continue at this time* to use in addition to fragment f87 instead of replacing it in announcement a812.

Be careful when you make changes to announcements and fragments. There are several things you can do to ensure your modifications are correct. When in doubt, save the announcement sets *before* making changes to the fragments. Be sure you know which announcements contain the fragment you are about to change. This helps you to avoid inadvertently changing announcements you did not want to change.

After you make the change, test the change to make sure it is accurate. Be sure to record any changes you make into the appropriate appendix in this manual. Doing this saves you both time and confusion later if you make additional modifications.

Variables in Announcements

In the DEFINITY AUDIX system, some announcements are variable — in other words, the contents of an announcement may change depending on changing times, dates, and/or subscriber inputs. Within system announcements, variables are always represented by a word or words in all capital letters. For example, announcement 110 (**a110**) is made up of fragment 663 (f663) and **DATE**:

**6f663: Message waiting notification is not active and
this message has an expiration date of <DATE>**

DATE is the variable and will change according to the appropriate date.

Some announcements may have more than one variable. For instance, **a287** is

**f47: Call from
<NAME>
f262: received
<TIME>
<DATE>
f86: extension
<BUTTONS>**

NAME is the variable identifying the person who called. **TIME** is the variable time the DEFINITY AUDIX system received the call. **DATE** is the date the system received the call. **BUTTONS** is the variable extension of the person who called.

In addition, some announcements may include different fragments at different times depending on whether or not certain conditions are met by the variable. Look at **a344**, for example.

```
f741: Private, priority message sent to
    \<NAME>
    IF (NUMBER>0)
    THEN
f2: and
    \<NUMBER>
    IF (NUMBER==1)
    THEN
f602: other
    ELSE
f217: others
    ENDIF
ENDIF
```

This announcement can state three different messages depending on the value of the variable **NUMBER**:

1. If the variable **NUMBER** is equal to 0, the announcement is:

```
f741: Private, priority message sent to
<NAME>
```

2. If the variable **NUMBER** is equal to 1, the announcement is:

```
f741: Private, priority message sent to
<NAME>
f2: and
<NUMBER>
f602: other.
```

3. If the variable **NUMBER** is greater than 1, the announcement is:

```
f741: Private, priority message sent to
<NAME>
f2: and
<NUMBER>
f217: others.
```

Occasionally, some announcements call in other announcements in addition to the fragments they use. For example, many announcements call in **a873**, an announcement that determines the length of a message. This value is used in many announcement scenarios. However, rather than including this involved routine in every announcement that uses this value, it is written as a separate subroutine in a separate announcement. Then the announcements that use this value just call in **a873** to determine message length — a process that actually saves a lot of system space.

Changing the Default Call Answer Greeting

When someone calls a subscriber who is unavailable, the call is routed to the DEFINITY AUDIX system, the caller hears the subscriber's personal greeting, or if no personal greeting is administered or active, the default system greeting. This greeting begins with fragment f43, "Your call is being answered by AUDIX." To customize this announcement with, for example, your company name, just re-record fragment f43.

1. Use the System-Parameters Features screen (page 3) to determine if an announcement set has been designated as an administrative version. You can re-record fragments only in the administrative announcement set. If there is a system announcement set *and* it is the set you want to change, make that set the administrative version. Simply specify that announcement set in the ANNOUNCEMENT SETS, Administrative field. When you are sure that the correct copy of the announcement set is designated as the administrative version, go to the next step.
2. Use the Subscriber screen to confirm that you have permission to change announcements (you must have a "y" in the Announcement Control field).
3. Use your touch-tone phone to log in to the DEFINITY AUDIX system.
4. At the activity menu, press **9**. (For security purposes, this option is not included in the voiced options you hear, but plays out if you press ***H** for help.) If you hear "Invalid entry. For help at any time, press star H", you do not have announcement control permission.
5. When you hear "To record names, press **4**. To play names, press **5**," press **1** to change the fragment. (For security purposes, this option is not included in the voiced options you hear, but plays out if you press ***H** for help.)
6. Enter the fragment ID as prompted; in this case enter **4 3 #**.
7. Record the changed fragment when prompted. For example, your new fragment might be simply "This is XYZ Company." You can use all the normal voice mail editing capabilities on your touch-tone phone to make sure the new fragment is exactly how you want it to sound.
8. When you are satisfied with the recording, press **#** to approve it. The call answer greeting, previously "Your call is being answered by AUDIX. <name> is currently not available. Leave a message", is now "This is XYZ Company. <name> is currently not available. Leave a message."
9. If the system and administrative versions are the same announcement set (for instance, the terse announcement set), then the change is approved automatically for the system version as well. However, if you have designated a different announcement set as the system announcement version, only the administrative announcement version has this new fragment. Use the System-Parameters Features screen to change the system announcement version to the administrative version if desired.

10. The announcement version you modified is now changed. When you have tested it to your satisfaction, use the Save Announcements screen to save the new announcement(s) you have created. If using the Multilingual feature and you have multiple languages on the system, then repeat these procedures for each announcement set you want to modify.

Changing the Default Voice Mail Greeting

When a subscriber calls the DEFINITY AUDIX system, the subscriber is greeted by fragment f287, *Welcome to AUDIX*, and fragment f97, *For help at any time, press *H*. To customize this announcement with, for example, your company name, you just re-record fragment f287.

1. Use the System-Parameters Features screen (page 3) to determine if an announcement set has been designated as an administrative version. You can re-record fragments only in the administrative announcement set. If there is a system announcement set *and* it is the set you want to change, make that set the administrative version. Simply specify that announcement set in the ANNOUNCEMENT SETS, Administrative field.

When you are sure that the correct copy of the announcement set is designated as the administrative version, go to the next step.

2. Use the Subscriber screen to confirm that you have permission to change announcements (you must have a "y" in the Announcement Control field).
3. Use your touch-tone phone to log in to the DEFINITY AUDIX system.
4. At the activity menu, press **9**. (For security purposes, this option is not included in the voiced options you hear.) If you hear "Invalid entry. For help at any time, press star H," you do not have announcement control permission.
5. When you hear "To record names, press 4. To play names, press 5," press **1** to change fragments. (For security purposes, this option is not included in the voiced options you hear, but play out if you press ***** **H** for help.)
6. Enter the fragment ID as prompted; in this case, enter **2** **8** **7** **#**.
7. Record the changed fragment when prompted. For example, your new fragment might be simply "This is the XYZ Company voice message center." You can use all the normal voice mail editing capabilities on your touch-tone phone to make sure the new fragment sounds exactly the way you want it to sound.
8. When you are satisfied with the new fragment recording, press **#** to approve it. The voice mail greeting, previously "Welcome to AUDIX. For help at any time, press *H." is now "This is the XYZ Company voice message center. For help at any time, press *H."

9. If the system and administrative versions are the same announcement set (for instance, the terse announcement set), then the change is approved automatically for the system version as well. However, if you have designated a different announcement set as the active announcement version, only the administrative announcement version has this new fragment. Use the System-Parameters Features screen to change the active announcement version to the administrative version if desired.
10. The announcement version you modified is now changed. When you have tested it to your satisfaction, use the Save Announcements screen to save the new announcement(s) you have created. If using the Multilingual feature and you have multiple languages on the system, then repeat these procedures for each announcement set you want to modify.

This chapter describes alarms and logs that are generated by the DEFINITY AUDIX system. It also describes the various audits that are performed automatically or manually as required to update and synchronize filesystems and identify and correct problems in the system.

Overview

DEFINITY AUDIX software monitors system activity by continuously running background self-tests. System activities and/or errors are recorded in logs that are stored as disk files on the hard disk. Many errors are corrected by system audits that run automatically each night to update and synchronize DEFINITY AUDIX filesystems. Significant errors, designated as faults, are flagged as alarms on the STATUS line of the terminal screen and may require administrative action by you or maintenance by service personnel.

Error and Alarm Handling

DEFINITY AUDIX maintenance software collects error reports from the system self-tests, sorts them by type, puts them in the error log, and monitors their frequency against a threshold number. If an error is sufficiently severe or if enough similar errors occur to violate the error threshold, the system automatically runs maintenance checks and may then send a fault to the alarm log.

Alarms are noted on the STATUS line of the terminal screen as follows:

- alarms: M — Major alarms indicating problems that may affect key system components. Major alarms are sent automatically to the Lucent Technical Service Center (TSC) by your DEFINITY AUDIX system if you have a maintenance service contract and alarm origination is active. TSC personnel perform remote maintenance on your machine to correct these problems.
- alarms: m — Minor alarms indicating problems that are not critical to system operation but that could possibly affect full service. Minor alarms usually are corrected automatically by system audits, and also are sent automatically to the TSC if you have a maintenance service contract and alarm origination is active.
- alarms: w — Warning alarms indicating problems that may have a potential effect on system service. Warning alarms usually are corrected automatically by system audits. They are not sent to the Technical Service Center (TSC).
- alarms: A — Administration alarms indicating subscriber or filesystem problems. Administration alarms must be corrected by you, the DEFINITY AUDIX system administrator.

Error and Alarm Logs

Errors found by the system's self-tests are recorded in the maintenance error log. The system attempts to diagnose and isolate problems that are recorded in the error log, and may send a fault to the alarm log if the error cannot be corrected internally. When a fault is sent to the alarm log, it simultaneously triggers an alarm that appears on the terminal screen's STATUS line as described above. Faults that have been corrected either automatically or through a service procedure are recorded in the resolved alarm log.

The alarm log, accessed with the Display Alarms screen, is the starting point for service personnel diagnosing problems. The most severe problems are always listed first in the alarm log since these are most often the cause of the problem.

The resolved alarm log, accessed with the Display Alarms screen, is used by service personnel to check that alarms are cleared after service procedures are performed, and also for troubleshooting intermittent problems that resolve themselves and then recur.

Administration Log

Problems that require your attention appear in the administration log. These administration errors (including notification of full mailboxes, break-in attempts to subscriber mailboxes, nondeliverable messages, extensions without recorded names) should be corrected to optimize DEFINITY AUDIX system operation or security.

The system displays an alarm message (alarms: A) on the DEFINITY AUDIX status line when it logs administration errors.

Use the Display Administration-Log screen to select and display administration errors from the system log. Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of this screen.

The administration log should be checked by the DEFINITY AUDIX system administrator each morning as a part of the ongoing preventive maintenance routine that was described in Chapter 4, "Ongoing Preventive Maintenance". You can correct subscriber problems identified in the administration log using regular administrative procedures (such as recording a name or notifying a subscriber of a delayed delivery, undeliverable message, or apparent break-in attempts).

Note that the administration alarm on the STATUS line is cleared when you access the administration log, even if you do not correct the problem.

Activity Log

The Activity Log is an administrative tool useful for investigating reported problems with message delivery and the operation of the message waiting indicator (MWI). It maintains a history of the activity in the DEFINITY AUDIX system. Since you then can track activity by subscriber extension and a specific time, you will often be able to resolve reported problems by observing the Activity Log before filing a trouble report with Lucent.

You will use two different screens when working with the Activity Log: the System-Parameters Activity-Log screen and the Display Activity-Log screen. Use the **change/display system-parameters activity-log** command to:

- Enable/disable the Activity Log. The default is "n" — The Activity Log is disabled.
- Instruct the Activity Log to record MWI updates. The default is "n" — The Activity Log will *not* record MWI updates.

- Set a maximum number of Activity Log entries. The maximum allowable value is 99,999. The default is 10,000. If this number is reduced to a number less than the number of records currently in the log, the log will be cleared. In this case, the user will be notified and prompted to confirm.
- Clear all entries in the Activity Log. The default is "n". If you enter "y", all entries in the Activity Log will be cleared immediately. However, this value always reverts to "n" after you exit the screen as long as you have the Activity Log enabled.

 **NOTE:**

If you instruct the Activity Log to record MWI updates, the number of records generated will increase significantly and could degrade system performance. It is recommended that this field not be enabled on a regular basis, but only as necessary.

Once you have enabled the Activity Log, it records specific activities for each subscriber's mailbox, including:

- Subscriber log-in/log-off. These entries include new, unopened, and old message counts.
- Receipt of a new message
- Scheduled delivery of a message
- Canceled delivery of a scheduled message
- Status of a new message. The status of a message can change from new to unopened, new to old, or from unopened to old.
- MWI updates (if enabled)
- Resets. A reset entry is made whenever the system date and/or time is changed, either manually or automatically, and includes the previous date and time.

You will use the **display activity-log** *extension* command and designate a date and time. The Activity Log screen then displays activity information for the selected subscriber. The events are listed in chronological order (oldest first) beginning with the specified date and time. Press NEXTPAGE (F7) to display the remaining entries.

A *received* entry is made in the Activity Log each time a message is delivered into a subscriber's mailbox. Note that a message with multiple recipients will generate a *received* entry for each recipient. The message may be one of the following:

- Voice mail (VM)
- Priority voice mail
- Call Answer (CA)
- Leave Word Calling (LWC)

- Broadcast voice mail message
- Log-in announcement
- AMIS analog networking message
- Undeliverable message notification

A *scheduled* entry is made in the Activity Log each time a message is scheduled for delivery. A single scheduled entry will be made for a message regardless of the number of recipients. The message may be one of the following:

- Voice mail
- Priority voice mail
- Call Answer

Since Call Answer messages are scheduled for immediate delivery at the time they are created, the scheduled delivery time is not repeated on the display. In addition,

- If both the calling party and the called party are local subscribers, the display will show that the calling party scheduled the message for the called party.
- If the calling party is not a local subscriber, the activity will not be recorded.
- If the called party is not a local subscriber, the local DEFINITY AUDIX system will have no knowledge of the call and the activity will not be recorded.

- Broadcast voice mail message
- Log-in announcement

It is recommended that you enable the Activity Log so that you have the benefit of the information at the time problems are reported. The Activity Log will help you diagnose user-perceived problems, MWI delays, rescheduled deliveries due to full mailboxes, and the like.

Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of Activity Log screens.

Demand and Periodic Audits

There are two major types of audits: periodic (or automatic) audits and demand audits. Audits are software programs designed to update internal DEFINITY AUDIX filesystems and synchronize them with each other and to recognize and resolve problems that may occur within filesystems. Some audits run automatically each night, others run once each week, and still others are run only on demand (typically by the TSC during a remote operation) as part of a recovery procedure or in response to a specific problem while troubleshooting the system. The DEFINITY AUDIX system also may run audits automatically in response to system faults that cause alarms.

Both demand and periodic audits are defined in Table 7-1, Demand and Periodic Audits.

Table 7-1. Demand and Periodic Audits

Audits	Function	Performed Periodically?
Announcements	Performs an announcement control integrity check	No
Filespace	Adjusts software's internal size counts for the voice subdirectory of the storage filesystem to agree with actual size of subdirectory on disk	At least every half hour
Mailing lists	<ul style="list-style-type: none"> ■ Counts subscriber lists and entries on a system and per-subscriber basis 	Weekly
	<ul style="list-style-type: none"> ■ Removes deleted subscribers from lists 	Weekly
	<ul style="list-style-type: none"> ■ Updates remote subscriber profiles to allow deletion of names from local mailing lists 	Daily
	<ul style="list-style-type: none"> ■ Audits delivery manager queues, and makes undeliverable entries for deleted subscribers 	Daily
Maintenance logs	Performs internal checks on maintenance logs	Weekly
Message data	<ul style="list-style-type: none"> ■ Removes IDs of deleted subscribers from message headers 	Every 3 days
	<ul style="list-style-type: none"> ■ Removes references to nonexistent voice files from message headers 	Weekly
	<ul style="list-style-type: none"> ■ Puts a time frame on remote subscribers who are originators or recipients of existing messages to support the remote subscriber deletion feature 	Weekly
Personal directories	Removes deleted subscribers from local subscribers' personal directories	Weekly
Rebuild script	Rebuilds subscriber mailboxes and delivery queues	
	(Only in OA&M mode)	No

Continued on next page

Table 7-1. Demand and Periodic Audits — Continued

Audits	Function	Performed Periodically?
Subscriber data	<ul style="list-style-type: none"> ■ Checks delivery lists associated with current outgoing messages 	Weekly
	<ul style="list-style-type: none"> ■ Validates fields in class-of-service templates, subscriber profiles, and automated attendant profiles 	Weekly
	<ul style="list-style-type: none"> ■ Counts subscribers 	Weekly
	<ul style="list-style-type: none"> ■ Checks the system guest password against individual subscriber passwords, and makes appropriate entries in the administration log 	Weekly
	<ul style="list-style-type: none"> ■ Checks subscriber profiles against class-of-service templates, and changes subscribers to a class-of-service if a match exists 	Weekly
	<ul style="list-style-type: none"> ■ Deletes remote unverified subscribers who have not been on delivery lists in last 24 hours 	Daily
	<ul style="list-style-type: none"> ■ Deletes remote subscribers with no valid nodes 	Daily
	<ul style="list-style-type: none"> ■ Deletes unadministered remote subscribers who have not used the system for a specified time period 	Daily
	<ul style="list-style-type: none"> ■ Cross-checks name, extension, touch-tone, user directory and remote note list translation files for consistency with subscriber profiles 	Weekly
Mailboxes	<ul style="list-style-type: none"> ■ Checks and deletes old messages and login announcements 	Daily
	<ul style="list-style-type: none"> ■ Clears broadcast-deleted messages from subscriber mailboxes 	Daily
	<ul style="list-style-type: none"> ■ Sends subscriber message-waiting indications to switch 	Daily
	<ul style="list-style-type: none"> ■ Checks for valid mailbox structure 	Weekly
	<ul style="list-style-type: none"> ■ Makes space-accounting corrections on a per-subscriber and system basis 	Weekly
	<ul style="list-style-type: none"> ■ Checks for valid message and subscriber IDs 	No
Switch-translations	Examines and updates internal data used by the switch interface	Weekly
Voice files	Deletes files in the voice subdirectory of the storage filesystem not having message headers	Weekly

Continued on next page

Table 7-1. Demand and Periodic Audits — Continued

Audits	Function	Performed Periodically?
Names	■ Matches each voice name with a valid local or remote subscriber	Weekly
	■ Logs messages in administration log for first 20 local subscribers not having voiced names	Weekly
Switch-names	Matches each voice name with a valid local or remote subscriber on the switch	Nightly

Periodic or automatic audits run at night so as not to compete for system time with call processing. The audits normally complete in several hours. It is important that you become familiar with audits and their operation since you continually must monitor system performance.

Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of audit screens.

This chapter describes how to produce and interpret the DEFINITY AUDIX system traffic reports.

Overview

The DEFINITY AUDIX system collects traffic information that depicts how the system is being used, including data about features, subscribers, communities, data port loads, and remote message traffic. This information is displayed on reports that are produced using the DEFINITY AUDIX traffic screens.

DEFINITY AUDIX traffic reports serve several purposes:

- They help you determine if your DEFINITY AUDIX system is performing at peak efficiency by providing actual usage information that you can compare with the type of usage that was initially forecast for your system.
- They help you troubleshoot administration problems that can occur with subscribers and equipment as system usage grows in your company and requirements change.
- If you are using the AMIS Analog Networking feature, they provide information about outcalling ports, subscriber traffic, and feature traffic that help you evaluate system efficiency. AMIS analog messages will be included in the following statistics on traffic reports: voice mail sessions, total messages, average storage time/mailbox space used, remote messages sent/received, port usage, outcalling port usage, undeliverable notifications, and community usage.

Additionally, if you run and print DEFINITY AUDIX traffic reports on a regular basis and file them sequentially by date, they can provide an ongoing paper audit and historical reference of your DEFINITY AUDIX system that may be useful for analyzing trends and tracking system performance over a period of time. Since traffic records collected for a specific day, hour, or month are retained only for a limited number of days, hours, or months, it is imperative that you run the reports on a regular schedule to ensure completeness and consistency from one reporting period to the next.

Two of the most important uses for DEFINITY AUDIX traffic reports are determining the grade of service provided subscribers during the busy hour at your site and determining the port usage on the DEFINITY AUDIX system in daily or hourly periods. These applications, described in Chapter 4, "Ongoing Preventive Maintenance", should be performed periodically to monitor performance and to anticipate your system's needs.

Traffic Report Summary

Individual DEFINITY AUDIX traffic reports and their contents are listed below. Guidelines for interpreting these reports follow in this chapter. Instructions for producing the individual reports and field-by-field descriptions are in the *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211.

Traffic Report	Contents
Community	The Community Daily Traffic and the Community Hourly Traffic reports list information about the sending restrictions by community feature for any day or hour in the past 32 days or 192 hours, including the number of messages sent and received by each community and the number of messages not sent and not received by each community due to sending restrictions.

Continued on next page

Traffic Report	Contents
Feature	<p>The Feature Daily Traffic and the Feature Hourly Traffic reports each display two separate reports listing session or message traffic information for any of the past 32 days or 192 hours.</p> <p>The report lists different types of subscriber, voice mail, and call answer information:</p> <ul style="list-style-type: none">■ The average number of ports in use during the busiest hour■ The number of local, remote, and non-administered remote subscribers administered at the end of the period■ The voice mail session usage time and the number of successful and unsuccessful login attempts by internal and external callers■ The call answer session usage time and the number of completed and abandoned calls by internal and external callers■ The number of voice mail messages sent and currently residing on the DEFINITY AUDIX system■ The number of broadcast messages, log-in announcements, priority messages, and private messages sent and currently residing on the DEFINITY AUDIX system■ The number of call answer messages sent and currently residing on the DEFINITY AUDIX system■ The average length of voice mail and call answer calls. This is the amount of time the messages were stored in the mailboxes and the average time between when voice mail and call answer messages were delivered and when they were removed from the system
Load	<p>The Load Daily Traffic and the Load Hourly Traffic reports list port usage and related information for any of the past 32 days or hourly for the past 192 hours, including the following:</p> <ul style="list-style-type: none">■ The number of seconds each port handled calls and the number of calls that were handled■ The number of warnings the system issued informing a subscriber that s/he has exceeded the total number of mailing lists or list entries allowed during the day or hour reported■ The number of subscriber mailbox threshold exceptions and the number of message deliveries that required rescheduling

Continued on next page

Traffic Report	Contents
Special features	<p>The Special Features Daily Traffic and the Special Features Hourly Traffic reports list outcalling information for the past 32 days or the past 192 hours, including the following:</p> <ul style="list-style-type: none">■ The maximum number of ports with an outcall in progress at any one time during collection■ The total number of outcalls attempted during the collection period■ The total number of outcalls completed during the collection period■ The total number of outcalls rescheduled during the collection period because all available ports were busy
Subscriber	<p>The Subscriber Daily Traffic and the Subscriber Monthly Traffic reports display session traffic, messages received, and messages created information on a specific subscriber on a daily (up to the last 8 days) or a monthly basis. These reports include the following information:</p> <ul style="list-style-type: none">■ The largest amount of message space (in seconds) used at any given time by the subscriber■ The minimum amount of space (in seconds) that is guaranteed in the subscriber's mailbox■ The number of times the subscriber used the call answer/voice mail features during prime and non-prime time■ The total amount of time (in seconds) for all sessions that the subscriber used the call answer/voice mail feature during prime and non-prime time■ The number of voice mail messages received■ The number of undeliverable messages received by the subscriber■ The number of new call answer messages stored in the subscriber's mailbox during prime and non-prime time for the day■ The number of voice mail messages created by the subscriber■ The number of broadcast messages created by the subscriber■ The number of login announcements created by the subscriber■ The number of priority messages created by the subscriber■ The number of private messages created by the subscriber■ The number of voice mail messages sent to local subscribers■ The number of voice mail messages sent to remote subscribers

AUDIX Administration and Data Acquisition Package

AUDIX Administration and Data Acquisition Package (ADAP) provides a vehicle for downloading subscriber, traffic, and billing data directly from the DEFINITY AUDIX database files to a personal computer (PC) for further processing using a set of standard reports that run under dBASE III Plus or using customized dBASE III Plus reports developed by you or your programming staff. Output from the standard reports and from your customized reports can be displayed optionally in a graphic format using the Stella Business Graphics program on the PC.

⇒ NOTE:

The Stella Business Graphics program is no longer available, but you may have purchased it with a previous version of ADAP.

ADAP is described in *AUDIX Administration and Data Acquisition Package*, 585-302-502.

Activating Traffic Collection

Traffic collection must be turned on before the DEFINITY AUDIX system can produce traffic reports. Since reports can be produced for the current day or hour, you can start running traffic reports almost as soon as traffic collection is activated. However, data for the full range of reporting periods (such as 192 hours, eight days, or 13 months, depending on the report) are not available until that many hours, days, or months worth of traffic data has been collected.

Use the System-Parameters Features screen to activate traffic collection on a system-wide basis and to define the prime time hours for collection. Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of this screen.

Data Retention Requirements

When traffic collection is activated, the DEFINITY AUDIX system stores the present collection record and the consecutive previous collection period records. How long each record is retained depends on the report it is collected for:

- Traffic records containing daily information for the feature, load, community, and special features reports are stored for 32 consecutive days.

For example, if it is January 1, the present record is the traffic collected so far today and the previous daily records that are stored are the 31 previous consecutive records starting at December 31 (yesterday) and going back to December 1.

- Traffic records containing daily information for the remote messages and subscriber reports are stored for eight consecutive days.

For example, if it is Monday, the present record is the traffic collected so far today and the previous daily records that are stored are the seven previous consecutive records starting at Sunday (yesterday) and going back to the previous Monday.

- Traffic records containing hourly information for the community, feature, load, and special features reports are stored for 192 consecutive hours, which is eight days of hourly information.

For example, if it is 8:15 a.m., the present record is the traffic collected this hour since 8:00 a.m. and the previous hourly records that are stored are the 191 previous consecutive records starting at the hour counting back from 8:00 a.m.

- Traffic records containing monthly information for the remote messages and subscriber reports are stored for 13 consecutive months.

For example, if it is January, the present record is the traffic collected so far this month. The previous monthly records that are stored are the 12 records for the previous year starting at December (last month) and going back to the previous January.

As each new traffic record is collected, the oldest record is deleted. For example, if eight consecutive daily records are stored, today is the current record and a week ago today is the oldest record. The record for the day before this oldest record was deleted when collection began for today.

What this means is that you must produce traffic reports on a regular and timely basis or lose the information they make available to you. This is especially true if you retain the reports for historical purposes as a DEFINITY AUDIX system performance audit to use for comparative analysis.

Using DEFINITY AUDIX Traffic Reports

To run the traffic reports, you enter the command path to the screen you want to display on the DEFINITY AUDIX PATH line, the start date or month (and for some screens the starting hour or traffic type), and in a few seconds the report for the starting day, month, or hour is displayed on your terminal screen. The current day, month, or hour is displayed if no start date is given.

Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for instructions on running individual traffic reports.

Interpreting the Community Reports

The Community Daily Traffic and Community Hourly Traffic reports provide information about the sending restrictions by community feature for up to 32 consecutive days or 192 consecutive hours. For each of the 15 possible communities of interest, the reports show the number of calls sent and received and the number of incoming and outgoing calls that were blocked because of sending restrictions.

```

AUDIX STATUS: Active      alarms: none      thresholds: none      logins: 1
list measurements community day                               Page 1 of 1
    
```

COMMUNITY DAILY TRAFFIC

Date : Ending Time :

Community ID	Number of Voice Mail Messages			
	Sent by	Received by	Not Sent by	Not Received by
1	320669.	317332.	960....
2	2394...	5731...	960....
3
4
5
6
7
8
9
10
11
12
13
14
15

```

enter command: list measurements community day [mm/dd/yy]
    
```

Figure 8-1. Sample Community Daily Traffic Report

If you use the Sending Restrictions feature, use these reports to monitor the feature's effectiveness and to insure that only the appropriate communities in your organization are restricted. For example, if a community has a large number of calls being blocked by sending restrictions, you may want to investigate further to determine if there is an administration problem (are the right communities being allowed or denied access?) or a subscriber problem (do subscribers know they are restricted and is the restriction appropriate?). Also, depending on how you use the feature, these reports can provide security information if you are monitoring call activity involving sensitive communities.

Interpreting the Feature Reports

The Feature Daily Traffic and Feature Hourly Traffic reports each display two separate reports listing session traffic or message traffic information for up to 32 consecutive days or 192 consecutive hours.

```

AUDIX STATUS: Active      alarms: none      thresholds: none      logins: 1
list measurements feature day                               Page 1 of 2
    
```

```

                                FEATURE DAILY TRAFFIC
    Date : 100192..                               Ending Time : 09:16

Maximum Average Ports in Use: 6.2..

SUBSCRIBERS
    Local: 526...      Remote: 778.....      Non Administered Remote: 23.....

                                VOICE MAIL
    Successful Logins, External: 24.....           Internal: 431.....
    Failed Logins, ~ ~ External: 9.....           Internal: 23.....
    Session Usage (Seconds) ~ ~: 26990...

                                CALL ANSWER
    Completed Calls, ~ External: 225.....           Internal: 350.....
    Abandoned Calls, ~ External: 80.....           Internal: 45.....
    Session Usage (Seconds) ~ ~: 9334...
    
```

```

enter command: list measurements feature day [mm/dd/yy]
    
```

Figure 8-2. Sample Feature Daily Session Report

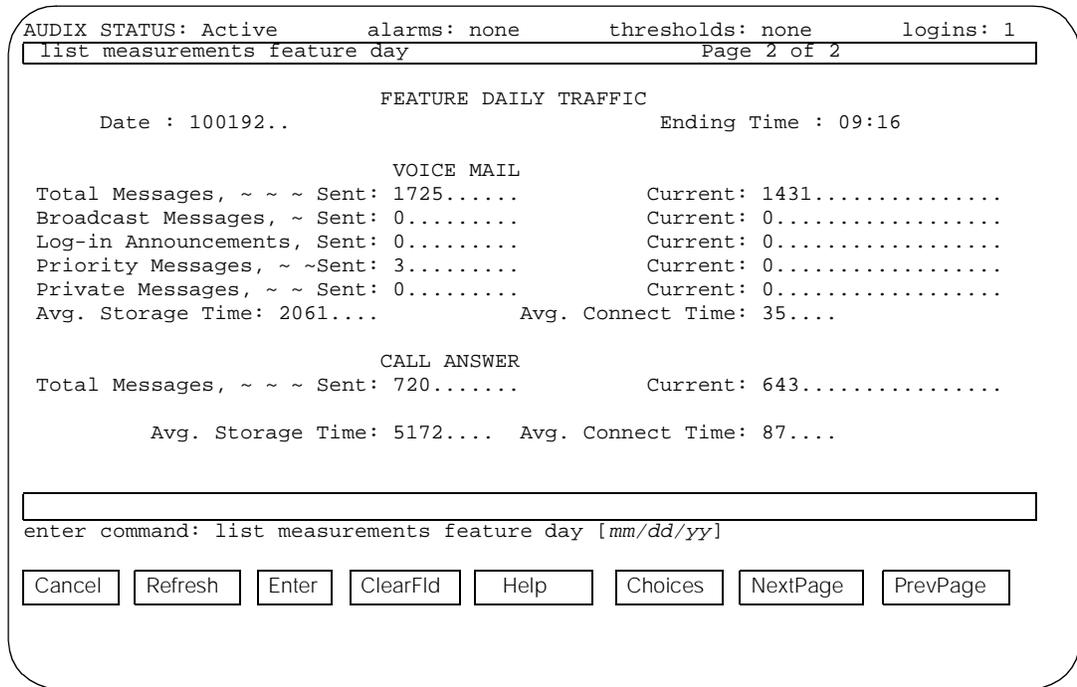


Figure 8-3. Sample Feature Daily Message Report

These reports play an important role in determining the grade of service. Port requirements on the DEFINITY AUDIX system are based on the use of ports for all applications including call answer, voice mail, automated attendant, outcalling, AMIS Analog Networking and Message Delivery. Grade of service also is used in determining port requirements.

Grade of service is a parameter that describes the delays in accessing a port on the DEFINITY AUDIX system for the applications mentioned above. Ideally, enough ports should be provided so that there is always a port available. However, this is not necessary since calls are queued in a hunt group until a port is available. This is acceptable to users as long as the delays are not too long.

The grade of service is defined as the fraction of calls queued longer than 10% of the average holding time on the ports. For example, if the average holding time on a DEFINITY AUDIX port is 100 seconds, then a.05 grade of service means that 5% of the calls will experience queuing delays of greater than 10 seconds. A.05 or lower grade of service generally is recommended for the DEFINITY AUDIX system.

To determine the present grade of service on an installed DEFINITY AUDIX system, the average ports used during the busy hour need to be retrieved from the system traffic data. This can be done by reading the Maximum Average Ports in Use field on the Feature Daily Traffic screen. (Use the command, **list measurements feature day**, to display this screen.) This value is the average ports used during the busiest hour of the day. This number, along with the DEFINITY AUDIX port capacity table (following), can be used to determine the present grade of service. You should look across a number of days to determine the average of this value since one day may not be a good indicator.

Look at the row on the table for the number of ports presently in the system and look across until you find the number just larger than your Maximum Average Ports in Use value from the Feature Daily Traffic screen. The value at the top of the column gives the grade of service during the busy hour.

Table 8-1. DEFINITY AUDIX Port Capacity in Erlangs (Avg. Ports in Use) at Various Grades of Service

DEFINITY AUDIX Port Capacities								
Ports	.01	.02	.03	.04	.05	.06	.08	.10
2	0.16	0.23	0.29	0.33	0.38	0.41	0.48	0.54
3	0.47	0.61	0.71	0.79	0.86	0.92	1.03	1.12
4	0.89	1.09	1.22	1.34	1.43	1.51	1.65	1.78
5	1.38	1.64	1.81	1.94	2.07	2.17	2.35	2.49
6	1.92	2.24	2.44	2.60	2.74	2.86	3.06	3.22
7	2.51	2.86	3.11	3.31	3.44	3.58	3.81	4.00
8	3.14	3.53	3.81	4.00	4.17	4.33	4.58	4.78
9	3.78	4.22	4.53	4.75	4.94	5.08	5.36	5.58
10	4.44	4.92	5.25	5.50	5.69	5.89	6.17	6.42
11	5.14	5.67	6.00	6.28	6.50	6.67	6.97	7.25
12	5.83	6.39	6.78	7.06	7.28	7.47	7.81	8.08
13	6.56	7.17	7.56	7.83	8.08	8.31	8.64	8.92
14	7.31	7.92	8.33	8.64	8.92	9.14	9.50	9.78
15	8.03	8.69	9.14	9.47	9.72	9.97	10.33	10.64
16	8.81	9.50	9.94	10.28	10.56	10.81	11.19	11.53

You also can determine from the table the number of ports required for a system under the present load. If a .03 grade of service is desired, look under the column of .03 grade of service. Find the number just larger than the Maximum Average Ports in Use field from the Feature Daily Traffic screen. The number on the left of that row is the number of ports required for a .03 grade of service. Note that ports are always sold in increments of two, so if you get an odd number, round it up by one.

It is recommended that port usage be monitored regularly and plotted over time in order to anticipate traffic needs. It is recommended that you observe port capacities on a weekly basis on new systems or when you are adding new subscribers, and on a monthly basis on older systems.

In addition to helping determine grade of service and port usage, the Feature reports provide statistical information that is useful for spotting potential problems and for evaluating how your DEFINITY AUDIX system actually is used by callers and subscribers. This information includes the number of subscribers administered in the DEFINITY AUDIX system, the total call answer and voice session usage time, the number of login attempts and abandoned calls, the number of voice mail, call answer, broadcast, log-in, priority, and private messages sent, and the average length of voice mail and call answer calls.

Note that voice mail statistics in these reports include subscribers who call the DEFINITY AUDIX system to get messages but do not include broadcast messages.

Interpreting the Load Reports

The Load Daily Traffic and Load Hourly Traffic reports display information about the number of calls handled by each active port for up to 32 consecutive days or 192 consecutive hours.

```
AUDIX STATUS: Active      alarms: none      thresholds: none      logins: 1
list measurements load day                               Page 1 of 2
```

LOAD DAILY TRAFFIC

```
          Date : 070292..          Ending Time: 9:17.

TOTAL SUBSCRIBER THRESHOLD EXCEPTIONS
      Lists: 0....          List Space: 0....
      Message Space, Lower: 8....          Upper: 3....
Subscribers Over Threshold: 0.....

      Deliveries Rescheduled: 0.....

Maximum Simultaneous Ports: 5..
      Voice Text Used: 2490.....          Voice Text Free Space: 1010.....
```

```
enter command: list measurements load day [mm/dd/yy]
```

Figure 8-4. Sample Load Daily Traffic Report (Page 1)

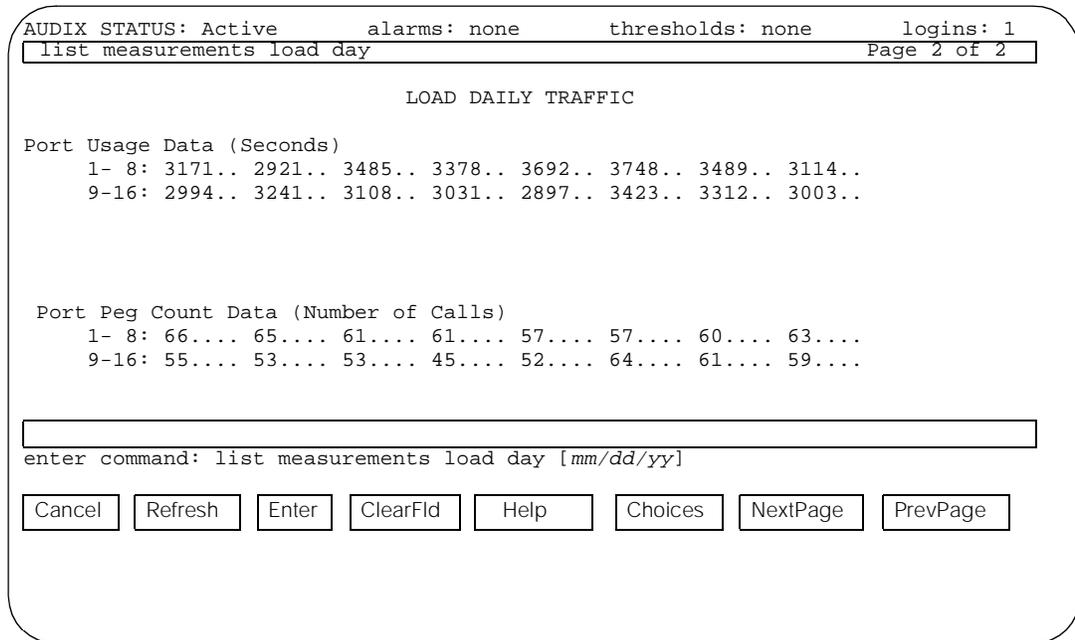


Figure 8-5. Sample Load Daily Traffic Report (Page 2)

Notice the average number and duration of the calls that are made to the DEFINITY AUDIX system during the period that is being reported. These numbers may indicate a problem at the switch with either port coverage or distribution if one port is overloaded and other ports are underloaded.

Threshold exceptions indicate that subscribers tried to use more message or list space than is available and that warnings have been issued. These exceptions may be the first indication that you need to change certain information contained within other screens.

If you notice that a large number of threshold exceptions for lists are being reported, it may mean that you initially miscalculated the maximum number of lists per subscriber. Subscribers actually may need more lists than you thought they would. You may increase the number of lists assigned each subscriber through both the System-Parameters Limits and Class of Service screens; but, you should do so with care, keeping in mind that filesystem sizes are fixed. An alternative is asking subscribers to delete old or unnecessary lists.

Lower and upper subscriber message space thresholds are shown on the screen in the high fields. There are a number of things you may do if upper and lower message space thresholds are exceeded consistently. First, you may decrease message retention times on both the Subscriber and Class of Service screens. This will limit the length of time that the DEFINITY AUDIX system retains

messages within subscribers' mailboxes and will cause messages to be thrown away more frequently. Secondly, you might issue a notice (broadcast a message) to subscribers asking them to delete messages immediately after listening to them or that they regularly clean both their incoming and outgoing mailboxes. Finally, you may interpret a large number of threshold exceptions as an indication that the thresholds originally were set too low. If you find this to be the case, you may raise the thresholds through the System-Parameters Thresholds screen.

Interpreting the Special Features Reports

The Special Features Daily Traffic and Special Features Hourly Traffic reports display outcalling traffic information for up to 32 consecutive days or 192 consecutive hours.

```

AUDIX STATUS: Active      alarms: none      thresholds: none      logins: 1
list measurements special-features day      Page 1 of 1

                SPECIAL FEATURES DAILY TRAFFIC

Date: 072192..          Ending Time: 10:05

Maximum Simultaneous Outcalls : 3..
    Outcalls Attempted ~: 52.....
    Outcalls Completed ~: 31.....
    Outcalls Rescheduled: 0.....

Calls Answered Without Connect: 0.....

enter command: list measurements special-features day [mm/dd/yy]

```

Cancel Refresh Enter ClearFld Help Choices NextPage PrevPage

Figure 8-6. Sample Special Features Daily Traffic Report

This screen shows the outcalling traffic information (which includes outcalling, Message Delivery, and AMIS analog networking), including:

- The maximum number of ports with an outcall, outgoing AMIS analog message, or Message Delivery in progress at any one time
- The number of outcalls that were attempted

- The number of outcalls that were completed
- The number of outcalls that were rescheduled because all available ports were busy

Interpreting the Subscriber Reports

The Subscriber Daily Traffic and Subscriber Monthly Traffic reports provide session traffic, messages received, and messages created information for individual subscribers for up to eight consecutive days or 13 consecutive months.

```

AUDIX STATUS: Active      alarms: none      thresholds: none      logins: 1
list measurements subscriber day                               Page 2 of 3
    
```

SUBSCRIBER DAILY TRAFFIC

```

Name: Doe, John..... Extension: 82345.....
Date: 071292..           Ending time: 10:18

      Community ID: 1.
Mailbox Space Used: 152..... Space Allowed ~ ~: 1200.....
Maximum Space Used: 520..... Space Guaranteed : 0.....
    
```

SESSION TRAFFIC	CALL ANSWER		VOICE MAIL	
	Prime	Non-Prime	Prime	Non-Prime
Sessions	: 2.....	0.....	2.....	0.....
Session Usage	: 190.....	0.....	806.....	0.....

```

enter command: list measurements subscriber day name/extension [mm/dd/yy]
    
```

Figure 8-7. Sample Subscriber Daily Session Report

AUDIX STATUS: Active alarms: none thresholds: none logins: 1
list measurements subscriber day Page 3 of 3

SUBSCRIBER DAILY TRAFFIC

Name: Doe, John..... Extension: 82345.....
Date: 071292.. Ending time: 10:18

VOICE MAIL MESSAGES RECEIVED	Prime	Non-Prime
Local Voice Mail Messages	: 15.....	0.....
Remote Voice Mail Messages	: 4.....	0.....
Undeliverable Notifications	: 0.....	0.....
CALL ANSWER MESSAGES RECEIVED	: 2.....	0.....

enter command: list measurements subscriber day name/extension [mm/dd/yy]

Cancel Refresh Enter ClearFld Help Choices NextPage PrevPage

Figure 8-8. Sample Subscriber Daily Messages Received Report

```

AUDIX STATUS: Active      alarms: none      thresholds: none      logins: 1
list measurements subscriber day                               Page 1 of 3
    
```

SUBSCRIBER DAILY TRAFFIC

```

Name: Doe, John.....      Extension: 82345.....
Date: 071292..              Ending time: 10:18
    
```

VOICE MAIL MESSAGES CREATED	Prime	Non-Prime
Total Voice Mail Messages	: 25.....	0.....
Broadcast Messages	: 0.....	0.....
Login Announcements	: 0.....	0.....
Priority Messages	: 0.....	0.....
Private Messages	: 0.....	0.....

VOICE MAIL MESSAGES SENT		
Local Voice Mail Messages	: 5.....	0.....
Remote Voice Mail Messages	: 0.....	0.....

enter command: list measurements subscriber day name/extension [mm/dd/yy]

Cancel
Refresh
Enter
ClearFld
Help
Choices
NextPage
PrevPage

Figure 8-9. Sample Subscriber Daily Messages Created Report

These reports provide information that is useful as a first step in analyzing performance problems reported by individual subscribers:

- Use session traffic information to determine a subscriber’s call answer and voice mail usage patterns and also to determine if the subscriber has enough mailbox space.
- Use messages received information to determine the number of voice mail and call answer messages sent to the subscriber and the number of undeliverable messages the subscriber has attempted to send (shown as the number of undeliverable message notifications the subscriber received).
- Use messages created information to determine the total number of voice mail messages created by the subscriber (including separate tallies for broadcast messages, log-in announcements, priority messages, and private messages) and also to determine the number of local and remote messages the subscriber sent. Remote messages include those sent to remote AMIS analog systems.

This chapter describes how to define and administer automated attendants and provides examples you can modify to fit your particular requirements.

Overview

The Automated Attendant feature allows you to set up automatic answering services that provide callers with a voice menu of options for transferring calls to other extensions.

For example, an automated attendant can answer your company's phone and prompt callers to dial extensions directly if they know the number or to press the appropriate key on their touchtone phones in response to a voice prompt to transfer the call. The automated attendant can have as many as 10 menu options, corresponding to the buttons 0 through 9 on a touchtone telephone.

This *main* or *first-level* attendant might provide the following options:

- "Thank you for calling Smith and Jones."
- "To transfer to a specific extension, enter that extension."
- "To reach the sales department, press 1."
- "To reach the accounting department, press 2."
- "To reach the personnel department, press 3."
- "To get further assistance, press 0 or wait."

This example assumes your company's extensions do not start with 0, 1, 2, or 3. The switch must be administered for routing calls to the attendant's extension. For example, you (or the switch administrator) may administer the switch to route all incoming calls to this extension instead of to a receptionist or to route calls to this extension only after normal business hours or during busy periods when the volume of incoming traffic overwhelms your call-answering resources (the latter requires call vectoring available on some Lucent switches).

A main attendant also can be set up to answer extensions for departments within your company. For example, a caller who dials the accounting department's extension could hear the following options from that department's automated attendant:

"This is the Accounting department."
"To reach Accounts Payable, press 1."
"To reach Accounts Receivable, press 2."
"To reach Payroll, press 3."
"To transfer to a specific extension, enter that extension."
"To get further assistance, press 0 or wait."

Attendants may be *nested* behind a main attendant so that selection of an option on the main attendant's menu invokes a secondary attendant. For example, when an external caller selects option 2 in the first example above, he or she next could hear the accounting department's automated attendant shown in the second example.

You also can set up any number of levels of nested attendants. This is because attendants that are accessed only by other attendants can be associated with extensions in the DEFINITY AUDIX system that are not administered at the switch.

You can administer automated attendants to transfer calls directly into an extension's DEFINITY AUDIX mailbox without going back through the switch as in a normal transfer to an extension's telephone. This provides a mechanism for using automated attendants to accommodate unusual situations such as collecting messages for individuals who share an extension or for non-resident subscribers who do not have an extension administered on the switch.

For example, if the payroll department shares a single extension, a caller who selected option 3 to reach the payroll department in the previous example could get the following options from an automated attendant if the telephone is not answered or the extension is busy:

"This is Payroll. No one is available right now."
"To leave a message for Bill Smith, press 1."
"To leave a message for Mary Jones, press 2."
"To leave a message for John Doe, press 3."

You would administer each of the extension's users as a DEFINITY AUDIX user and associate each with a different DEFINITY AUDIX extension that is not administered on the switch. Callers who press the button associated with an individual then go directly to that individual's DEFINITY AUDIX mailbox. Depending on administration, the caller could hear the DEFINITY AUDIX system's guest greeting or the subscriber's personal greeting.

Similarly, you could administer an automated attendant for non-resident subscribers such as outside sales personnel who do not have extensions on the switch but need to have clients leave messages. In this case, you would administer the non-resident subscribers as DEFINITY AUDIX subscribers on extensions that do not exist on the switch as in the previous example. Callers could then call the automated attendant's extension, enter the subscriber's mailbox number (the non-resident subscriber extension), and go directly to that mailbox to leave a message. Depending on administration, the caller could hear the DEFINITY AUDIX system's guest greeting or the non-resident subscriber's call answer greeting.

Automated attendants also can serve as bulletin board directories, allowing you to use non-resident extensions for information service bulletin boards and have just one extension — the automated attendant — administered on the switch to answer bulletin board calls and route callers to specific bulletin boards.

Multilingual Automated Attendants

You can set up a multilingual automated attendant. The first level of an automated attendant in a multilingual environment might ask the user to select a language. Subsequent levels implement the automated attendant in the language chosen. For example, your company operates in a U.S. English/Canadian French bilingual environment and needs an automated attendant to redirect calls to the appropriate extension (possibly because Direct Inward Dialing is not available on the switch).

1. The recording for the *main* or *first-level* automated attendant is in U.S. English for this example.

"Hello, this is ABC Company."

"Pour Francais, appuyez sur le 1."

"To talk to a sales agent, please press 2."

"For billing problems, please press 3."

"If you know the number of the person you wish to reach, please enter it."

"Or you may wait for an operator to help you."

2. The user presses 1. The recording for the *second-level* automated attendant is in Canadian French.

(In Canadian French)

"To talk to a sales agent, please press 2."

"For billing problems, please press 3."

"If you know the number of the person you wish to reach, please enter it."

"Or you may wait for an operator to help you."

(If the user enters *H for help, Canadian French prompts are used if the primary announcement set is Canadian French.)

3. The caller enters extension number 432.

(IN Canadian French)

"Please wait."

4. The call is transferred to extension 432. If the call covers to the DEFINITY AUDIX system, call treatment will be as described above in the call answer scenario.

You also can use the Multiple Personal Greetings feature to customize an automated attendant's spoken menu (which is actually the extension's personal greeting) for different call types, such as for out-of-hours calls and internal/external calls. This customization could be cosmetic, such as a formal or informal personal greeting depending on whether the call is external or internal, or it could voice a different set of options, such as offering a restricted menu of choices to out-of-hours callers.

The method described above merely changes the *description* of available options to suit the circumstances of the call. The available options themselves remain the same. Consequently, you may consider using the *call routing table* to send a call to one of several separate automated attendants depending on the type of call. This method makes it possible to offer various options as well as various menus.

You can record as many languages within the Automated Attendant as needed. Since you record the Automated Attendant menu, an Automated Attendant is not limited to two languages. If you have the Multilingual feature set to ON, Automated Attendants can use the Multiple Personal Greetings feature as long as the Call Answer Language Choice field is set to "n". If you set the Call Answer Language Choice field to "y", the first menu in the automated attendant should be one where the caller chooses a language (such as press 1 for English or press 2 for French Canadian); then you can set up separate menu trees for each language.

These are just a few of the useful applications for the automated attendant feature that are described in this chapter. As you will see, this feature is limited only by your imagination and your requirements for having calls transferred without human intervention.

How Automated Attendants Work

You set up automated attendants as DEFINITY AUDIX subscribers on the Subscriber screen. They appear the same as regular subscribers except they are identified as "auto-attendant" in the PERMISSIONS, Type field.

If the automated attendant extension is to be called directly, administer the attendant's extension at the switch. If the attendant will be reached only by other automated attendants, it can be an extension administered in the DEFINITY AUDIX system but not on the switch.

The menu options that are voiced by the automated attendant are actually the personal greeting that you record for the automated attendant's extension. This is convenient because you easily can change the text of the message just as you would any personal greeting, and you also can use the Multiple Personal Greetings feature to provide different menus and options for different types of callers. You can record the greetings used for the automated attendant in more than one language. If using the Multilingual feature with the Multiple Personal Greetings feature, set the Call Answer Language Choice field to "n" on the automated attendant Subscriber screen or Class of Service screen. Since you record the automated attendants, automated attendants are not limited to only two languages. You could set up an automated attendant main menu directing callers to several languages. For example:

In English,

"For English, press 1 ."

In French Canadian,

"For French, press 2 ."

In Spanish,

"For Spanish, press 3 ."

Then for each choice, record a nested automated attendant in the appropriate language.

The actions each attendant performs when specific buttons are pressed are specified on the Subscriber screen. Buttons are assigned to extensions as appropriate and assigned a treatment code to determine if the DEFINITY AUDIX system should transfer the call through the switch to an extension's telephone (the usual case) or directly into the extension's mailbox to leave a message or speak out a bulletin board message or another automated attendant menu.

If the call goes directly to a subscriber's mailbox, the treatment code also specifies whether the system guest greeting or the subscriber's call answer greeting is played. The system guest greeting is played if the treatment is "guest-greeting". If the treatment is "call-answer", the subscriber's call answer greeting is played if one is recorded and active, otherwise the system call answer greeting is played.

If the call goes directly to a sub-attendant's mailbox, the treatment field specifies whether to leave a message in the attendant's mailbox ("guest-greeting") or play the sub-attendant's menu ("call-answer"). The latter makes nesting transparent to the caller since there is no delay between the action selected at the first attendant and the beginning of the selected attendant's voice prompt.

If the call goes directly to a bulletin board, use the call-answer treatment to play out the bulletin board's message. To leave a message in the bulletin board's mailbox, use the guest-greeting treatment.

Prerequisite Conditions

For the Automated Attendant feature to work fully, the Call Transfer Out of AUDIX feature must be activated. This is accomplished via the System-Parameters Features screen. (If you enter "none", you cannot use the "transfer" treatment type on the Subscriber screen.)

In the DEFINITY AUDIX system, the automated attendant extension must be redirected to the DEFINITY AUDIX extension either with Call Coverage or Call Forwarding (the recommended option). Calls are then sent to the attendant mailbox where the menu of options is heard.

Using Rotary Phones with an Automated Attendant

Automated attendants can work with rotary telephone users if the DEFINITY AUDIX system has an attached pulse-to-tone converter. A pulse-to-tone converter is a small box outside the switch between the switch and the central office. Set the Input Time Limits Between Digits at Auto-Attendant or Standalone Menu field on the System-Parameters Features screen to between 3 and 12 seconds (5 or 6 seconds is recommended). This sets the delay in seconds before the DEFINITY AUDIX system times out. Determine the best value after actual use.

If the caller fails to enter any tones at an automated attendant menu, the DEFINITY AUDIX system uses the timeout treatment administered on the automated attendant Subscriber screen. The timeout treatment on the automated attendant Subscriber screen should be greater than the Between Digits at Auto-Attendant or Standalone Menu field on the System-Parameters Features screen, or the automated attendant may time out before the first digit can be entered.

If not using a pulse-to-tone converter, leave the Between Digits at Auto-Attendant or Standalone Menu field on the System-Parameters Features screen at the default of 3.

Setting Up an Automated Attendant

Automated attendants must be set up on the switch as well as on the DEFINITY AUDIX system. Verify that the automated attendants have been administered properly on the switch. In addition, if (and only if) you are using the Display Set switch integration, the switch-names audit also must be run.

Perform the following steps to define and administer an automated attendant on the DEFINITY AUDIX system.

Step 1: Defining the Attendant

Use the Subscriber screen to define the automated attendant. Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of this screen.

Define the automated attendant in the same manner that you would set up a new local subscriber on the Subscriber screen. Be sure to identify the attendant as such in the PERMISSIONS, Type field.

⇒ NOTE:

If you plan to use a number of automated attendants, you might want to set up a class of service with the PERMISSIONS, Type field already set to "auto-attendant" for use with automated attendants. If so, be sure that existing subscribers are not already assigned to that class of service. Also, you must run "audit subscriber-data" before class of service changes will be effective for automated attendants.

Step 2: Administering the Attendant Menu

Use the Subscriber screen to administer automated attendant menu options. Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of this screen.

Be prepared to supply the following information on the Subscriber screen.

For the attendant:

- The attendant's name
- The attendant's extension
- If transfers are allowed allows callers to transfer from the automated attendant to a specific extension by entering , the extension number, and pound sign (or by entering , , subscriber name, and pound sign for name addressing). Generally, it is more efficient to have callers enter extension numbers directly. is typically used when the attendant's options require use of all the buttons or the switch dial plan precludes use of the button that corresponds to the first digit of internal extension numbers that could be called directly. The Call Transfer Out of AUDIX feature must be turned on before you can use .
- The number of seconds to wait for time-out when a caller does not respond to a prompt

For each button (0 through 9) and the timeout that is active for the attendant:

- The extension to transfer the call to or the DEFINITY AUDIX mailbox extension when the button is pressed.

If this button is the first digit of an extension on your switch *and* you want callers to be able to directly enter an extension, put "e" in this field. If you want callers to be able to dial an extension directly from the automated attendant without using  , you cannot use any button whose number is the first digit of an extension that could be called directly. For example, if internal extensions begin with 5, you cannot use button 5 for a separate selection like "To reach accounting, press 5." If you did, callers who attempted to dial specific extensions starting with 5 would instead be transferred to accounting in this example. Instead, assign this button as extension e. This allows the caller direct access to any extension that starts with the associated button. More than one button can be assigned as e if necessary. For this feature to work properly, addressing must be by extension on the automated attendant Subscriber screen.

 **NOTE:**

Pay particular attention to the switch dial plan when assigning the e option. Consider that some extensions within the group may not exist, may not be assigned, may be assigned to special features like hunt groups or vectors, may be assigned to the attendant console, may be assigned to a Distributed Communication System (DCS) node, or may be assigned to the DEFINITY AUDIX voice ports. Any of these situations may cause problems when a caller attempts to dial one of them.

- A transfer treatment code to specify whether the call is to transfer to the extension's telephone ("transfer") or directly to the extension's mailbox to play the subscriber's call answer greeting ('call-answer") or the system guest greeting ("guest-greeting"). If the treatment is "call-answer" and no personal greeting is recorded or active, the system call answer greeting is played.
- A brief comment describing the button's function. This is your only record of the attendant's button functions and associated extension numbers, so spelling it out now in the comment field may save you some time later if you have to modify the attendant's functions or rerecord the attendant menu.

Step 3: Recording the Attendant Menu

Use your touch-tone telephone to record the automated attendant menu that will be spoken to callers. This menu is actually the personal greeting for the attendant's extension. If setting up a TDD automated attendant, use the TDD keyboard to type the menu where the following instructions say speak or record and the touchtone telephone keypad when the instructions say press.

In the menu, you may want to include the following:

- A greeting followed by the menu choices available to the caller
- An instruction on pressing ***** **T** to transfer to a specific extension if this option is active for the attendant
- An instruction to wait if a time-out extension is administered
- An instruction on pressing ***** **H** to repeat the menu

⇒ NOTE:

You also can set up a one-button press to repeat the menu by putting the same attendant's extension in the Extension field and "call-answer" in the treatment field.

Decide if you will use a single message to describe all parts of the menu or if you will use the multiple personal greetings feature to record a variety of messages to be played for the various call types. The recording of an attendant menu is done in the same way as recording a personal greeting. It is a good idea to write down the menus and greeting numbers and keep them in this document so that you will have them if you need to rerecord them at a later time. To record an automated attendant menu if the multiple personal greetings feature is *not* activated, follow these steps:

1. Log in as the automated attendant using the extension and password (if any) you assigned on the Subscriber screen.
2. At the activity menu, press **3** to administer the attendant menu.
3. Press **1** to record the attendant menu.
4. At the tone, speak the menu (or type if setting up a TDD automated attendant menu), and then press **1** to stop the recording.
5. Press **2** or **3** if you want to listen to the menu.
6. Press ***** **D** to delete and rerecord, or press **#** to approve.

To record an automated attendant menu if the Multiple Personal Greetings feature is activated, refer to the Multiple Personal Greetings feature in *DEFINITY AUDIX System — Features Description*, 585-300-206, and enter the same menu options as for a subscriber entering personal greetings. If the automated attendant is multilingual and the Call Answer Language Choice field is set to "y" (yes) on the automated attendant Subscriber screen or Class of Service screen, then the automated attendant may *not* use the Multiple Personal Greetings feature.

⇒ NOTE:

If your system should lose any voice messages, perhaps due to a disk crash, you must check each of the automated attendant menus to ensure that they were not lost. It would be a good idea to write down the text of the menus and keep them together as a precaution. If an automated attendant menu is lost, simply rerecord it. If an automated attendant menu is lost or was never recorded, the DEFINITY AUDIX system makes an entry in the administrative system log each time a caller calls the automated attendant extension. You can view these logs by accessing the Display Administration-Log screen.

Step 4: Listing Automated Attendants

Use the List Attendants screen to list automated attendants. Refer to *DEFINITY AUDIX System R3.2 — Screens Reference*, 585-300-211, for a complete description of this screen.

After you have administered an automated attendant, list your system's automated attendants to confirm your entry. Automated attendants are listed sequentially by ascending extensions on the screen. To start at a particular extension, type the extension number in the Extension field.

Setting Up a Call Routing Table

DEFINITY AUDIX provides a conditional routing capability. You can use the routing table and its associated screens to base automated attendant operation on as many as four business schedules and as many as four holiday schedules.

Overview

The business schedule just mentioned divides the 24-hour day into two parts called day service and night service. Calls can be routed to one mailbox for day service, and to another for night service. A business may, for example, set day-service hours to be the period when the business is open, and it may send calls to a night-service mailbox during the remaining hours.

The business schedule also provides for *alternate-service* hours. This is a period of time that you can define when calls may be sent to a third destination during either day- or night-service hours. This period may be used by some businesses to provide a special automated attendant to handle calls from other time zones during the transition from day to night service. (Another business may use the period simply to cover an operator during lunch hour.)

The previously-mentioned *holiday schedules* make it possible to deviate from the normal business schedule for a day at a time. You might use these schedules to play different greetings and to handle calls differently on holidays. There are four holiday schedules. On each of them, you can record up to 26 dates along with the automated-attendant mailbox to be used on each date. If you had separate schedules for the sales office and for the warehouse, for example, you could send sales-office calls to one mailbox during a sales conference, and you could send warehouse calls to another mailbox during inventory time.

The services just described are tied together within a *routing table*. Here is where you apply a business schedule and a holiday schedule to an incoming called extension number. Finally, you assign mailboxes to the number: one each for day, night, and alternate service.

Therefore, if a number is called that appears on the routing table, the holiday schedule is first checked. If the current date does not appear in the holiday schedule, the business schedule is checked. If the time of day is covered in the business schedule under alternate service, the call is sent to the alternate service mailbox. If not, then depending on the time of day, the call is sent to the day- service mailbox or to the night-service mailbox.

Setting up a Business Schedule

Here is how to fill in a business schedule (there is an overview of the process on page 9-11 of this chapter). First, access the change auto-attend-routing business-schedule administration screen. The screen you access will be one of four such screens you can use for separate schedules. Consequently, you will have to give the administration program the name or number of a particular schedule to access this screen (numbers 1 through 4 will access a screen anytime):

```

drmf2 Active Alarms: MmwA Thresholds: none Logins: 2
change auto-attend-routing business-schedule 1 Page 1 of 1
AUTO-ATTENDANT ROUTING BUSINESS SCHEDULES

Business Schedule 1: Bus1

(Night Service applies to all hours not specified below)

Day of Week Day Service Hours Alternate Service Hours
Start End Start End
Time Time Time Time
(hh:mm) (hh:mm) (hh:mm) (hh:mm)

Monday: 08:00 - 17:00 : - :
Tuesday: 08:00 - 17:00 : - :
Wednesday: 08:00 - 17:00 : - :
Thursday: 08:00 - 17:00 : - :
Friday: 08:00 - 17:00 : - :

Saturday: : - : : - :
Sunday: : - : : - :

enter command: change auto-attend-routing business-schedule 1
1Cancel 2Refresh 3Enter 4ClearFld 5Help 6Choices 7NextPage 8PrevPage
    
```

Figure 9-1. Auto-Attend-Routing Business-Schedule

Default hours are shown in the illustration. Set up the business schedules by filling in these fields:

- Business Schedule — If the default name of the schedule does not seem descriptive enough, name the schedule in this field.
- Day Service Hours — Hours outside of this range are considered to be night service hours. (Use 24-hour notation: AM starts at 00:00, midnight: PM times are 12:00-23:59.)
 - Start Time — Enter the time at which daytime operation should begin.
 - End time — Enter the time at which daytime operation should end.
- Alternate Service Hours — This is time that may be considered an exception to normal day service (lunch time, for example). *An alternate service period must either fall entirely inside of day service hours or entirely outside of day service hours.* (Use 24-hour notation: AM starts at 00:00, midnight: PM times are 12:00-23:59.)
 - Start Time — Enter the time at which alternate service is to begin.
 - End Time — Enter the time at which alternate service is to end.

Setting up a Holiday Schedule

The second step of setting up auto-attendant routing is to access a change auto-attend-routing holiday-schedule administration screen (there is an overview of the process on page 9-11 of this chapter). The screen you access will be one of four such screens you can use for separate schedules. Consequently, you will have to give the administration program the name or number of a particular schedule to access this screen (numbers 1 through 4 will access a screen anytime):

```

drmf2b2 Active Alarms: MmWf Thresholds: none Logins: 2
change auto-attend-routing holiday-schedule 1 Page 1 of 2
AUTO ATTENDANT ROUTING HOLIDAY SCHEDULES

Holiday Schedule 1: holl

Holiday Name      Date (mm/dd)      Mailbox
New Year's Day    01/01            9991
Lincoln Day       02/11            9993
Washington Day    02/21            9993
Memorial Day      05/30            9998
Independence Day  07/04            9995
Labor Day         09/05            9992
                  11/11            9999
                  /
                  /
                  /
                  /
enter command: change auto-attend-routing holiday-schedule 1
1Cancel 2Refresh 3Enter 4ClearFld 5Help 6Choices 7NextPage 8PrevPage

```

Figure 9-2. Auto-Attend-Routing Holiday-Schedule

NOTE:

Before you start to fill in the schedule, make sure that the auto-attendants exist. They must have been created before you add them under the *Mailbox* column.

Set up the holiday schedules by filling in these fields:

- **Holiday Schedule** — If the default name of the schedule does not seem descriptive enough, name the schedule in this field. Use capital letters here if you intend to use them in the name of this schedule in the future.
- **Holiday Name** — Enter the name of the holiday here. (This field is for your reference. An entry in this field is optional.)
- **Date** — Enter the date on which the affected incoming call will be forwarded to mailbox.
- **Mailbox** — Enter the number to which the affected incoming call will be forwarded.

Filling in the Routing Table

Having set up schedules to suit your business purposes, you are ready to complete the routing table (there is an overview of the process on page 9-11 of this chapter):

```

messngr          Active          Alarms: m A          Logins: 3
change auto-attend-routing routing-table          Page 1 of 2
          AUTO-ATTENDANT ROUTING TABLE
          Routing Table Administration

  Incoming Called      Business  Holiday    Day      Night      Alternate
   Number             Schedule Schedule    Service  Service    Service
                   Mailbox  Mailbox    Mailbox  Mailbox    Mailbox

802                bus1      ho11      9003     9004     9005
802-806            bus2      ho11      9006     9007
805                bus1                9003     9004     9005
807                bus3      ho12      9006     9007     9008
808                bus1                9003     9004     9009
3200               bus4                3200     9007
  
```

```

enter command: change auto-attend-routing routing-table
1Cancel 2Refresh 3Enter 4ClearFld 5Help 6Choices 7NextPage 8PrevPage
  
```

Figure 9.3. Auto-Attendant-Routing Routing-Table

The routing function redirects calls to specified numbers. It redirects them to specified voice mailbox numbers according to the instructions given in the holiday schedules and the routing table. Fill in the routing table as follows:

- Incoming Called Number — Enter the numbers to be redirected. These can be any incoming numbers reported to AUDIX by the switch. If a number appears twice in this column, the first instance prevails. 802, for example, appears before the range 802-806, and will be treated separately per its first appearance. 805 appears after the range of numbers, however, so it will be treated as set out on the line associated with the range.
- Business Schedule — Enter the name or number of the business schedule that is to determine how the incoming number is to be treated. The name login is reserved. It indicates that a direct, external call to the associated incoming number is to be allowed AUDIX Login services. That is, if you call this extension. AUDIX will ask you to log in.
- Holiday Schedule — Enter the name or number of the holiday schedule (if any) that is to determine which auto-attendant mailbox the incoming number is to access on holidays.

- Mailboxes — All mailbox extensions must be defined before they are entered in these columns.
 - Day Service Mailbox — Enter the number of the auto-attendant mailbox to be accessed during the business hours given in the business schedule. This field must be filled in if the associated business schedule either follows the (Merlin) switch's night service status or specifies day service hours.
 - Night Service Mailbox — Enter the number of the auto-attendant mailbox to be accessed during the period not otherwise specified in the business schedule.
 - Alternate Service Mailbox — Enter the number of the auto-attendant mailbox to be accessed during the alternate-service period given in the business schedule. This field must be filled in if the associated business schedule specifies alternate service hours.

Testing Your Menu Tree

The definition of an automated attendant menu is complete when all of its submenus are defined and all the voice prompts including any announcements such as attendant menus are recorded. DEFINITY AUDIX provides a convenient way of testing the structure of a menu so that callers will not be inconvenienced by an incomplete automatic-attendant menu tree.

To access the testing program, type `disp au m` (for display auto-attend-routing menu-tree) at the AUDIX-Administration command line. A screen resembling the subsequent illustration appears:

```
drmf2 Active Alarms: mWA Thresholds: none Logins: 2
display auto-attend-routing menu-tree Page 1 of 1
AUTO-ATTENDANT MENU TREE

Start From Called Party ID in Routing Table? y
Starting Point: Report Type (full/errors): errors

enter command: display auto-attend-routing menu-tree
1Cancel 2Refresh 3Enter 4ClearFld 5Help 6Choices 7NextPage 8PrevPage
```

This utility searches auto attendant menus to verify that each mentioned auto attendant mailbox exists and that the necessary personal greeting(s) have been recorded. The program keeps testing nested mailboxes until they have all been tested. As it works, it displays the results of the search. The information you enter on this screen determines how this report is to be limited and how it is to be presented. Displayed on the screen are the following fields:

- Start From Called Party ID in Routing Table? Enter y in this field to make the program start its search at the Incoming Called Number in the routing table. If this were so, for example, and if you specified extension 802 in the next field, then (referring to the example shown in Figure 9-3 on page 9-15) mailboxes 9003, 9004, 9005, and the mailbox in holiday schedule hol1 would all be tested.

If you enter n, the report first tests the mailbox number specified under Starting Point and then tests the mailboxes that are set out in the menu that applies to the specified mailbox (see change subscriber, screen 3 on page 9-11 of this chapter).

- Starting Point: Enter the number of the mailbox or Incoming Called Number that is to be tested. Leave the field blank to test all attendant mailboxes (or all mailboxes in the routing table, if you left y in the first field).
- Report Type (full/errors): Enter f (or full) in this field to have the program display not only errors but each component element of each mailbox as well.

Enter e (or errors) in this field to have the program identify only flawed mailboxes and the errors discovered by the program.

Automated Attendant Examples

The examples on the following pages describe some of the applications for the Automated Attendant feature. Use these examples as models when defining your own automated attendants.

Setting Up a Main Attendant

A main attendant is an attendant that can be reached directly by callers who dial its extension number. This attendant can answer your company's main phone, or it can answer a department's main phone. It must be associated with an extension that is administered on the switch. The automated attendant in the example shown in Figure 9-1, Auto-Attend-Routing Business-Schedule, is set up to answer the company's main phone. It offers callers the option of transferring to the sales, accounting, or personnel departments by pressing a number or dialing any internal extension that begins with 5, or transferring to a receptionist. If the caller does not respond within five seconds, the call is transferred automatically to the receptionist. If the caller chooses to transfer to accounting or personnel, the caller will immediately hear the call answer greeting active for the mailbox associated with extension 5600 rather than being transferred through the switch (because of the "call-answer" treatment). Finally, to repeat this menu, callers can press **9**.

Switch administration determines the circumstances for routing calls to the main attendant's extension. For example, the switch could be administered to route all incoming calls to this extension instead of to a receptionist, or to route calls to this extension only after normal business hours or during busy periods when the volume of incoming traffic overwhelms the call-answering resources (the latter can be done only through vectoring available on some Lucent switches).

⇒ NOTE:

If the automated attendant is multilingual, the greeting must offer the caller the option of pressing *1 to switch to the secondary language. This option should be spoken in the secondary language.

```

drmf17 Active Alarms: mwA Thresholds: none Logins: 2
add subscriber Page 3 of 3
SUBSCRIBER AUTOMATED ATTENDANT MENU

Allow Call Transfer? y

Button Extension Treatment Comment
1: 5500 guest-greeting Leave message for sales
2: 5600 call-answer go to accounting
3: 5700 call-answer go to personnel
4:
5: e transfer go to ext 5XXX as requested
6:
7:
8:
9: 5555 call-answer repeat this menu
0: 5000 transfer go to operator
Timeout: 5000 transfer go to operator upon time-out

Length Of Time-Out On Initial Entry : 5

enter command: add subscriber
1Cancel 2Refresh 3Enter 4ClearFld 5Help 6Choices 7NextPage 8PrevPage
    
```

Figure 9-4. Example Main Attendant Subscriber Screen

Setting Up Nested Attendants

A nested attendant is an attendant that is invoked by another attendant. The nested attendant also may be a main attendant; that is, the extension can be reached directly by internal and external callers who dial the extension number directly.

For example, callers who dial the accounting department's extension directly could hear voice options from a main attendant for that department, as could callers who transferred to the accounting department by pressing 2 at the main menu in the example shown in Figure 9-1 on page 9-13. The accounting department's attendant is said to be nested beneath the company's main menu.

Additional menus could be nested beneath the accounting department's attendant, such as for transferring to the payroll desk or accounts receivable desk.

A simple example of this application is shown in the example below. In this example, pressing (2) at the main menu transfers the caller to the accounting department's attendant and pressing (3) at that attendant transfers the call to the payroll department's extension.

Attendant	Button	Extension	Treatment	Comment
Main	2	5600	Call-answer	Transfer to accounting attendant
Accounting	3	5605	Transfer	Transfer to payroll extension

To the caller, this nesting is transparent because the nested attendant is invoked immediately by the DEFINITY AUDIX system without transferring the caller through the switch. The caller in this example would hear the main attendant options, press (2) to transfer to accounting, hear the accounting department attendant options, and press (3) to transfer to the payroll extension without the delay that is associated with transferring back through the switch.

Automated Attendants can offer a choice of three or more languages if you properly structure the auto-attendant tree. For example, you can record the first state of a multi-state attendant to ask the user to select a language from a list of two or more languages. The language choice then leads the caller down the appropriate branch of the auto-attendant tree which has all subsequent auto-attendant greetings in the selected language.

Setting Up Shared Extensions

Several subscribers sharing a single phone (shared extensions) require that the DEFINITY AUDIX system provide a simple method for the calling party to leave a message for the called extension (any of the users) or for a specific individual. An automated attendant can handle this task by providing callers with options to leave a message for the extension or any of the individuals who share it. The attendant extension is administered at the switch. Non-resident subscriber extensions in the DEFINITY AUDIX system (not administered at the switch) are used for each of the sharing subscribers. The automated attendant can transfer callers directly to these mailboxes to leave messages.

➤ NOTE:

Because Message Waiting Indicators (MWIs) are associated with individual telephone sets and not with DEFINITY AUDIX mailboxes, the MWI for a shared extension will be activated when a new message is in the mailbox for the extension number that is shared, but not when new messages are only in the mailboxes of the individual users.

In this example, assume that the company has set up an information desk with a single telephone to provide callers with any necessary information or assistance. Two people answer the telephone during the day. They do not have individual phones and can be reached only through the information desk. They are administered as DEFINITY AUDIX subscribers and are associated with extensions in the DEFINITY AUDIX system that are not administered on the switch.

```

drmf17 Active Alarms: mwa Thresholds: none Logins: 2
add subscriber Page 3 of 3
SUBSCRIBER AUTOMATED ATTENDANT MENU

Allow Call Transfer? y

Button Extension Treatment Comment
1: 5555 guest-greeting leave message for info desk
2: 8001 call-answer leave message for Geo. Smith
3: 8002 call-answer leave message for Jane Doe
4:
5:
6:
7:
8:
9:
0: 5001 transfer transfer to receptionist
Timeout: 5555 guest-greeting leave message for info desk

Length Of Time-Out On Initial Entry : 5

enter command: add subscriber
1Cancel 2Refresh 3Enter 4ClearFld 5Help 6Choices 7NextPage 8PrevPage

```

Figure 9-5. Example Shared Extension Subscriber Screen

If someone calls the information desk and the telephone is not answered or is busy, the call is routed to the DEFINITY AUDIX system automated attendant. The automated attendant in this example prompts callers to leave a message for the information desk or for one of the individuals who staff the desk.

If the caller selects an individual (button 2 or 3 in this example), the caller goes directly to the subscriber's DEFINITY AUDIX mailbox to hear the individual's call answer greeting and then leaves a message. If the caller does not respond to the automated attendant prompt within five seconds, the DEFINITY AUDIX system will prompt with the system guest password greeting "Please leave a message for <name>." The voiced name in this example would be whatever name had been recorded for the subscriber with extension 5555, probably *information desk* since that is the name of the extension.

⇒ NOTE:

Access page 2 of the "display system-parameters customer-options" form. If, on the customer-option form, the field entitled "limit Number of Voice Mail/ Call-Answer Mailboxes" is set to "y", then the treatment type "guest greeting" may not be used on this auto-attendant form.

A message left in the mailbox of the information desk extension will light the extension's MWI in this example, a message left in the mailbox of one of the sharing individuals will not. These individuals must call into the DEFINITY AUDIX system to check for messages or use the Outcalling feature.

Setting Up Non-Resident Subscriber Extensions

Non-resident subscribers are by definition DEFINITY AUDIX subscribers who do not have an extension on a switch that is served by the DEFINITY AUDIX system. Mailbox numbers in the system for these subscribers correspond to DEFINITY AUDIX extensions that are not administered on the switch. (The subscribers with extensions 8001 and 8002 in the previous example are non-resident subscribers.)

⚠ WARNING:

Setting up non-resident subscribers with numbers that begin with trunk dial access codes could contribute to toll fraud.

*Take special care, therefore, to make sure the **transfer dialplan** prevents transfer to such endpoints.*

Another example of a non-resident subscriber is an outside salesman who needs to receive messages from clients. To accommodate this type of user, an automated attendant can be set up to move callers directly to non-resident subscriber mailboxes. The caller would need to know only the number of the automated attendant and the non-resident subscriber's mailbox number (or name if name addressing is used) to leave a message. Once in the non-resident subscriber's mailbox, the caller would hear either the system guest greeting or the non-resident subscriber's call answer greeting, depending on the transfer treatment that is specified on the Subscriber screen.

In the example shown in Figure 9-3, Auto-Attendant-Routing Routing-Table, the extension number for each non-resident subscriber is a five-digit number beginning with 9, and the extension number for the automated attendant is 70000. The non-resident subscriber would give clients the number of the automated attendant to call and his/her own mailbox number. Clients would dial 70000, listen to the automated attendant menu, enter the non-resident subscriber's mailbox number, listen to the subscriber's personal greeting, and leave a message. If the caller does not begin entering the mailbox number within five seconds, the call would be transferred to a sales clerk.

```

drmf17 Active Alarms: mwA Thresholds: none Logins: 2
add subscriber Page 3 of 3
SUBSCRIBER AUTOMATED ATTENDANT MENU

Allow Call Transfer? n

Button Extension Treatment Comment
1:
2:
3:
4:
5:
6:
7:
8:
9: e call-answer leave message for sales rep
0:
Timeout: 81234 transfer to sales clerk upon time-out

Length Of Time-Out On Initial Entry : 5

enter command: add subscriber
1Cancel 2Refresh 3Enter 4ClearFld 5Help 6Choices 7NextPage 8PrevPage

```

Figure 9-6. Example of Subscriber Screen for Non-Resident Subscriber

If the treatment for calls that go directly to mailboxes was "guest-greeting" instead of "call-answer", callers would hear the system guest greeting "Please leave a message for <name>" instead of the non-resident subscriber's personal greeting.

Name Addressing

The automated attendant can be administered to use name addressing. For example, the automated attendant could greet callers with the following:

"Thank you for calling ABC Company."

"To leave a message for one of our sales agents, please enter his or her name starting with the last name."

To administer name addressing, enter "name" in the Addressing Format field on page 2 of the Subscriber screen. On page 3 of the Subscriber screen, enter "e" in the extension column for buttons 2 through 9. It is recommended that a Timeout Treatment also be administered on page 3 of the Subscriber screen. If the Length of Timeout on Initial Entry field is set to "1" or "0", callers to the automated attendant will be transferred immediately for name addressing.

Setting Up Bulletin Board Directories

An automated attendant may present multiple choices for listening to bulletin board messages that are set up with the information service Bulletin Board feature. Use the "call-answer" treatment on the screen for bulletin board extensions to route callers directly into the selected bulletin board's mailbox.

For example you could set up an automated attendant with the following options on the Subscriber screen:

```

drmf17 Active Alarms: mWA Thresholds: none Logins: 3
add subscriber Page 3 of 3
SUBSCRIBER AUTOMATED ATTENDANT MENU

Allow Call Transfer? n

Button Extension Treatment Comment
1: 9050 call-answer general info bulletin board
2: 9051 call-answer benefits bulletin board
3: 9052 call-answer activities bulletin board
4:
5:
6:
7:
8:
9:
0:
Timeout: 8000 guest-greeting leave message in this mailbox
Length Of Time-Out On Initial Entry : 5

enter command: add subscriber
1Cancel 2Refresh 3Enter 4ClearFld 5Help 6Choices 7NextPage 8PrevPage

```

Figure 9-7. Example Automated Attendant Subscriber Screen for Bulletin Board

In this example, the automated attendant would prompt the caller to press the appropriate button to hear a bulletin board message. Callers are not allowed to use *T call transfer from this attendant since it is denied on the Subscriber screen. In addition, if the caller in this example does nothing for five seconds, s/he is asked to leave a message in this attendant's mailbox.

Bulletin board extensions in this example are DEFINITY AUDIX extensions that are not administered at the switch. These extensions can be reached only by dialing this automated attendant. Callers who select one of these extensions are transferred directly to the extension's mailbox to hear the message.

Using Multiple Greetings for Automated Attendants

The Automated Attendant feature can be quite flexible when used with the multiple personal greetings feature. Since the voiced options menu is the personal greeting for the automated attendant's extension, administering personal greetings for an automated attendant is the same as for any subscriber.

The multiple personal greetings feature allows you to specify as many as nine unique personal greetings for the extension, and to specify circumstances for using different greetings, such as for internal and external calls, busy and no-answer calls, and out-of-hours calls. Use the System-Parameters Features screen to define the out-of-hours period; calls made outside of prime time as defined on that screen are considered out-of-hours. If the automated attendant uses the Multilingual feature, the Multiple Personal Greetings feature cannot also be used.

If an out-of-hours greeting is selected, it will override internal/external and busy/no-answer identification for all calls received during the designated out-of-hours. Note that multiple greetings can be set up for *either* internal/external or busy/no-answer, but *not for both* internal/external and busy/no-answer at the same time. Only internal, external, and out-of-hours make sense for most automated attendants.

When used for an automated attendant, multiple personal greetings allow you to provide not only different greetings, but to voice different options for selected types of callers.

For example, you could define the following greetings for the automated attendant:

1. For all external calls, the greeting is:

"Thank you for calling Smith and Jones."
"To transfer to a specific extension, enter that extension."
"To reach the sales department, press 1."
"To reach the accounting department, press 2."
"To reach the personnel department, press 3."
"To get further assistance, press 0 or wait."

2. For all internal calls, the greeting is:

"To reach a specific person, enter the extension."
"To reach sales, press 1."
"To reach accounting, press 2."
"To reach personnel, press 3."
"To reach Security, press 8"
"To access employee bulletin board information, press 9."

3. For all out-of-hours callers, the greeting is:

"Thank you for calling Smith and Jones."
"Our normal office hours are 8 a.m. to 5 p.m."
"Monday through Friday."
"To reach a specific person,
enter the mailbox number
using your touchtone telephone."
"If this is an emergency, please press 8."

This example allows the automated attendant to voice specific information for different types of callers and to exclude or include options depending on caller type. Note that all options listed on the Subscriber screen are still available to all callers, they are just not listed as options in the greeting.

This chapter describes measures to maximize system security. For detailed information on general system security issues, refer to *GBCS Products Security Handbook*, 555-025-600.

Your DEFINITY AUDIX system has been carefully designed to be very secure. Maximum security is assured by the following factors:

- Subscribers can have passwords up to 15 digits long to access the DEFINITY AUDIX system. For maximum security, set the minimum password length on the System-Parameters Features screen for subscribers to be five digits or more.
- Callers are allowed three attempts at logging into the DEFINITY AUDIX system. If the caller has not successfully entered the extension and password in three attempts, the DEFINITY AUDIX system disconnects the call. Additionally, you (the DEFINITY AUDIX system administrator) can specify on the System-Parameters Features screen how many consecutive unsuccessful attempts are allowed (possibly involving more than one call into the DEFINITY AUDIX system) before the DEFINITY AUDIX system locks the subscriber's mailbox and does not allow *anybody* to log in to that mailbox. The mailbox can be unlocked only by you, the administrator, using the Subscriber screen.

For example, a caller attempting to log in to a subscriber mailbox would be disconnected after the third unsuccessful attempt. If the consecutive attempts allowed is five, the caller could call back but would be allowed only two attempts (the previous three attempts plus two is five consecutive attempts). At this point, the DEFINITY AUDIX system would lock the subscriber's mailbox. The administration log will identify the incoming call that is being locked out as being either from an external phone or from a particular internal extension. If you notice, upon looking at the administration log, that a subscriber is repeatedly being locked out, you should consider the possibility that an unauthorized person is attempting

to tamper with the subscriber's mailbox. In this event, you may want to report the problem to the subscriber's manager and/or your organization's security officer. Also, you may want to lower the limit for the number of consecutive attempts allowed.

- The Password Aging feature requires subscribers to change their password at an interval defined by you, the system administrator. Password Aging enhances overall system security and helps protect against toll fraud.

Administer Password Aging on the System-Parameters Features screen. The Password expiration interval field specifies the number of days that a password is active on the DEFINITY AUDIX system. The Minimum age before change field specifies the minimum number of days which must pass before a subscriber can change his/her password after a successful change.

If Password Aging is active, you, the system administrator, can force the expiration of a subscriber's password by entering "e" in the password field of the Subscriber screen.

- Access to the DEFINITY AUDIX system administrative terminal is limited. To use the terminal you must know a telephone number for the remote port, a user ID and password, and a system password. This password, created by you as system administrator, should be *at least* six characters long, with one of the six characters being a special character or digit. You should not share this password with more than one other person.

The Administration Password Aging feature reminds you to change your password at an interval you define. Password Aging enhances overall system security and helps protect against toll fraud.



WARNING:

Set up administrator's password aging on the System-Parameters Features screen. Administrator's password aging fields are filled in exactly as described above regarding subscriber's password aging.

As the DEFINITY AUDIX system administrator, it is your responsibility to protect subscribers from unauthorized access to their mailboxes. Careful attention to security-related administrative features, procedures, and maintenance are required to ensure the integrity of user information. It is your responsibility to make the following rules of thumb part of your DEFINITY AUDIX system:

- Establish well-controlled procedures for resetting passwords.
- Limit the number of consecutive unsuccessful login attempts to five attempts or fewer. After this number of consecutive failures, the subscriber is locked out of the mailbox and cannot access it until you unlock it. Initially, you may want to make this number larger because subscribers may have problems at first. After a reasonable period of "getting used to the DEFINITY AUDIX system," however, you should reset the number of consecutive unsuccessful login attempts to the suggested value.

-
- Set timeouts to a non-trivial limited number of seconds.
 - Ensure that factory-installed passwords, which are sent with the initial installation of the system, have been changed to non-trivial passwords.
 - Monitor access to the dial-up maintenance port. Change the system password for the *cust* login regularly and issue it only to authorized personnel.
 - Consider disconnecting the maintenance port when not in use. This should be implemented only after thorough risk analysis and cost/benefit studies. Disconnecting the maintenance port eliminates the threat of unauthorized access but it also eliminates the TSC's 24-hour maintenance surveillance capability and may result in additional maintenance cost.
 - Regularly back up system data to ensure a timely recovery, should it be required. Implement a regular off-site backup policy so you will have a recent backup even if a disaster strikes your company's office location.
 - Verify that the minimum password feature is being used properly. You should never set the minimum password length to zero since this provides no mailbox protection. Also, in many instances, the default password is the same as the subscriber's extension number. This provides virtually no mailbox protection since many subscribers never change the default password. In this case, a minimum password length greater than the extension number length would force each subscriber to change the default password the first time s/he logs in.
 - See that subscribers understand the importance of password security to their mailboxes and implement the following guidelines for subscribers:
 - They should establish their passwords as soon as their DEFINITY AUDIX extensions are assigned to secure their mailboxes.
 - They should not use trivial passwords such as "111" or "123."
 - They should not use their phone numbers or extensions as passwords.
 - They should not use their names or initials as a password.
 - Passwords should be as long as possible with a minimum of five digits.
 - Passwords should not be posted, shared, or printed in an obvious place.
 - Passwords should not be coded in programmable-function keys or speed-dialing keys which allow ready access by unauthorized persons.
 - If their passwords must be preset, they should log in immediately and change the password.

- Passwords should be periodically changed based on the sensitivity of the messages handled.
- If you set up a phantom or remote extension, make sure to test the extension to verify that you cannot access an outside line or dial tone. Testing these extensions will help you guard your system against toll fraud.

Minimizing Toll Fraud

Your DEFINITY AUDIX system, like all voice messaging and automated attendant systems, is subject to unauthorized long distance call attempts (toll fraud). Most such attempts occur as a caller attempts to transfer out of the AUDIX system.

There are two types of call transfer available with the DEFINITY AUDIX system:

1. Basic call transfer — Available with either control-link or display-screen switch integration.
2. Enhanced call transfer — Available only with control-link switch integration.

Basic Call Transfer uses a switchhook-flash method to send the transfer command over voice ports. The DEFINITY AUDIX system goes off-hook, waits for a dial-tone, dials the transfer number, then waits again for the connection to complete.

Enhanced call transfer is the more secure method of the Transfer Out of AUDIX feature. In fact, there are no known cases of toll fraud (to date) when the DEFINITY AUDIX system is administered using the enhanced call transfer feature.

Both types of call transfer are subject to control by a dialplan that you fill out to encompass all of the numbers to which a caller may transfer.

To transfer out of the DEFINITY AUDIX system, the subscriber presses , the digits of the extension to which s/he wishes to transfer, and . If the pattern of the number dialed corresponds to a pattern you have permitted on the transfer-dialplan screen the system will permit the next step. With enhanced call transfer, the DEFINITY AUDIX system uses a control link message to initiate the transfer. The switch then verifies that the requested destination is a valid extension in the switch's dial plan.

If the number is valid, the switch completes the transfer, disconnects the DEFINITY AUDIX system, and sends a "disconnect — successful transfer" control link message to the DEFINITY AUDIX system. If the number is *not* valid, the switch leaves the DEFINITY AUDIX system connected to the caller and sends a "fail" control link message to the DEFINITY AUDIX system. Then the DEFINITY AUDIX system plays an error message to the caller and prompts for further activity.

You select the call transfer type in the Transfer Type field on page 2 of the System-Parameters Features screen. The default is *none*. Depending on your type of switch integration and port emulation, you can change the field to one of the following:

- *basic* makes the DEFINITY AUDIX system go off-hook, wait for a dial-tone, dial the transfer number, then wait again for the connection to complete. The call is not returned to AUDIX.
- *enhanced_no_cover_0* treats the call as a redirected call, providing no call coverage or call forwarding for the destination extension.
- *enhanced_cover_0* treats the call as a *directed* call, providing call coverage and call forwarding as defined for the destination extension.

If the Call Transfer feature has been activated on the System-Parameters Features screen and basic call transfer is being used, the risk of toll fraud attempts can be minimized by setting the Transfer Restriction field to *subscribers*. In this case, if the pattern of the number dialed corresponds to a pattern you have permitted on the transfer-dialplan screen, and if the destination telephone number has the same number of digits as extension numbers within the DEFINITY AUDIX system and if the number is a valid extension number for an administered subscriber (either local or remote), transfer will be permitted.

The Transfer Restriction field also can be set to *digits*. In this case, the destination telephone number must correspond to a pattern you have permitted on the transfer-dialplan screen and must have the same number of digits as extension numbers (i.e., mailbox identifiers) within the DEFINITY AUDIX system. Since this option does not minimize toll fraud, it is administered only by Lucent and only as a special service to customers who demand the *digits* option.

Restricting call transfers to administered subscribers is the more secure of the two options — fraudulent use of call transfer will be virtually eliminated since the DEFINITY AUDIX system can verify that the specified destination is an administered number. If *digits* are specified, on the other hand, the caller might find a way to access the switch and to use switch features and functions to complete fraudulent long-distance calls.



WARNING:

If the subscribers restriction is used, you should not assign non-resident subscribers (users with a mailbox but no telephone on the switch) to extension numbers that start with the same digit(s) as switch trunk access codes (such as 9).

Take special care, therefore, to make sure the transfer dialplan prevents transfer to such endpoints.

To enhance security for the Outcalling feature, you can turn off outcalling on a per-subscriber basis via the Subscriber or Class of Service screen. You also can restrict the number of digits that may be used for outcalling on a system-wide basis via the System-Parameters Outcalling screen.

If your DEFINITY AUDIX system is intended to serve only a subset of the switch's station users, the remaining station users may be administered as DEFINITY AUDIX subscribers with zero-length mailboxes and with the switch number 0. This insures that each switch station user is also an administered DEFINITY AUDIX subscriber. The zero-length mailbox means that no space will be allocated for these mailboxes. The users will technically be subscribers, but they cannot send or receive messages. In addition, you can use sending restrictions to prevent subscribers from sending messages to these people. However, even though the mailboxes are zero-length, these subscribers can still receive broadcast voice mail messages. The designation of switch 0 will prevent the DEFINITY AUDIX system from activating their Message Waiting Indicators (MWIs).

⇒ NOTE:

Administering zero-length mailboxes could significantly increase the amount of time required to administer the DEFINITY AUDIX system.

Protecting your DEFINITY AUDIX system is a vital and important part of your responsibility as system administrator. You should take every precaution to protect your company's assets from both internal and external security breaches.

Lucent INTUITY Message Manager and LAN Considerations

11

This chapter provides information for handling DEFINITY AUDIX system administration and other issues associated with the Lucent INTUITY Message Manager (IMM). If you purchased Lucent INTUITY Message Manager with Release 3.1 or later, the DEFINITY AUDIX system can be administered as a server on a Local Area Network (LAN). See the Lucent INTUITY Message Manager feature in *DEFINITY AUDIX System — Feature Descriptions*, 585-300-206, for an overview of Lucent INTUITY Message Manager. The LAN administrator at your site should be trained to handle LAN administration and troubleshooting procedures; this chapter does not cover these issues. The *Lucent INTUITY Message Manager User's Guide*, 585-310-725, provides some troubleshooting procedures for the PC.

It is likely that you will use Lucent INTUITY Message Manager in conjunction with an already-existing LAN installation. See *DEFINITY AUDIX System — System Description*, 585-300-205, for information on LAN configurations.

Lucent INTUITY Message Manager is purchasable as a right-to-use for the DEFINITY AUDIX system. If you have not purchased this feature, contact your Lucent sales representative to do so.

Lucent INTUITY Message Manager Client Software

Each PC (or client) that accesses the DEFINITY AUDIX server must have access to the INTUITY Message Manager client software (either installed on each PC or accessible on the LAN server). If you have not ordered this software previously, contact your Lucent sales representative to order the Lucent INTUITY Message Manager client software and documentation. You will need to decide whether you want a client license or a site license and the number of copies of the software and user's guide you want.

The client software can be purchased and installed in the following ways:

- Client License (1 copy per PC)

You can order one or more packages containing five copies of the software, five copies of the tutorial, and five copies of the user guide. The software must be installed on each client PC.

- Site License (1 copy on the LAN)

You can order one package containing two copies of the software, two copies of the tutorial, two copies of the user guide and one copy of the license agreement appropriate to the number of users at the site. Multiple users on the LAN can access a single copy of the client software installed on a LAN file server.

Refer to the *Lucent INTUITY Message Manager User's Guide*, 585-310-725, for INTUITY Message Manager client software installation instructions.

Number of Subscribers and IMM Sessions

Any number of DEFINITY AUDIX subscribers can be administered to use the Lucent INTUITY Message Manager feature either on the Class of Service screen or on the Subscriber screen. This feature has the following limitations on its usage:

- Up to 500 TCP/IP sessions can be connected at any one time. This means subscribers have started the client application from their PC. To disconnect a TCP/IP session, subscribers must exit the client application.
- Up to 32 AUDIX login sessions can be in progress at any one time (the number of sessions is administrable in the **Maximum Number of Enabled LAN Sessions** field on the System-Parameters IMAPI-Options screen). This means subscribers have logged in to the AUDIX mailbox from their PC. The DEFINITY AUDIX server terminates a login session if a session has been inactive for the amount of time set in the **IMAPI Session Timeout** field on the System-Parameters IMAPI-Options screen, but the TCP/IP session remains active until the subscriber exits from the client application. If the TCP/IP session is active, an AUDIX login session is established automatically when the client starts using the application again.
- Up to 16 audio sessions (depending on the number of voice ports purchased with your DEFINITY AUDIX system) can be in progress at any one time (one of the AUDIX voice ports is being used). This means a subscriber is logged in to AUDIX (one of the up to 32 login sessions) and an audio session is active (for example, the subscriber is listening to a voice mail message). When the audio session has completed, DEFINITY AUDIX disconnects the voice port and the client application remains one of the up to 32 AUDIX login sessions. The subscriber can disconnect the audio session by hanging up the phone or by clicking on the "off hook" icon.

Administering the DEFINITY AUDIX System as a LAN Server

Follow the steps in this section to administer the DEFINITY AUDIX system as a server on the LAN for the Lucent INTUITY Message Manager. The IMM audio interface uses the Outcalling feature to complete a call to a subscriber's telephone. You may need to increase the number of Outcalling ports when using IMM.

Activating the IMM Feature

The Lucent INTUITY Message Manager is purchasable as a right-to-use and must be activated by Lucent on the System-Parameters Customer-Options screen.

Completing the System-Parameters IMAPI-Options Screen

Complete the System-Parameters IMAPI-Options screen shown below to administer the feature.

```
ax85      Active Alarms: A Thresholds: none      Logins: 1
display system-parameters imapi-options      Page 1 of 1

          SYSTEM-PARAMETERS IMAPI-OPTIONS

Maximum Number of ENABLED IMAPI Sessions: 32
          Enable Check New Messages: y
          Enable Deliver CA Message: y
          Enable Voice File Transfer: y
          IMAPI Session Timeout: 5
          LAN IP Address: 135.9.180.140
          LAN Subnet Mask: 255.255.255.0
          Default LAN Gateway IP Address: 135.9.180.254

enter command:
1Cancel 2Refresh 3Enter 4ClearFld 5Help 6Choices 7NextPage 8PrevPage
```

Maximum Number of Enabled IMAPI Sessions

You can set the maximum number of enabled IMAPI sessions to help you regulate the performance of your DEFINITY AUDIX system. Enter a value from 0 to 32. The maximum is 32 sessions (the default).

Enable Check New Messages

Enter **y** (yes) (default) in this field if you want IMM to automatically notify the subscriber of new messages on the INTUITY Message Manager screen (yes is recommended for Lucent INTUITY Message Manager). Enter **n** (no) in this field if you do *not* want the INTUITY Message Manager to display that there are new messages for the subscriber. If the field is set to **n**, subscribers have to log in to see if they have new messages.

Enable Deliver CA Message

Enter **y** (yes) in this field to enable call answer message delivery, which allows an IMAPI client to send voice mail messages across the LAN between the AUDIX server and a client. Enter **n** (no) (default) in this field to prevent call answer message delivery. Call answer message delivery is not available with IMM Release 1.

Enable Voice File Transfer

In most cases, you will probably want to allow voice file transfers over the LAN; however, the ability to restrict the transfer of voice files over the LAN is available on a system level, as well as on a per subscriber level. Messages have a voice file associated with them. These voice files also can be archived on the PCs local or network disk by transferring a voice file from the AUDIX server to the client PC. Enter *y* (yes) to enable voice file transfers over the LAN. This allows IMM subscribers to use the Personal Folder feature for storing messages on a PC disk. Enter *n* (no) (default) to disable voice file transfers over the LAN (this reduces LAN utilization).

IMAPI Session Timeout

Enter the amount of time that a login session can be inactive before the session is terminated by the DEFINITY AUDIX server. Intervals may be set in five-minute increments from 5 to 60 minutes. If you have many IMM users, keep this number low so that new login sessions are made available for other IMM users. Most likely you will want to set this to 5 minutes.

LAN IP address, LAN Subnet Mask, and Default LAN Gateway IP address

LAN IP address, LAN Subnet Mask, and Default LAN Gateway IP address are part of the TCP/IP (Transmission Control Protocol/Internet Protocol) administration for the LAN. Obtain site-specific values for these fields from your LAN administrator.

Enter the **LAN IP Address** in numeric format such as *nnn.nnn.nnn.nnn* where *nnn* represents a decimal integer between 1 and 126 or 128 and 254 (for example, 135.9.180.79). This is the address of this DEFINITY AUDIX system. The IP address must be unique within your entire network.

Enter the **LAN Subnet Mask** in numeric format such as *nnn.nnn.nnn.nnn* where *nnn* represents a decimal integer between 0 and 255. The Subnet Mask determines how much of the IP address is considered the network address.

The remaining part contains the **Default LAN Gateway IP Address**. Enter this address in numeric format such as *nnn.nnn.nnn.nnn* where *nnn* represents a decimal integer between 1 and 126 or 128 and 254 (for example, 135.9.180.254). This part is used to determine whether an address is on the local LAN or on another LAN. If an address is on another LAN, it is sent to the gateway for routing.

NOTE:

Changes in these address values do not take effect until after the DEFINITY AUDIX system has been rebooted. Other values on this screen take effect immediately.

Enabling Subscribers to Use IMM

Enable the Lucent INTUITY Message Manager feature for subscribers on either the Class of Service screen or the Subscriber screen. The Class of Service screen is shown below

```
drmf11 Active Alarms: m A Thresholds: none Logins: 1
display cos 1 Page 1 of 2
CLASS OF SERVICE

Name: class01 COS Number: 1 Modified? y
Addressing Format: extension

Login Announcement Set: System
System Multilingual is OFF Call Answer Primary Annc. Set: System
Call Answer Language Choice? n Call Answer Secondary Annc. Set: System

PERMISSIONS Type: call-answer Announcement Control? n
Outcalling? y Priority Messages? y Broadcast: none
IMAPI Access? y IMAPI Voice File Access? y

enter command: display cos 1
1Cancel 2Refresh 3Enter 4ClearFld 5Help 6Choices 7NextPage 8PrevPage
```

The Subscriber Class of Service Parameters screen is shown below:

```
ax85      Active   Alarms:  A  Thresholds: none          Logins: 1
display subscriber 84884                               Page 2 of 2
SUBSCRIBER CLASS OF SERVICE PARAMETERS
Addressing Format: extension
Login Announcement Set: System
System Multilingual is ON      Call Answer Primary Annc. Set: System
Call Answer Language Choice? n  Call Answer Secondary Annc. Set: System
PERMISSIONS Type: call-answer      Announcement Control? n
Outcalling? y                   Priority Messages? y      Broadcast: none
IMAPI Access? y                 IMAPI Voice File Transfer? y
INCOMING MAILBOX      Order: fifo              Category Order: nuo
Retention Times (days), New: 30  Old: 20                  Unopened: 30
OUTGOING MAILBOX     Order: fifo              Category Order: nufda
Retention Times(days), File Cab: 60  Delivered/Nondeliverable: 5
Voice Mail Message (seconds), Maximum Length: 480  Minimum Needed: 32
Call Answer Message (seconds), Maximum Length: 480  Minimum Needed: 8
End of Message Warning Time (seconds):
Maximum Mailing Lists: 25      Total Entries in all Lists: 250
Mailbox Size (seconds), Maximum: 2400      Minimum Guarantee: 0
enter command: display subscriber 84884
1Cancel 2Refresh 3Enter 4ClearFld 5Help 6Choices 7NextPage 8PrevPage
```

IMAPI Access?

Enter y (yes) to enable subscribers to use INTUITY Message Manager (IMM).

IMAPI Voice File Transfer?

This field enables the DEFINITY AUDIX server to transfer AUDIX voice files over the LAN for storage on the client PC. Enter y (yes) to enable subscribers to store (archive) AUDIX messages on their PC.

Referencing the DEFINITY AUDIX System by Name

You will need to work with your LAN administrator to incorporate the name of your DEFINITY AUDIX system into whatever naming system your site uses for TCP/IP networks. It is much more convenient to reference machines on a TCP/IP network by name rather than by numeric IP address. TCP/IP networks support several mechanisms that allow users to access a given machine by name. Typically, an administrator (or users) adds the name of the DEFINITY AUDIX system and its IP address to one or more configuration files on the PCs on the network. There is no additional administration required for the DEFINITY AUDIX system.

One network naming mechanism that can be used is to have each of the IMM users add the DEFINITY AUDIX system name and IP address to the file that their TCP/IP package references for name resolution. This file frequently is called the hosts file and often is located either in the home directory for the TCP/IP package or in the WINDOWS directory. Refer to the documentation for the TCP/IP package that your IMM users have on their PC for the exact name, location, and format of this file.

While host-file-based name resolution works adequately, administration of a separate host file for each PC can become very cumbersome and error-prone. A more robust mechanism is to use a Domain Name System (DNS). DNS enables the LAN administrator to easily add the AUDIX machine name and its IP address to a domain name server. Then all machines on the network can query the domain name server by name to determine the DEFINITY AUDIX server's IP address. To use your site's DNS, you may have to refer to the documentation for the TCP/IP package that your IMM user's have on their PC to determine what administration is required for the package.

Regardless of which naming method you use, it is recommended that the name given to the DEFINITY AUDIX system correspond in some fashion to the main number given subscribers for retrieving their AUDIX messages, especially if your site has access to more than one AUDIX system. For example, a DEFINITY AUDIX system with a hunt group number of 1200 for voice mail retrieval might be given the host name AX1200.

Handling Problems with Service

If you are having trouble with Lucent INTUITY Message Manager service, you should reboot the DEFINITY AUDIX system only as a last resort since rebooting the DEFINITY AUDIX system disrupts call answer service. First try troubleshooting the LAN and/or rebooting the client PC. See the *Lucent INTUITY Message Manager User's Guide*, 585-310-725, for troubleshooting procedures for the PC.

Verifying the Server Communicates with the LAN

If there is a problem with Lucent INTUITY Message Manager service on the LAN, you should first focus on determining if the DEFINITY AUDIX server can communicate with other machines on the LAN. If the LAN addresses on the System-Parameters IMAPI-Options screen are administered incorrectly, the DEFINITY AUDIX server will probably be able to test itself successfully and send data to itself; but, the INTUITY Message Manager PC (the client) will be unable to talk to the DEFINITY AUDIX server. If the client has problems connecting to the DEFINITY AUDIX server, you should verify the administration on the System-Parameters IMAPI-Options screen.

Verifying IMM Client Administration

Misadministration of the DEFINITY AUDIX server at the client PC also causes difficulties in communicating with the DEFINITY AUDIX server. Refer to the *Lucent INTUITY Message Manager User's Guide*, 585-310-725, for more information on administering the INTUITY Message Manager client PC to communicate with the DEFINITY AUDIX server.

Testing the LAN Connection

The most likely failure that users may report is "I can't get to AUDIX." If only one person reports the symptom, it is likely that the DEFINITY AUDIX server is not the source of the problem. It is important either to identify the DEFINITY AUDIX server as the source of the problem or to determine that the problem is elsewhere. You can run the **test lan** command to verify that the DEFINITY AUDIX server is connected to the LAN. This performs a short test which checks the basic operation of the LAN interface software and hardware, without interrupting current AUDIX system or LAN processes.

Resetting the DEFINITY AUDIX Server

If it appears that the DEFINITY AUDIX server is having a problem, you can run the **test lan long** command to reset the DEFINITY AUDIX server and verify that the server is connected to the LAN. This performs a long test which tests the basic operation of LAN interface software and hardware, resets the LAN interface hardware, and restarts the software processes that serve IMM users. This test also pings the Default LAN Gateway machine referenced on the System-Parameters IMAPI-Options screen. The results of the test will indicate the failure point of the test. This test does not interfere with DEFINITY AUDIX voice-side call processing.



WARNING:

*Running **test lan long** disconnects IMM users.*

Rebooting the Client PC

If a Lucent INTUITY Message Manager user reboots her/his PC within the IMAPI Session Timeout interval, there is no effect on the server. All of the session data remains intact. The user must again download any lost local data from the server. If the client does not re-establish the session, then the session times out and session-related data is lost.

Rebooting the DEFINITY AUDIX Server

If it appears that the DEFINITY AUDIX system and not the LAN is the source of the problem, you can reboot the DEFINITY AUDIX system using the **reset system reboot** command. Running this command affects the voice-side call processing. For more information on this command, refer to *DEFINITY AUDIX System — Screens Reference*, 585-300-211.

There may be occasions when the DEFINITY AUDIX system reboots. The server reboot does not notify Lucent INTUITY Message Manager clients in advance of the reboot. If the client attempts to access the server while it is down or in the process of rebooting, the message "client not connected" displays on the client PC. This is the same as if the session had timed out, and Lucent INTUITY Message Manager users should be prepared to handle this situation.

The DEFINITY AUDIX reset system commands do not wait on LAN activity to cease. To minimize the number of clients logged in when you reboot, you can schedule a reboot by setting the Maximum Number of ENABLED IMAPI Sessions to 0 in advance of the amount of time in the IMAPI Session Timeout (for example, if the IMAPI Session Timeout is 30 minutes, then set the Maximum Number of ENABLED IMAPI Session to 0, 35 minutes in advance of the planned reboot). Users who are connected and using IMM when the number of connections is set to 0 will not be kicked off, and they will stay logged in as long as they perform some operation within the time-out period.

Verifying Server Communications with Another LAN Address

The UNIX ping command is available to verify that the DEFINITY AUDIX server can communicate with another LAN address. The **test lan dest address** command attempts to send a packet over the LAN to the host, with the host sending back a response if the LAN connection is operational. This tests the connection between the DEFINITY AUDIX server and the PC identified by the address. It also tests basic LAN interface hardware and software. The **address** is a valid IP address in *nnn.nnn.nnn.nnn* format, where *nnn* is an integer from 1 to 255 (the "." must be entered).

Handling LAN Problems

Problems with the LAN should be handled by the LAN procedures used at your site. The Lucent INTUITY Message Manager feature does not provide any diagnostic tools for the LAN.

Handling Problems with the IMM Client

It is the responsibility of the DEFINITY AUDIX administrator to try to handle problems with the Lucent INTUITY Message Manager client. Subscribers should call you if they cannot resolve a problem with the INTUITY Message Manager. Refer them to the *Lucent Intuity Message Manager User's Guide*, 585-310-725, for troubleshooting tips for the INTUITY Message Manager. You may need to walk them through a troubleshooting procedure. If a problem cannot be resolved, you may need to call the AUDIX Helpline. The AUDIX Helpline is not equipped to handle calls from individual subscribers.

Monitoring Traffic and Regulating Performance

The amount and type of Lucent INTUITY Message Manager traffic is not included in the DEFINITY AUDIX traffic information available to you. The Lucent Technical Service Organization (TSO) can provide information on the INTUITY Message Manager traffic at your site. If you are having problems with system performance, you may need to call the TSO for traffic information on the INTUITY Message Manager traffic and make adjustments to the entries on the System-Parameters IMAPI-Options screen. The TSO may charge a fee for this service.

Balancing Server Login Sessions with Voice Ports

You can regulate the type of performance received from both the voice interface and the server interface by controlling both the number of enabled server login sessions and the number of enabled voice ports. If your voice interface is experiencing performance problems, you can decrease the number of enabled server login sessions or increase the number of voice ports (you can purchase additional voice ports from Lucent in increments of two).

To decrease the number of enabled server login sessions, you can change the value in the `Maximum Number of ENABLED IMAPI Sessions` field on the System-Parameters IMAPI-Options screen. This allows you to balance the traffic load between voice port traffic and Lucent INTUITY Message Manager traffic over the LAN. Refer to *DEFINITY AUDIX System — System Description*, 585-300-205, Chapter 3, System Sizing, for performance guidelines.

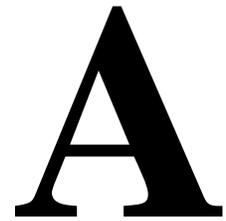
Employing Other Performance Controls

The following controls on the System-Parameters IMAPI-Options screen help to guarantee that the performance of the voice port sessions is not compromised by the traffic offered with the Lucent INTUITY Message Manager feature.

You can enable or disable the transfer of voice files over the LAN by setting the **Enable Voice File Transfer** field to **y** (yes) or **n** (no). This field is used primarily to control the load on the LAN. In general, it is a good idea to set this to yes for archiving voice files on the IMM client PC. You might set this to no when you see too much traffic over the LAN.

You can turn polling for new messages on or off by setting the **Enable Check New Messages** field to **y** (yes) or **n** (no). It is recommended that this be set to yes. When this is set to yes, IMM displays a message when the user has new messages (this is similar to the message waiting indicator on your telephone). If this is set to no, users have to log in to check for new messages which may affect the system performance.

Communicating with Subscribers



This appendix contains:

- A subscriber change-request form that you may copy and distribute to subscribers. They can use this form if they want to request changes or report trouble.
- A subscriber survey that you may tailor to your own needs, photocopy, and distribute to subscribers. The survey is intended to provide feedback that would allow you to measure subscriber satisfaction, define and quantify the benefits of the DEFINITY AUDIX system within your particular organization, and gather ideas for improving service.
- A “Welcome to the DEFINITY AUDIX System” template letter that you may copy and distribute to subscribers. This letter includes information that will teach subscribers how to use the DEFINITY AUDIX system and where to call if they have problems.
- A template letter for the Multilingual Feature that you may copy and distribute to subscribers.
- A template letter for AMIS Analog Networking that you may copy and distribute to users of the AMIS Analog Networking and Message Delivery features.

Subscriber Change-Request Form

On the following page is a subscriber change-request form that you may copy and distribute to subscribers. They can send you this form if they want to request changes or report trouble.

DEFINITY AUDIX CHANGE REQUEST AND TROUBLE REPORT FORM	
Name:	Date:
Telephone number:	
CHANGE REQUEST	
Addressing mode: <input type="checkbox"/> extension <input type="checkbox"/> name	
Incoming mailbox (received)	
Indicate desired order: _____	
(new, unopened, old)	
Scanning order: <input type="checkbox"/> lifo <input type="checkbox"/> fifo	
(lifo = last in, first out fifo = first in, first out)	
Outgoing mailbox (presented)	
Indicate desired order: _____	
(delivered, accessed, undelivered, not deliverable, file cabinet)	
Scanning order: <input type="checkbox"/> lifo <input type="checkbox"/> fifo	
Name: old name: _____ new name: _____	
TROUBLE REPORT	
Time trouble occurred: _____ Date trouble occurred: _____	
While using: <input type="checkbox"/> Voice Mail <input type="checkbox"/> Call Answer	
Call Type: <input type="checkbox"/> local <input type="checkbox"/> remote	
Please describe the problem in as much detail as you can. Include system prompts you heard (as best you can remember them) and your touch-tone inputs. (Use the back of this form if necessary):	
Have you noticed this problem before?	

Subscriber Survey

You may want to tailor the following survey to meet your own needs and send it to subscribers. It is intended to provide feedback that would allow you as DEFINITY AUDIX system administrator to measure subscriber satisfaction, define and quantify the benefits of the DEFINITY AUDIX system within your particular organization, and gather ideas for improving service.

DEFINITY AUDIX SUBSCRIBER SURVEY

SUBSCRIBER NAME: _____ EXTENSION: _____

—

(No individual response to this survey will be reported within your company. Your name is requested only so that we can contact you if we have a question or would like to follow up with you on your recommendations.)

For each section of this questionnaire, please circle the appropriate answer and provide explanations as requested.

BACKGROUND INFORMATION

1. Your job: _____
2. Do you use the DEFINITY AUDIX system?
 - a. Yes
 - b. No. (Any particular reason? _____)
3. Is your job performed entirely in one office building?
 - a. Yes
 - b. No

If you answered "no" to question 3, please complete questions 4 and 5. Otherwise skip to the next section.

4. How many days per week are spent OUTSIDE of the office?
5. Where do you work when you are outside of the office? (Circle as many as apply and fill in hours per week.

Hours per week

- a. Home _____
- b. *On the Road* _____
- c. Another office location _____
- d. Other
(Please explain: _____)

FEATURES / ENHANCEMENTS

1. Approximately how many times per day do you perform the following functions using the DEFINITY AUDIX system?

	Times per Day
a. Leaving messages	_____
b. Retrieving messages	_____
c. Recording "Personal Greetings"	_____
d. Broadcasting a message to a group of people	_____

2. How many messages do you usually find on a single "retrieval session"?

Minimum: _____

Maximum: _____

Average: _____

3. What feature(s) of the DEFINITY AUDIX system do you like best?

4. What feature(s) of the DEFINITY AUDIX system do you like least?

5. What feature(s) would you like to see added or changed? Please explain?

6. If you could modify the DEFINITY AUDIX system and use it for something else that involved recording the human voice, what other uses would you propose for your office? (Be creative!)

CALLER REACTION

1. What kind of feedback have you received from outside callers since the DEFINITY AUDIX system was introduced? (If appropriate, circle more than one answer.)
 - a. Very positive
 - b. No comment either way
 - c. Negative

If you circled more than one answer, please explain.

2. What specific reactions/comments have you had from the public (agents, insureds, claimants, attorneys, etc.)?

3. Are most people who call you willing to leave messages or do they feel uncomfortable "talking to a machine" or insist upon speaking to a human being? Explain.

4. Is there any particular group or type of caller (for example, agents, home office personnel, etc.) who really likes the DEFINITY AUDIX system? Name the group (s) and give the reasons why you feel they like it.

5. Is there any particular group or type of caller (for example, agents, home office personnel, etc.) who really dislikes the DEFINITY AUDIX system? Name the group (s) and give the reasons why you feel they dislike it.

6. List any suggestions you have for improving the DEFINITY AUDIX system so that callers may feel more comfortable leaving messages:

EFFECT ON PRODUCTIVITY / BENEFITS TO YOUR COMPANY

1. Does the DEFINITY AUDIX system assist you with your job?
 - a. Most definitely
 - b. Somewhat
 - c. Not at all
 - d. Interferes with job

Explain your answer. (How does/doesn't the DEFINITY AUDIX system assist you with your job?)

2. How much has the DEFINITY AUDIX system affected your productivity?
 - a. Big improvement
 - b. Some improvement
 - c. No change
 - d. I'm less productive

Explain your answer. (In what ways are you more/less productive because of the DEFINITY AUDIX system?)

3. If you feel that the DEFINITY AUDIX system allows you to be more productive, how much time per day would you estimate that the DEFINITY AUDIX system saves you?

4. If you feel that the DEFINITY AUDIX system reduces your productivity, how much time per day would you estimate that the DEFINITY AUDIX system costs you?

5. How has the DEFINITY AUDIX system changed (for better, worse or both) your responsiveness to callers?

6. List specific benefits or shortcomings of the DEFINITY AUDIX system.

7. Please comment on the overall applicability and effectiveness of the DEFINITY AUDIX system to your company's business.

Welcome to the DEFINITY AUDIX System

We've provided this "template" to help you compose an introductory letter for new DEFINITY AUDIX system subscribers. Please fill in text specific to your company where square brackets are indicated, and feel free to modify this letter to reflect the circumstances at your site. We recommend that you distribute your customized introductory letter with the *Voice Messaging Quick Reference*, 585-300-702, and the *Voice Messaging Wallet Card*, 585-300-704.

TO: New DEFINITY AUDIX System Subscribers
FROM: [Fill in name of your company's system administrator]
DATE: [Fill in date of distribution]
SUBJECT: Introduction to the DEFINITY® AUDIX® System†

WELCOME TO THE DEFINITY AUDIX SYSTEM

The DEFINITY AUDIX system is a complete and easy-to-use voice mail and message service available to you 24 hours a day from any touch-tone telephone. This system combines the communication advantages of an answering machine, conference room, and secretary/receptionist into one powerful tool.

The accompanying *Voice Messaging Quick Reference* will introduce you to the primary DEFINITY AUDIX features and procedures. The system has many other useful features that are not mentioned in this document. If you need more information or have problems or suggestions, call _____ [fill in name, title, and telephone number]. The accompanying *Voice Messaging Wallet Card* provides a brief list of task options and basic secondary DEFINITY AUDIX commands so you can carry DEFINITY AUDIX instructions with you.

GETTING STARTED

The DEFINITY AUDIX system has been administered to answer your telephone calls automatically. The DEFINITY AUDIX system can use a standard system greeting to answer your calls, or you can record your own personal greetings. When you have voice mail messages, the message-waiting lamp on your telephone will light.

To use the DEFINITY AUDIX system the first time, you must dial your DEFINITY AUDIX system telephone number, _____ [fill in] and enter a default password, _____ [fill in]. (The complete procedure follows.) Once you understand how to log in to the DEFINITY AUDIX system, change your password immediately to protect your messages (if your system doesn't prompt you for this).

Getting Help

While using the DEFINITY AUDIX system, you can get more information or hear additional options any time. Simply press ***H** for HELP, and the DEFINITY AUDIX system will "prompt" you through every procedure.

Logging in to the DEFINITY AUDIX System the First Time

To log in to the DEFINITY AUDIX system the first time:

1. Dial _____ [fill in].
2. Enter your extension and press **#**. (If you're calling from your own office telephone, you can simply press **#**.)
3. Enter the default password, _____ [fill in] and press **#**.

Remember, you will be asked to change your password after logging in. [System Administrator: If you make the default password shorter than the minimum password length, callers will be required to change their passwords when they first log in.]

4. Press **1**, speak your name, and press **1** again. (The DEFINITY AUDIX system will use this recording when answering your calls.)

If you'd like to re-record your name, repeat step 4. When you're satisfied with the recording, press ***#**.

[System Administrator: If your company's DEFINITY AUDIX system does not have the Name Record by Subscriber feature activated, it will not prompt users for this information. Please delete applicable steps above.]

5. Listen to the DEFINITY AUDIX Activity Menu (also shown in the accompanying document.)

The DEFINITY AUDIX system will announce an abbreviated menu of options. To complete the DEFINITY AUDIX system tasks, simply listen to the voiced instructions and follow the steps or use the DEFINITY AUDIX documentation. The *Voice Messaging Quick Reference* provides important command options and shortcuts that will help you to use the DEFINITY AUDIX system more efficiently.

Remember, you can always press ***H** for **HELP** any time.

Changing Your Password

To change your password:

1. Log in to the DEFINITY AUDIX system.
2. Press **5**.
3. Press **4**.
4. Enter your new password and press **#**.
5. Re-enter your new password and press **#**.

TIPS

- Once a message has been delivered to another user's mailbox, you *cannot* delete the message.
- If you delete one of your own messages, you can retrieve it by pressing ***** **U** immediately after pressing ***** **D**.
- Periodically check your outgoing mailbox (press **4** after login). This option gives you a status of your messages.

QUESTIONS OR PROBLEMS

We hope you enjoy using the DEFINITY AUDIX system. For questions or problems, call _____ . [Fill in name and telephone number.]

Template Letter for the Multilingual Feature

We've provided this "template" to help you compose a letter for subscribers using the Multilingual feature. *This letter is intended for subscribers with the Call Answer Language Choice field set to "y" (yes) allowing callers a choice of two languages.* Please fill in text specific to your company where square brackets are indicated, and feel free to modify this letter to reflect the circumstances at your site. You may want to translate this letter into the languages used at your site.

TO: Users of the Multilingual Feature

FROM: [Fill in name of your company's system administrator]

DATE: [Fill in date of distribution]

SUBJECT: Using the DEFINITY® AUDIX® System Multilingual Feature†

As a subscriber on the DEFINITY AUDIX system, you have a primary language and a secondary language available to you. We recommend that you record a personal greeting both in the primary language and in the secondary language. When recording each greeting, instruct the caller, in the alternate language, to press **(*) 1** to switch to the alternate language. If you do not record personal greetings, the system greetings for each language will instruct the caller to press **(*) 1** to switch to the alternate language.

If the caller does not switch to the alternate language, DEFINITY AUDIX prompts for the call will be in your designated primary language. If a switch is made to the alternate language, the DEFINITY AUDIX prompts for the call will be in your designated secondary language.

Since you will be using the Dual Language Greetings capability of the Multilingual feature, you will not be able to use the Multiple Personal Greetings feature.

Use the following procedure to administer Dual Language Greetings:

1. Log into the DEFINITY AUDIX system.
2. Press **(3)** at the DEFINITY AUDIX Activity Menu.
3. To administer your primary greeting, press **(1)**.
4. To administer your secondary greeting, press **(2)**.
5. Press **(1)** to record a personal greeting.
6. Press **(#)** to approve your greeting.

Template Letter for AMIS Analog Networking

We've provided this "template" to help you compose a letter for users of the AMIS Analog Networking and/or Message Delivery features. Please fill in text specific to your company where indicated by square brackets, and feel free to modify the information to reflect the circumstances at your site. We recommend that you distribute your customized letter with any other introductory subscriber information, such as the voice messaging quick reference and/or wallet card for your system.

TO: Users of the AMIS Analog Networking and/or Message Delivery Features

FROM: [Fill in system administrator's name]

DATE: [Fill in date of distribution]

SUBJECT: Using the AMIS Analog Networking and Message Delivery Features

In addition to the features described in your voice mail subscriber information, your Lucent voice messaging system provides the following features for sending voice mail messages to additional telephone numbers or locations:

- **AMIS Analog Networking** enables you to send voice mail messages to remote voice mail systems that have been administered on our local DEFINITY AUDIX system.
- **Message Delivery** enables you to send voice mail messages to touch-tone telephones that have been administered on our local DEFINITY AUDIX system or to a range of telephone numbers that have been administered on our system.

Using the procedures in this letter, you can address a voice mail message to either a remote voice mail system using analog networking or to administered touch-tone telephones.

Note: Messages designated as *private* will not be delivered. Messages designated as *priority* will be delivered, but appear as regular voice mail messages to the recipient.

AMIS ANALOG NETWORKING

The Audio Messaging Interchange Specification (AMIS) Analog Networking feature enables you to exchange voice mail messages with other Lucent or non-Lucent voice mail systems anywhere in the world, provided those systems also have AMIS analog capabilities. You can use one-step (*pre-administered*) addressing or two-step (*casual*) addressing, depending on how your system administrator has set up the connection to the remote voice mail system you are trying to reach.

After you address an AMIS message, your local Lucent voice mail system attempts to deliver the message during the interval(s) defined by your system administrator. The system makes three attempts to deliver the message. If all attempts fail, the system sends you a new voice mail message informing you that the message was undeliverable. The message is saved in your outgoing mailbox so you can attempt to send it again if you wish.

Using AMIS Analog One-Step Addressing

You can use one-step (*pre-administered*) addressing to exchange voice mail messages with the following remote voice mail systems:

[list the specific remote voice mail systems that have been administered for one-step addressing on your local system]

Use the following procedure to send a voice mail message to one of the remote voice mail systems listed above:

1. Follow the steps in your quick reference card for forwarding a voice mail message or for recording and approving a new message.
2. When prompted for the recipient's extension, enter the following:
 - a. [AMIS prefix and/or address prefix for this machine, if defined]
 - b. mailbox ID (usually the extension) of the recipient on the remote voice mail system
 - c.

NOTE:

Administered remote subscribers may alternatively be addressed by name (last-name-first). All recipients on remote systems administered for one-step addressing may be included in mailing lists or personal directories if they are addressed by extension number.

3. Add any other local or remote extensions if you wish, then complete (approve) addressing as described in your quick reference card.

NOTE:

As an option, you can specify a time when you want the message delivered. At the specified time, the local system delivers the message to the AMIS transmission queue, but the message may not be transmitted until the next administered outcalling period.

Using AMIS Analog Two-Step Addressing

You can use two-step (*casual*) addressing to exchange voice mail messages with the following remote voice mail systems:

[list the specific remote voice mail systems or the range(s) of telephone numbers that have been administered for two-step addressing on your local system]

Use the following procedure to send a voice mail message to a remote voice mail system in the range of telephone numbers above:

1. Follow the steps in your quick reference card for forwarding a voice mail message or for recording and approving a new message.
2. When prompted for the recipient's extension, enter the following:
 - a. [AMIS prefix and/or address prefix for this machine or range, if defined]
 - b. The telephone number of the remote voice mail system (an area code or country code plus area code may be required)
 - c. [#]
 - d. When prompted, enter the mailbox ID (usually the extension) of the recipient on the remote voice mail system
 - e. [#]
3. Add any other local or remote extensions if you wish, then complete (approve) addressing as described in your quick reference card.

NOTE:

As an option, you can specify a time when you want the message delivered. At the specified time, the local system delivers the message to the AMIS transmission queue, but the message may not be transmitted until the next administered outcalling period.

MESSAGE DELIVERY

The Message Delivery feature permits you to send voice mail messages to any touch-tone telephone anywhere in the world (including someone's home), as long as that telephone number is in the range of allowable numbers defined by your system administrator.

After you address a Message Delivery message, the local system places the message in the outcalling queue for delivery during the interval(s) defined by your system administrator. The system makes a total of six attempts to deliver the message. If the recipient doesn't answer by the sixth attempt, the system sends you a new voice mail message informing you that the message was undeliverable. The message is saved in your outgoing mailbox so you can attempt to send it again if you wish.

When the system makes a Message Delivery call to the designated number and the phone is answered, a recording states that a message is waiting and that the intended recipient should press **[0]** to hear it. When the listener presses **[0]**, the local system plays the message.

⇒ NOTE:

If you send a Message Delivery message to a remote recipient and a non-Lucent voice mail system or an answering machine picks up the call, the recipient's machine may record the message header. (A remote Lucent voice mail system does *not* record the header.) The remote machine is not able to record the message body because it cannot press **[0]** to have the local system play out the message. However, from the header, recipients will hear either the name or number of the person who sent the message when they next pick up their messages. Meanwhile, the local system continues trying to deliver the message (up to a total of six attempts) because it did not detect a touch-tone indicating the message was received.

Addressing Message Delivery Messages to Individual Recipients

You can send voice mail messages to the following individually administered recipients:

[list of individual recipients and/or telephone numbers that have been administered on your local system]

Use the following procedure to send a voice mail message to one of the recipients or telephone numbers listed above:

1. Follow the steps in your quick reference card for forwarding a voice mail message or for recording and approving a new message.
2. When prompted for the recipient's extension, enter the following:
 - a. [address prefix for this machine or range of telephone numbers, if defined]
 - b. The telephone number of the intended recipient (an area code or country code plus area code may be required)
 - c. **[#]**

⇒ NOTE:

Administered Message Delivery recipients may alternatively be addressed by name (last-name-first). All Message Delivery recipients may be included in mailing lists or personal directories by telephone number.

3. Complete (approve) addressing as described in your quick reference card.

Addressing Message Delivery Messages to a Number in an Administered Range

You can send voice mail messages to any recipients in the following range of telephone numbers:

[list of ranges of telephone numbers that have been administered on your local system]

Use the following procedure to send a voice mail message to any recipient in the range of telephone numbers listed above:

1. Follow the steps in your quick reference card for forwarding a voice mail message or for recording and approving a new message.
2. When prompted for the recipient's extension, enter the following:
 - a. [address prefix for this machine or range of telephone numbers, if defined]
 - b. The telephone number of the intended recipient (an area code or country code plus area code may be required)
 - c.

⇒ NOTE:

Message Delivery recipients may be included in mailing lists or personal directories as long as they are addressed by telephone number.

3. Complete (approve) addressing as described in your quick reference card.

Abbreviations

A

AC

alternating current

ACD

automatic call distribution

ADAP

administration and data acquisition package

ADU

asynchronous data unit

ALT

assembly load and test

AMIS

Audio Messaging Interchange Specification

API

application programming interface

AT&T

American Telegraph and Telephone

AUDIX

Audio Information Exchange

AWG

American wire gauge

B

BIOS

basic input/output system

bps

bits per second

BRI

basic rate interface

BSC

binary synchronous communications

BTU

British thermal unit

C

CCA

call classification analysis

CDH

call data handler process

CELP

code excited linear prediction

CIC

customer information center

CICS

customer information control system

CO

central office

COIN

central office implemented network

COM1

serial communications port 1

COM2

serial communications port 2

COR

class of restriction

COS

class of service

CPU

central processing unit

CSI

called subscriber information

CTS

clear to send

D

DAC

dial access code

DC

direct current

DCE

data communications equipment

Abbreviations

DCIU

data communications interface unit

DCP

digital communications protocol

DCS

distributed communications system

DID

direct inward dialing

DIP

data interface process

DMA

direct memory access

DNIS

dialed number identification service

DSP

digital signal processor

DSU

data service unit

DTE

data terminal equipment

DTMF

dual tone multifrequency

DTR

data terminal ready

E**EIA**

Electronic Industries Association

ESD

electrostatic discharge

ESS

electronic switching system

F**FIFO**

first-in first-out

FOOS

facility out of service

G**GBCS**

Global Business Communications Systems

GOS

grade of service

H**Hz**

hertz

I**IDI**

isolating data interface

IMAPI

INTUITY messaging application programming interface

INADS

initialization and administration system

I/O

input/output

IRQ

interrupt request

ISDN

integrated services digital network

IVC6

integrated voice CELP card (6 channels)

K**Kbps**

kilobits per second

Kbyte

kilobyte (1024 bytes)

kHz

kilohertz

L

LAN

local area network

LCD

liquid crystal display

LED

light-emitting diode

LWC

leave word calling

M

MANOOS

manually out of service

Mbyte

megabyte (one million bytes)

MHz

megahertz

modem

modulator/demodulator

MPDM

modular processor data module

ms

millisecond

MT

maintenance (Lucent INTUITY software component)

MTBF

mean time between failures

MWI

message-waiting indicator

N

NW

INTUITY AUDIX Digital Networking

O

OA&M

operations, administration, and maintenance

OS

operating system

P

PBX

private branch exchange

PC

power converter or personal computer

PDM

processor data module

PEC

price element code

POST

power-on self test

R

RAM

random-access memory

REN

ringer equivalence number

ROM

read-only memory

RTS

request to send

RTU

right to use

S

SCSI

small computer systems interface

Abbreviations

SID

switch integration device

SIMM

single in-line memory module

SMSI

simplified message service interface

SW

switch integration (Lucent INTUITY software component)

T**TDD**

telecommunications device for the deaf

TDM

time division multiplex

T/R

tip/ring

TRIP

tip/ring input process

TSC

Lucent's Technical Services Center

U**UCD**

uniform call distribution

UPS

uninterruptible power supply

V**VM**

INTUITY AUDIX Voice Messaging

VP

voice platform (INTUITY software component)

VR

INTUITY Intro Voice Response

VROP

voice response output process

Glossary

NUMERIC

10BaseT

A network baseband medium using twisted pair wire, operating at 10 Mbits per second.

A

Activity Menu

The list of main options voiced to subscribers when they access the DEFINITY AUDIX System.

Administration

The process of setting up a system (such as a switch or a voice mail system) so that it will function as desired. Options and defaults are normally set up (translated) by the system administrator or remote services personnel.

Alarm Board (ALB)

The hardware platform (TN2169 or TN2170) which works with the Multifunction board to provide monitoring for system power and environmental status, -48 VDC to +12 VDC power conversion for the system's disk and tape drives, and remote terminal access. The TN2170 also provides SCSI-to-Ethernet connectivity to support IMAPI.

Alarms

Hardware, software, or environmental problems that may affect system operation. These faults are classified as *major*, *minor*, or *warning*. They are recorded into an alarm log which can be accessed either locally or remotely on a terminal connected to the system.

Analog Port Emulation

One of the two port emulation modes that DEFINITY AUDIX may employ. The other mode is digital port board emulation. When emulating an analog port board (the TN746), only control link (CL) integration is possible.

Angel

A processor activity that exchanges TDM bus control messages and performs functions associated with call setup and port maintenance.

Announcement Fragment

A numbered piece of spoken voice mail information that makes up a system message or prompt.

Asynchronous Transmission

A form of serial communications where each transmitted character is bracketed with a start bit and one or two stop bits.

Asynchronous Data Unit (ADU)

A small device that can extend data transmission far beyond recommended Electronic Industries Association (EIA) limits over building wiring. System terminals may use a Z3A1 or Z3A4 ADU. (Used in some digital networking configurations.)

Audio Messaging Interchange Specification (AMIS)

An analog networking feature that allows subscribers of different voice mail systems to send voice mail messages to one another.

Audit

A software program that resolves filesystem incompatibilities and updates restored filesystems to a workable level of service. Audits are done automatically on a periodic basis, or can be performed on demand.

Audio Information Exchange (AUDIX)

A complete voice-mail messaging system accessed and operated by touch-tone telephones and integrated with a switch.

AUDIX Administration and Data Acquisition Package (ADAP)

A software package which allows the DEFINITY AUDIX administrator to transfer system subscriber, maintenance, or traffic data over the administration port to a personal computer (PC) or Work Group System (WGS).

Automated Attendant

A DEFINITY AUDIX feature that allows a customer to set up a main number with a menu of options that routes callers to an appropriate department at the touch of a button.

B

Backup

A duplicate copy of a filesystem saved on a removable tape. The backup filesystem may be copied back (restored) if the active version is damaged (corrupted) or lost.

Balun

On the DEFINITY AUDIX LAN connection, the adapter needed to connect the twisted-pair breakout cable to the coaxial building wire distribution system.

Baud Rate

Transmission signaling speed.

Boot (or Reboot)

The operation to start a computer system by loading programs from disk to main memory (part of system initialization).

Boot Filesystem

The filesystem from which the system loads its initial programs.

Broadcast Messaging

A feature that enables the system administrator and other designated users to send a voice mail message to all subscribers automatically.

Buffer

Memory used to compensate for time differences in transmission by temporarily storing data.

Busyout Service

When a technician or administrator blocks service to keep customers from using faulty equipment until it can be repaired or tested. For instance, when ports (or a link) are busied out, subscribers who try to access their mailboxes hear a *fast busy* reorder tone. People who would normally reach DEFINITY AUDIX through Call Answering are not forwarded; they hear ringing and no answer at the number they called.

C

Call Answer

A feature that allows the system to answer a call and record a message when the subscriber is unavailable. Callers may be redirected to the system through the call coverage or Call Forwarding switch features. Subscribers may record a personal greeting for these callers.

Call Answer Language Choice

Call answer multilingual option where a user can alternate between a primary language set and a secondary language. The two languages are administered on a per subscriber basis. If this feature is enabled, the subscriber may not use the standard DEFINITY AUDIX Multiple Personal Greetings feature.

Camp-On

A system shutdown option that waits for ports to become idle before blocking service to them. This allows subscribers to finish calls in progress.

Central Office (CO)

A main telephone office where private customer lines are terminated and connected to the public network through common carriers.

Central Processing Unit (CPU)

The Multifunction board's main processor that controls system data transfer, input/output (I/O), and logical instructions.

Class of Service (COS)

The standard set of features given to subscribers when they are first administered (set up with a voice mailbox).

Command Mode

A system state where flashware is in control and software is shut down. In this state, a technician has access to menu options to see flashware status and initialization history, run through flashware diagnostics, and to start or continue system initialization.

Configuration

The particular composition and hardware selected for a system, including internal options and peripheral equipment.

Control Link (CL)

The integration, or interface, between the DEFINITY AUDIX System and the switch that enables the transmission of control messages from the DEFINITY AUDIX System to the switch over a DCIU data link. The control messages are transmitted over a separate cable connection and carry information such as calling-party identification and message-waiting indicator status and control.

Control-Link Mode

The type of switch-link integration for which the DEFINITY AUDIX System, R2.0 or later, is connected to the switch via analog-line card emulation and a digital connection.

D

DCP Mode 1

A Lucent proprietary Digital Communications Protocol (DCP) connection using a data rate of 56 Kbps for AUDIX Digital Networking. DCP Mode 1 uses a DS1 facility on the switch or a dedicated facility on the switch or a dedicated facility on a T1 carrier.

DCP Mode 2

DCP Mode 2 is an asynchronous, low-speed (9600 or 19,200 bps) connection for AUDIX Digital Networking. DCP Mode 2 uses a modem/data module or modem/Asynchronous Data Unit (ADU) arrangement and connects over analog or voice-grade data lines.

DCP Mode 3

A DCP connection using a data rate of 64 Kbps for AUDIX Digital Networking. DCP Mode 3 uses a DS1 or ISDN facility on the switch or a dedicated facility on a T1 carrier.

Default

A value that is automatically supplied if no other value is specified.

Digital Communications Protocol (DCP)

A Lucent proprietary protocol

Digital-Port (DP) Mode

The type of switch-link integration for which the DEFINITY AUDIX System, up through release 3.1, is connected to the switch via digital port board emulation. The type of port board that the DEFINITY AUDIX emulates within the switch (TN754.)

Digital-Port (DP) Board Emulation

In R3.1 and earlier releases, this term referred to both the port emulation and to the integration method. In R3.2 and later, it refers to the port emulation only; the integration method can be either control link (CL) or display set (DS).

Digital Signal Processor (DSP)

Programmed RAM chips on the Multifunction board that provide signaling, power-level control, speech coding, and data processing.

Disconnect Signaling Detection

Signaling from the CO to the PBX which indicates that the far end caller has hung up.

Display Set (DS) Integration

A new term that replaces the term digital port integration for R3.2 and later. It refers to the use of the display and other messages sent from the switch to the port board for providing voice mail integration with the switch. Integration with the switch is achieved via display set messages. The messages carry information such as calling party identification and message waiting indicator status and control.

Dual Language Greetings

When the Call Answer Language Choice is in effect, the subscriber can record personalized greetings for each of the languages listed as the primary and secondary announcement sets. The subscriber instructs the caller to enter *1 to switch to the alternate language.

E

Errors

Problems detected by the system during automatic self-tests and recorded in an error log. Errors can produce an alarm (fault) if they exceed a threshold.

Events

Occurrences such as inline errors, maintenance procedure failures, alarms, errors, or transitions into or out of the *AUDIX* or *OA&M* states which are recorded in an events log.

F

Faceplate and Alarm Controller (FAC)

The circuitry on the Multifunction board which monitors activity of the DEFINITY AUDIX System.

Field

An area on a form, menu, or report where information can be typed or displayed.

Filesystems

A collection of related files (programs or data) stored on disk which are required to initialize a DEFINITY AUDIX System and provide full service.

Flashware

Code that is stored in electrically reprogrammable memory on the DEFINITY AUDIX System. This programming is retained over power outages but can be reprogrammed automatically on board during initialization.

Forms

Terminal screens of information that allow data to be displayed or changed.

G

Generic Tape

A copy of the standard software and standalone tape utilities that is shipped with a new system.

Graceful Shutdown

Taking the DEFINITY AUDIX System offline (to the maintenance shutdown state) using RESET SYSTEM SHUTDOWN in a camp-on manner.

Guest Password

A feature that allows people who are not subscribers to leave messages on the system by dialing a subscriber's extension and entering a system-wide guest password.

H

Header

Information that the system creates to identify a message. A message header includes the originator or recipient, type of message, creation time, and delivery time.

Hunt Group

A group of ports on a switch usually administered to search for available ports in a circular pattern.

I

Initialization

The process of bringing a system to a predetermined operational state. The start-up procedure tests hardware and flashware; loads the boot filesystem programs; locates, mounts, and opens other required filesystems; and starts normal service.

Initialization and Administration System (INADS)

A maintenance system used by remote technicians to track alarms.

Interboard Bus

The inter-integrated circuit (I²C) bus that provides connectivity between the Alarm board and the Multifunction board.

INTUITY Message Manager

A PC application that is used for the retrieval and display of message headers, addressing to lists, managing personal greetings, and for creating, forwarding, and replying to voice mail messages.

L

Leave Word Calling

A switch feature that allows the calling party to leave a standard (nonvoice) message for the called party using a feature button or dial access code.

Light Emitting Diode (LED)

A red-light indicator on the system faceplate panel that shows the status of operations and possible fault conditions. An unlit LED indicates a healthy system. When flashing, the LED indicates a software problem. When it is steadily lit, a hardware problem exists.

Liquid Crystal Display (LCD)

The 10-character alphanumeric display on the DEFINITY AUDIX faceplate panel that automatically shows status of the system including alarms.

Local Area Network (LAN)

A short distance data communications network used to link computers and peripheral devices under some form of standard control

Local Maintenance Terminal (LMT)

A display terminal located near the DEFINITY AUDIX System and the switch. It is temporarily attached to the Multifunction board via a Y-cable during an on-site service visit.

Login

A unique code used to gain approved access to a subscriber's voice mailbox or to a display terminal.

M

Mailbox

A portion of disk memory given to each subscriber for creating and storing outgoing and incoming messages.

Message-Waiting Lamp

An LED on a telephone that alerts subscribers to new messages.

Modem

A modulator/demodulator used for transmitting analog signals across phone lines.

Multifunction Board (MFB)

The hardware platform (TN566B, 386 version and TN567, 486 version) which holds the central processing unit, controllers, memory devices, and signal processors that make a DEFINITY AUDIX System operational.

Multilingual System

A DEFINITY AUDIX System containing primary and secondary language announcement sets. A large (40 hour) system can hold up to nine different language sets. The Telecommunications Device for the Deaf (TDD)-based announcement set is treated as a multilingual option.

N

Native Mode

The ability of the switch to recognize the DEFINITY AUDIX Multifunction board (MFB) as a TN566B (AUDIX) circuit pack. With native mode support, the switch reserves five slots for the DEFINITY AUDIX assembly, and the switch is able to correctly identify the DEFINITY AUDIX board in alarms sent to the services organization.

Nonnative Mode

Without native mode, the MFB slot is provisioned as a TN754, TN2181 or TN746B, the five slots occupied by the DEFINITY AUDIX assembly are not reserved, and MFB alarms are reported as alarms for a TN754, TN2181, or TN746B.

Nonvolatile Random Access Memory (NVRAM)

A battery-backed RAM on the Multifunction board that retains data through loss of power.

Null Modem Cable

A cable which transposes transmit and receive leads on an RS-232 connection.

O

Operating System (OS)

The set of programs that runs the hardware and interprets software commands.

Operations, Administration, and Maintenance (OA&M)

A state of system operation where core processes of the Multifunction board are accessed, including system initialization, resource configuration, forms interface, entry into the maintenance subsystem, and filesystem access. Also entered when customer data must be restored.

Outcalling

A feature that allows the system to dial subscribers' numbers or go to pagers to inform them they have new messages.

P

Port

A connection or link between two devices, allowing information to travel through it to a desired location. For example, a switch port connects to a DEFINITY AUDIX port to allow a subscriber on a voice terminal to leave a message.

Protocol

A set of specific rules, procedures, or conventions relating to forms and timing of data transmission between two devices.

R

Reboot

A system *reboot* is done to clear major system problems (such as corrupt program memory). It also runs automatically whenever the system is powered up.

Remote Field Update

A set of software changes on a given release that is transmitted from a central location to customer equipment. Changes are generally restricted to serious *bug* fixes and are limited in volume.

Reply Loop Escape

Allows the subscriber the option to return to responding to a message after trying to reply to a non-subscriber message.

Restart

During maintenance, a system *restart* brings the system software back into full service, usually after an administrative shutdown. This is often done to try to clear software problems.

RISC

Reduced Instruction Set Computer. Refers to computers based on an unusually high speed processing technology that uses a far simpler set of operating commands.

S

Sanity and Control Interface (SAKI)

An integrated circuit that receives and transmits TDM bus control messages and monitors the sanity of the angel processor.

Shutdown States

States of system operation where either a technician can shut down the system for maintenance, or where a critical error condition brings down the system. In either case, filesystems are closed and the system can be powered down and removed from the carrier.

Small Computer Systems Interface (SCSI)

An interface standard defining the physical, logical, and electrical connections to computer system peripherals such as tape and disk drives.

Standalone Tape Utility

A software utility with options that include disk drive initialization, copying files from a generic tape onto the customer's disk, and map partition modification.

Subscriber Specific Announcement Set

When the Multilingual feature is enabled, each subscriber form has three fields specifying the announcement set with which the subscriber will interact with the system once they log in, and the two announcement sets with which callers to the subscriber's mailbox can interact with the system.

T

Technical Service Organization

Includes technical support organizations such as the Technical Service Center (TSC), National Service Assistance Center (NSAC), International Technical Assistance Center (ITAC), Center of Excellence (COE), Design Center (DC), Sales Technical Response Center (STRC), and National Technical Marketing (NTM).

Telecommunications Device for the Deaf (TDD)

A feature providing Call Answering and Personal Greeting capabilities to the hearing-impaired. The announcement set responds to Baudot tones which are input from a special keypad.

Time Division Multiplex (TDM) Bus

The interface between the DEFINITY AUDIX System and the switch that carries digitally-encoded voice waveforms and circuit-switched data.

Transmission Control Protocol/Internet Protocol

A set of protocol standards which allows a process on one machine to send data to a process on another machine. Communication may be full or half duplex. TCP/IP includes support for multiple operating systems and machine architectures.

U

Update

A limited incremental change on an existing release involving software only.

Upgrade

The replacement of one release with a new release. This may involve software, flashware, hardware, and/or data.

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