Lucent Technologies
Bell Labs Innovations

DEFINITY ONE™ Communications System

Release1.0

Overview

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Comcode 108444449
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Issue 1

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About This Document

Purpose

This document provides an overview of the features, components, and capabilities of DEFINITY ONE™ Communications System (DEFINITY ONE). This document provides high-level information about the system; it does not describe how to install, administer, or maintain a DEFINITY ONE . For that information, refer to the enclosed documentation library compact disk (CD) (document number 555-233-802). See Appendix B for a listing of the libraries contained on this CD.

You should read this document to understand

- the components of DEFINITY ONE,
- the features of DEFINITY ONE, and
- the additional solutions that are available for you to further tailor DEFINITY ONE to your needs in the future.

Intended Audiences

This document is written for end users and system administrators, Lucent Technologies account executives, representatives, and distributors who need high-level information about the system and how it can be used.

How to Use This Document

Since this document provides an overview of the components, features, and capabilities of DEFINITY ONE, as well as starter packages, you should read this document to get a basic understanding of DEFINITY ONE. This document will help you to identify applications that increase the productivity and effectiveness of employees in your company.

This document consists of the following chapters:

- Chapter 1, Introduction, provides an overview of DEFINITY ONE, including features, and hardware and software components.
- Chapter 2, Desktop/Console Solutions, describes the telephones and consoles that are available with DEFINITY ONE.
- Chapter 3, Adjuncts, describes the adjuncts that are available with DEFINITY ONE.
- Chapter 4, INTUITY AUDIX Messaging, describes the application and system features of the Lucent AUDIX application on the DEFINITY ONE and also provides a high-level overview of the system to orient you to the capabilities and functionality such an application can provide.
- Chapter 5, Call Center, describes applications that provide advanced call-handling and call center management capabilities.

- Chapter 6, Wireless Solutions, describes applications that enable employees in your company to keep in touch with co-workers and clients while moving about freely inside and outside your building.
- Chapter 7, Computer Telephony Integration, describes the applications that merge computer and telephone functions, enabling employees in your company to control their telephones from their personal computers and to use caller ID to access client information.
- Chapter 8, Telecommuting/Virtual Office, describes applications that enable employees in your company to work effectively off-site.
- Chapter 9, System Administration, describes applications that can help you manage DEFINITY ONE. This includes the system administration tool used by DEFINITY ONE, DEFINITY Site Administration (DSA).
- Chapter 10, Networking, describes applications that provide connections to a variety of voice and data networks, helping you to network your equipment and solutions.
- Appendix A, Features, lists the features of DEFINITY ONE.
- Appendix B, Documentation Library, contains a list of all the user documents available on the DEFINITY ONE CD ROM.

An index is also provided at the back of the book.

Conventions Used in This Document

The following conventions are used in this document:

- The term *system* is used in general to represent DEFINITY ONE.
- The term *switch* is used to represent other telecommunications switching products.

Security

The security of your DEFINITY ONE is extremely important to Lucent Technologies. Refer to BCS Products Security Handbook (555-025-600) and DEFINITY ONE documentation for the security measures you should implement for your system.

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If the reader comment form is missing, fax your comments to 1 303 538-6912, and mention this document's name and number, DEFINITY ONE Communications System Overview, 555-233-001, Release 1.0, Issue 1.

1 Introduction

DEFINITY ONE Communications System (DEFINITY ONE) is designed to give you the features and functionality your business locations need, such as voice mail and networking. DEFINITY ONE can cover a single site, or network multiple locations such as a satellite office within a larger business, or branch locations around the world.

DEFINITY ONE has DEFINITY Release 7.1, INTUITY™ AUDIX® Release 4.4, and DEFINITY Site Administration (DSA) Release 1.0 pre-loaded on a single NT hardware platform, using the Windows NT 4.0 operating system. Integration of this suite of applications makes each application easier to administer. By consolidating this functionality into a single cabinet, the platform becomes more cost-effective by eliminating the need for outside adjuncts and the associated connectivity and maintenance costs.

You can select the tools you need to help manage your time and communication processes effectively, including an array of prepackaged advanced applications, known as Application Starter Packages. The DEFINITY ONE starter packages include:

- ACD
- Networking

- Virtual Office
- Networking

DEFINITY ONE provides excellent investment protection. If your business grows beyond the capacity of DEFINITY ONE, you can reuse the circuit packs, phones, and possibly their cabinet, allowing you to easily, and cost-effectively grow into a larger DEFINITY system.

DEFINITY Communications System

Using DEFINITY Release 7.1 software, DEFINITY ONE allows full DEFINITY functionality including support for the 6200, 6400, 7400, 8400, and terminals, and common DEFINITY station and trunk circuit packs such as CLAN, IP trunk, and ATM. Additionally, DEFINITY features such as Telecommuting, DCS and QSIG networking, and ISDN PRI are supported. See Appendix A for a complete list of DEFINITY ONE features.

INTUITY AUDIX

INTUITY AUDIX provides a messaging communications solution for unified voice, fax, and e-mail messaging. You can save time by being able to access your voice mail, fax, e-mail, and file attachments via phone, PC, laptop, wireless-in the office, at home, or on the road. This release of INTUITY AUDIX includes several

enhancements in the areas of media, access and connectivity, bringing the first truly "universal" messaging product to the marketplace. INTUITY AUDIX provides voice, fax and text messaging along with text-to-speech, and message manager functionality on a single processor. A mezzanine card is part of the new processor and provides DSP resources for messaging, eliminating the need for the INTUITY Map 5P adjunct. INTUITY also supports digital networking.

DEFINITY Site Administration (DSA)

DEFINITY Site Administration (DSA) is a new Windows-based system management tool that provides an easy-to-use interface to DEFINITY and INTUITY AUDIX. You can also use built-in wizards that globally update records, add users, and carry out other administrative and maintenance tasks. You can administer your system using the Windows-based graphical system administration terminal with pull-down menus and online help. You can create shortcuts to frequently used commands and create templates for tasks you create regularly. With the Graphically Enhanced DEFINITY Interface (GEDI), you will find a windows-based SAT terminal with pull-down menus and online help for handling more complex tasks. If you prefer the standard SAT interface, it is still available through terminal emulation.

Call Center

Basic Call Center functionality is provided. You can view seven days or 24 intervals of BCMS historical information, however scheduled BCMS reports cannot be printed. This functionality includes:

- DEFINITY Basic, Deluxe, and Elite call center software
- BCMS monitoring and reporting
- Access to BCMS will be through DEFINITY Site Administration using terminal emulation. Only one BCMS monitoring/reporting session may be up at one time. Scheduled printing of historical reports is not supported.
- CMS will be supported via the CLAN board in Release 7.1.
- TSAPI will be supported on the MAPD platform.
- Passageway Direct Connect will be supported.
- BCMSVu will not be supported in Release 1.0

Web Browser Access

You can administer your DEFINITY ONE through a secure web interface and a standard browser. You can schedule centralized, automated backups of critical system information for remote sites. You can also perform restore procedures, map

network drives, run DEFINITY and AUDIX, access pcANYWHERE, and download additional applications such as DEFINITY Site Administration (DSA) and Message Manager directly from the switch.

Call Accounting

Call Accounting helps control communications costs by providing accurate reporting on calls processed, and offers effective cost allocation methods. Our Call Accounting systems can store call records from phone extensions and assign costs to the calls, create ad-hoc reports to manipulate call data, charge back call expenses to clients or departments, detect toll fraud, or just maintain call records. Station Management Data Recording (SMDR) records are written in real time to a file on the local hard disk. Because of the Ethernet connectivity, this information can be easily accessed from anywhere on your LAN or WAN by attaching it to the switch in the same way you would any other Windows NT workstation on the network. Other call accounting information can be easily accessed through the Call Accounting Export wizard in DSA. The information can be customized and imported into most Call Accounting programs. The need for polling units is eliminated and the SMDR reporting process can be streamlined. See Chapter 3, Adjuncts, for more information about Call Accounting.

Application Starter Packages

DEFINITY ONE Starter Packages are designed to enable you to simply and cost-effectively introduce advanced applications into your business. You can do this at your own pace; these packages allow you start small and grow. When you are ready, you can increase the capacity of the Starter Packages you purchase. See the individual sections in this Overview for more details about each Starter Package.

The following Starter Packages are available:

- Automatic Call Distribution (ACD)

  The ACD Package helps you establish a small call center operation with as few as six agents and includes the following components:

  ~ ACD, which distributes calls evenly among agents and provides advanced call handling capabilities

  ~ Basic Call Management System (BCMS), which provides reports on the status of agents, splits, trunks, and incoming calls.

  As your company's needs grow, you can upgrade this package to support up to 200 agents.

- Virtual Office

  The Virtual Office Starter Package lets you provide voice and data access for off-site workers and telecommuters. Ideal for businesses with employees who often work at home or from other remote locations, this package allows workers to

access your business LAN or the Internet from home or from a remote office. Off-site workers can even receive telephone calls using a single telephone number no matter where they are, enabling them to work where they need to.

- Wireless

  The Wireless Starter Package enhances mobility within your business locations by enabling employees to receive important calls when they are away from their desks. Available in single-zone and multizone packages for anywhere from 1 to 25 users, the Wireless Starter Package gives workers convenient business calling features in compact handsets.

  Packages are available for DEFINITY Wireless Business Systems as well as TransTalk 9000 systems.

- Networking

  The Networking Starter Package includes the hardware and software you need to provide consistent, enhanced communications among multiple company locations cost effectively. Depending on your business needs, you can select a networking package to provide centralized voice mail, remote call coverage, interoffice Calling Party/Called Party displays, and other productivity-enhancing features.

- System Administration

  DEFINITY ONE Solutions provides the DEFINITY Site Administration (DSA) Release 1.0 package.

- MasterDirectory and PhoneLine

  The MasterDirectory and PhoneLine Starter Package includes the software you need to collect, modify, and synchronize directory information from a wide variety of sources (such as PBXs, telecom databases, and corporate databases) and then provide online access to this up-to-date directory information in networked, stand-alone, and mobile computing environments. With this package, you can build and maintain corporate directories and then distribute this information to users throughout your organization.

Hardware

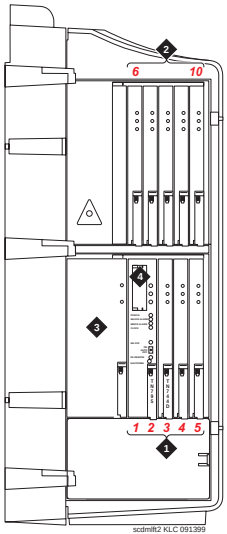
The main component of DEFINITY ONE is a new processor board, the TN795. This circuit pack contains:

- The Windows NT 4.0 operating system, using an on-board Pentium processor chip
- A Motorola processor running application firmware
- NT to firmware interface
- Tone clock functionality equivalent to that of the TN2182 circuit pack
- A virtual AUDIX board.

Compact Modular Cabinet

The 10-slot CMC includes slots for circuit packs and a power supply. The CMC supports up to 168 ports. Both shelves (see Figure 1-1) have five slots; the bottom shelf is numbered 1 through 5 and the top shelf is numbered 6 through 10. The TN795 circuit pack must be in slot 2. The cabinet is designed for wall mounting, but can be mounted on a table or floor. The CMC weighs 50-60 lbs. (fully loaded) and is approximately 11 x 25 x 25 inches.

Figure 1. Compact Modular Cabinet



1. Slots 1 - 5
2. Slots 6 - 10
3. 650 Power Supply
4. PCMCIA Hard Disk Drive

The TN795 circuit pack is reserved for slots 1 and 2 and the TN744D circuit pack can go in any of the other slots (slot 3 is recommended).

Software

All DEFINITY ONE systems use DEFINITY Release 7.1 software. The following features are included as part of the standard system software: Uniform Dial Plan, Answer Supervision by Call Classifier, Audible Message Waiting, Enhanced Abbreviated Dialing, Forced Entry of Account Codes, Authorization Codes, Automatic Route Selection and Hospitality (G3V3 Enhancements), Terminal Translation Initialization, and Automatic Transmission Measurement System.

In addition to the basic software, optional packages (see Application Starter Packages) can enhance the capabilities of the system. The basic software is a prerequisite for all the optional packages. See your account representative for more information.

Reliability

DEFINITY ONE is designed to provide you with a communications solution rich in applications (business communication features, multimedia messaging, call accounting, system management), yet small in footprint and line size. The single hardware platform enables the applications to work in concert and eliminates the cost and complexity of physically separate boxes. This design choice affords DEFINITY ONE added reliability over traditional solutions. Boxes, cabling, and administration have been eliminated; making DEFINITY ONE much easier to install and configure than traditional solutions, and with much less chance of error. The integrated

DEFINITY Site Administration tool also simplifies the task of configuring DEFINITY and INTUITY AUDIX, and reduces the likelihood of down time due to administration errors.

DEFINITY ONE provides the following capabilities:

The system can survive minor power surges (including lightning-induced surges up to 2500 Volts peak) without service interruption. Surge protectors can be purchased for increased coverage.

- The system can be placed in less-than-ideal locations since it can handle above-average temperatures and humidity.
- In case of power outages, the system automatically restores the last saved version of user translations and runs them at system restart.
- The system supports the remote diagnostics capability, which enables quick troubleshooting and maintenance.
- Centralized backups of critical system information for remote sites can be scheduled. Multiple copies of translations, INTUITY subscriber information, and the Windows NT registry files are available in case of an emergency. You can also quickly restore saved information.

- The system conducts self-diagnostics and can self-correct a large portion of system errors. If further technical assistance is required, the DEFINITY ONE system will call the Lucent Technical Assistance Center for remote diagnostics support.
- The system conducts standard maintenance routines automatically.
- The system backs up all user translations automatically per customer settings.

Service Beyond Compare

As a DEFINITY ONE customer, you will enjoy service beyond compare through remote alarming and expert systems, disaster recovery policies, and Lucent's trained technicians and sales associates around the world.

2 Desktop/Console Solutions

The communications needs of the people in your company may vary widely. Some may need only basic telephone service. Others may need effective messaging services to save valuable time. Still others may require high-speed data communications and access to a variety of host and personal computers.

DEFINITY ONE brings voice communications, data communications, and messaging together on the desktop.

Telephones for the Global Marketplace

A wide variety of telephones ranging from basic single-line telephones to sophisticated digital telephones that integrate voice and data communications are available with DEFINITY ONE. You can incorporate a mixture of telephone types based on the job functions of the users. All of the telephones are easy to use and give you the ability to tap into the power of your DEFINITY ONE.

Telephones fall into three basic families — Digital Communications Protocol (DCP), ISDN BRI, and analog. These terms describe how each type of telephone communicates with your DEFINITY system. These families of telephones are

designed to accommodate the types of communications various users require. All telephones have touch-tone dialing and the message-waiting lamp for notification of messages.

The following DEFINITY telephones are supported:

- 6400 Series digital telephones
- 7400 Series digital telephones
- 8400 Series digital telephones
- 8500 Series ISDN BRI telephones
- 7300/ATL Series hybrid telephones
- 6200 Series analog telephones
- 8100 Series analog telephones
- 9100 Series analog telephones

Digital DCP Telephones

Digital telephones using the Digital Communications Protocol (DCP) employ digital transmission for integrated voice and data signals and control signals. Transmission is over a connection consisting of one or two pair of wires. However, the 7400 Series telephones require four pair of wires. Each connection supports one signalling channel and two information (voice and data) channels.

DCP telephones are used most effectively by those who have a high volume of calls, require access to multiple applications or databases, use switch features heavily, or require messaging services. They can be used with personal computers to expand their capabilities.

These telephones provide the full range of DEFINITY ECS features on your desktop. In addition to multiline and multifunction capabilities, they provide access to integrated voice and data applications and messaging services. Some models include displays. DCP telephones can actually save you money by reducing the number of lines, modems, and ports that would normally be needed for analog facilities.

The following DCP telephones are available for sale:

- 6400 Series digital telephones
- 8400 Series digital telephones

6400 Series Digital Telephones

The 6400 Series digital telephones are versatile 2-wire DCP telephones that support all of the key/hybrid features of DEFINITY ONE. These telephones have a new, global design and include the following additional features:

- date and time display
- a feature button that allows switchhook control of a headset
- Group Listen capability, which enables you to use your handset or headset normally while others in the room listen via a speakerphone. This 2-way handset, 1-way speaker mode allows you to serve as a spokesperson for a group

- Station User Administration capability, which allows you to program certain features on the telephone yourself
- Conference, Transfer, Hold, and Last Number Dialed fixed feature buttons
- Whisper Page, which enables an assistant to announce another call to the boss during an active call on the boss' telephone. This announcement is heard by the boss only.
- Auto Call Timer, which enables each call to be timed automatically upon answer. You can see the elapsed time on the telephone's display. The timer is stopped automatically when a call is ended or placed on hold.

There are several 6400 Series telephones available:

- 6402 telephone

  The 6402 telephone is a digital, single-line DCP telephone without a display that can be wall mounted. This cost-effective, entry-level telephone is designed for users with basic call handling requirements. The 6402 is ideal for areas where there is minimum use, such as reception areas, copy rooms, file rooms, or warehouse locations. This telephone has a Feature button for accessing up to 12 system features and a built-in, 1-way (listen-only) speakerphone that facilitates off-hook dialing and listening to voice mail or broadcast messages. You can add an S201A speakerphone.

- 6402D telephone

  The 6402D telephone is a digital, single-line DCP telephone with a 2-line by 16-character display. This telephone has a Feature button for accessing up to 12 system features. The 6402D has a 1-way speakerphone and can be wall mounted. There are no soft keys associated with the display.

- 6408+ telephone

  The 6408+ telephone is a digital, multiline DCP telephone that has eight call appearance/feature buttons. This telephone has no display and can be wall mounted. The 6408+ is designed for users who need multiple line appearances and extensive features. The 6408+ has a built-in 2-way speakerphone and programmable keys so users can access more system features from the telephone.

- 6408D+ telephone

  The 6408D+ telephone is a digital, multiline DCP telephone that has eight call appearance/feature buttons and a 2-line by 24-character display. This telephone is designed for users who need multiple line appearances and extensive features. The 6408D+ has 12 additional features that are accessible via the 2-line by 24-character display and are selected by the four display-associated soft keys. The 6408D+ has a built-in 2-way speakerphone and can be wall mounted.

- 6416D+ telephone

  The 6416D+ telephone is a digital, multiline DCP telephone that has 16 call appearance/feature buttons and a 2-line by 24-character display. This telephone is designed for users with call coverage responsibilities who need multiple line

appearances and extensive features. The 6416D+ has 12 additional features that are accessible via the 2-line by 24-character display and are selected by the four display-associated soft keys. A 24-button expansion module can be added to provide 24 additional auxiliary buttons. (The 24-button expansion module requires power from the station or the closet.) The 6416D+ has a built-in 2-way speakerphone and can be wall mounted.

- 6416D+M telephone

  The 6416D+M telephone is a digital, multiline DCP telephone that has 16 call appearance/feature buttons and a 2-line by 24-character display. This telephone is designed for users with call coverage responsibilities who need multiple line appearances and extensive features. The 6416D+M has 12 additional features that are accessible via the 2-line by 24-character display and are selected by the four display-associated soft keys. A 24-button expansion module can be added to provide 24 additional auxiliary buttons. (The 24-button expansion module requires power from the station or the closet.)

  The 6416D+M allows you to install a 100A Tip/Ring module, providing a connection between the telephone and such analog adjuncts as modems, fax machines, analog conference-quality speakerphones, answering machines, and TDD machines commonly used by the hearing impaired. The 6416D+M has a built-in 2-way speakerphone and can be wall mounted. If the 100A Analog Interface Module is installed in the base, it cannot be wall mounted. The 6416D+M also has a built-in headset jack.

- 6424D+ telephone

  The 6424D+ telephone is a digital, multiline DCP telephone that has 24 call appearance/feature buttons and a 2-line by 24-character display. This telephone is designed for the busy executive or executive assistant who requires extensive call handling and call coverage flexibility. The 6424D+ has 12 additional features that are accessible via the 2-line by 24-character display and are selected by the four display-associated soft keys. The 6424D+ has a built-in 2-way speakerphone and can be wall mounted. A 24-button expansion module can be added to provide 24 additional auxiliary buttons. (The 24-button expansion module requires power from the station or the closet.)

- 6424D+M telephone

  The 6424D+M telephone is a digital, multiline DCP telephone that has 24 call appearance/feature buttons and a 2-line by 24-character display. This telephone is designed for the busy executive or executive assistant who requires extensive call handling and call coverage flexibility. The 6424D+M has 12 additional features that are accessible via the 2-line by 24-character display and are selected by the four display-associated soft keys.

  The 6424D+M allows you to install a 100A Tip/Ring module, providing a connection between the telephone and such analog adjuncts as modems, fax machines, analog conference-quality speakerphones, answering machines, and TDD machines commonly used by the hearing impaired. The 6424D+M has a built-in 2-way speakerphone and can be wall mounted. If the 100A Analog Interface Module is installed in the base, it cannot be wall mounted. A 24-button

expansion module can be added to provide 24 additional auxiliary buttons. (The 24-button expansion module requires power from the station or the closet.) The 6424D+M also has a built-in headset jack.

Requirements

The 6400 Series telephones are compatible with the following 2-wire DCP circuit packs:

- TN 2181 (16-port circuit pack)
- TN 2224 (24-port circuit pack)
- TN 2214 (international 24-port circuit pack)

7400 Series Digital Telephones

The 7400 Series telephones are 4-wire, multiline, DCP telephones. Although these telephones are supported, they cannot take advantage of the latest set of DEFINITY features. These telephones are not currently sold as new.

8400 Series Digital Telephones

The 8400 Series telephones are versatile 2-wire/4-wire DCP telephones that offer flexibility and cost savings and support most of the key/hybrid features of DEFINITY ONE. (Table 1 shows the differences between the 8400 Series telephones and 6400 Series telephones.) These telephones detect automatically whether they are plugged into a 2-wire or 4-wire digital line circuit card. This significant benefit provides an easier transition to either a 2-line or a 4-line environment, thereby

reducing wiring expenses and installation adjustments. These telephones also enable you to save space inside of the DEFINITY ONE cabinet by using 24-port 2-wire boards in place of 8-port 4-wire boards.

There are several models of 8400 Series telephones:

- 8403 telephone

  The 8403 is a 3-line telephone without a display that can be wall mounted. This telephone has a built-in, 1-way (listen-only) speakerphone and three programmable buttons. This telephone is not currently sold as new.

- 8405B telephone

  The 8405B is a 5-line telephone without a display that can be wall mounted. The 8405B has a built-in 1-way speaker and programmable keys. This telephone is not currently sold as new.

- 8405B+ telephone

  The 8405B+ is a 5-line telephone without a display that can be wall mounted. The 8405B+ has a built-in 2-way speaker and programmable keys. This telephone is not currently sold as new.

- 8405D telephone

  The 8405D is a 5-line telephone with a 2-line, 24-character display that can be wall mounted. This telephone has a built-in 2-way speaker and programmable keys.

- 8410B telephone

  The 8410B is a 10-line telephone without a display that can be wall mounted. The 8410B has a built-in 2-way speakerphone and programmable keys.

- 8410D telephone

  The 8410D is a 10-line telephone with a 2-line, 24-character display. The 8410D has 12 additional features that are accessible via the 2-line by 24-character display and are selected by the four display-associated soft keys. This telephone has the same features as the 8410B and can be wall mounted.

- 8411B telephone

  The 8411B is a 10-line telephone without a display. This telephone is an enhanced version of the 8410B telephone that has a built-in RJ11C jack, which provides an interface to analog telephone devices (such as a telecopier or a modem) and an RS232 data interface for PassageWay Direct Connection. The 8411B has a built-in 2-way speakerphone and programmable keys. This telephone cannot be wall mounted. This telephone is not currently sold as new.

- 8411D telephone

  The 8411D is a 10-line telephone with a 2-line, 24-character display. This telephone is an enhanced version of the 8410D telephone that has a built-in RJ11C jack, which provides an interface to analog telephone devices (such as a telecopier or a modem) and an RS232 data interface for PassageWay Direct Connection. The 8411D has a built-in 2-way speakerphone and programmable

keys. The 8411D has 12 additional features that are accessible via the 2-line by 24-character display and are selected by the four display-associated soft keys. This telephone cannot be wall mounted.

- 8434DX telephone

  The 8434DX telephone is a 34-button telephone with a 2-line, 40-character display. The 8434DX has a built-in 2-way speakerphone and programmable keys. The 8434DX has 12 additional features that are accessible via the 2-line by 40-character display and are selected by the four display-associated soft keys. A 24-button expansion module can be added. (The 24-button expansion module requires power from the station or the closet.)

Table 1. Differences between the 6400 Series Telephones and 8400 Series Telephones

Feature	6400 Series Telephones	8400 Series Telephones
Whisper Page	Yes	Yes
Group Page	Yes	Yes
Bridged Appearance	Yes	Yes
Personal CO Line Appearance	Yes	Yes
Directed Call Pick-up	Yes	Yes

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Table 1. Differences between the 6400 Series Telephones and 8400 Series Telephones

Feature	6400 Series Telephones	8400 Series Telephones
Group Listening	Yes	No
Station User Administration	Yes	No
Time/Day Default	Yes	No
Adjustable Display	Yes	No
Pull-out Tray	Yes	No
Headset without handset offhook	Yes	No
Dual-Purpose NEXT button	Yes	No
Auxiliary Jack	6416D+M and 6424D+M only	Yes
Tip/Ring Interface	Yes	Yes (8411)
2 and 4 wire	2-wire only	Yes
RS-232 CTI Interface	No	Yes (8411)

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Table 1. Differences between the 6400 Series Telephones and 8400 Series Telephones

Feature	6400 Series Telephones	8400 Series Telephones
AD Labeling	Yes	Yes
Active Dialing	Yes	Yes
Context-Sensitive Help	Yes	Yes
Automatic Timer	Yes	No

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Requirements

The 8400 Series telephones are compatible with all 2-wire and 4-wire DCP circuit packs.

9400 Series Digital Telephones

The 9400 Series telephones (used only in selected European countries) are digital telephones. The 9403 and 9434 telephones operate in both 2-wire and 4-wire configurations. The 9410D telephone operates only in the 2-wire DCP configuration.

DEFINITY ONE supports the following 9400 Series telephones:

- 9403 telephone

  The 9403 telephone is a 3-line digital telephone without a display and can be wall mounted. This entry-level telephone is designed for users with basic call handling requirements. The 9403 is ideal for areas where there is minimum use,

such as reception areas, copy rooms, file rooms, or warehouse locations. This telephone has a built-in, 1-way (listen-only) speakerphone that facilitates off-hook dialing and listening to voice mail or broadcast messages. You can add an S201A speakerphone and use the cost-effective 9403 in a conference room. The 9403 operates in both 2-wire and 4-wire configurations.

- 9410D telephone

  The 9410D telephone is a digital, multiline telephone that has 10 call appearance/feature buttons and a 2-line by 24-character display. This telephone is designed for users who need multiple line appearances and extensive features. The 9410D has a built-in 2-way speakerphone and can be wall mounted. This telephone operates only in the 2-wire DCP configuration.

- 9434 telephone

  The 9434 telephone is a digital, multiline telephone that has 34 call appearance/feature buttons and a 2-line by 24-character display. This telephone is designed for the busy executive or executive assistant who requires extensive call handling and call coverage flexibility. The 9434 has a built-in 2-way speakerphone and can be wall mounted. A 24-button expansion module can be added to provide 24 additional auxiliary buttons. (The 24-button expansion module requires power from the station or the closet.) The 9434 operates only in both 2-wire and 4-wire configurations.

Requirements

The 9400 Series telephones are compatible with all 2-wire circuit packs. The connection is made via a 2-wire, 16-port or 24-port DCP interface card.

7300/ATL Series Hybrid Telephones

The 7300/ATL Series telephones are multiline, hybrid telephones. Although these telephones are supported, they are unable to operate with AUDIX. These telephones are not currently sold as new.

ISDN BRI Telephones

Like the digital DCP telephones, ISDN telephones transmit voice, data, and control signals digitally. With the ISDN telephones, however, the transmission employs the world-wide standard BRI protocol between the switch and the telephone. The TN556C BRI station card permits the use of 8500 Series ISDN telephones.

Also like the DCP telephones, these telephones can be used with personal computers to expand their digital capabilities. The DEFINITY ISDN BRI telephones include models that have unique features such as call logs and personal directories.

8500 Series ISDN BRI Telephones

The 8500 Series telephones are multiline ISDN BRI telephones.

The following models of 8500 Series telephones are available:

- 8503T ISDN BRI telephone

  The 8503T ISDN BRI telephone is ideal for staff workers, entry-level associates, lobbies, and conference rooms. This telephone provides three buttons for call appearances/flexible features, nine fixed feature buttons, and 12 programmable memory-dialing locations on the dialpad keys. The 8503T can support a S201A speakerphone or a 500A headset adapter and can be wall mounted.

- 8510T ISDN BRI telephone

  The 8510T ISDN BRI telephone is an all-around, multi-purpose, mid-range telephone that provides a full array of features for very active telephone users and busy managers, allowing quick and easy access to switch and personal features. This telephone is ideal for the majority of your staff, conference rooms, and small office/home office environments.

  The 8510T provides 10 buttons for call appearances/flexible features, nine fixed feature buttons, a built-in speakerphone, and a 2-line by 24-character display with four control keys and four soft keys. The display soft keys provide access to a personal directory of up to 30 names and numbers, incoming and outgoing call logs, display contrast adjustment, ringer pattern selection, self-test, clock setting, and a 3-digit password lock. The 8510T can support a Digital and Analog SoundPoint speakerphone or a 500A headset adapter and can be wall mounted.

- 8520T ISDN BRI telephone

  The 8520T ISDN BRI telephone is an all-around, multi-purpose, mid-range telephone that provides a full array of features for very active telephone users and busy managers, allowing quick and easy access to switch and personal features. This telephone is ideal for managers, conference rooms, and small office/home office environments.

  The 8520T provides 20 buttons for call appearances/flexible features, nine fixed feature buttons, a built-in speakerphone, and a 7-line by 24-character display with four control keys and 10 soft keys. The display soft keys provide access to a personal directory of up to 144 names and number; an incoming call log that

captures caller information from the 20 most recent incoming answered calls, the 20 most recent unanswered calls, and the 20 most recent outgoing calls; display contrast adjustment, ringer pattern selection, self-test, clock setting, and a 3-digit password lock. The 8520T also has an integrated data board that supports an application programming interface (API) that gives users the option of increasing

the capabilities of their system by creating a variety of PC applications. The 8510T can support a Digital and Analog SoundPoint speakerphone or a 500A headset adapter.

- 8528T ISDN BRI telephone

  The 8528T ISDN BRI telephone is an all-around, multi-purpose, mid-range telephone that provides a full array of features for very active telephone users and busy managers, allowing quick and easy access to switch and personal features. This telephone is ideal for executive assistants, top-level managers, conference rooms, and small office/home office environments.

  The 8528T provides 28 buttons for call appearances/flexible features, nine fixed feature buttons, a built-in speakerphone, and a 2-line by 24-character display with four control keys and 10 soft keys. The display soft keys provide access to a personal directory of up to 30 names and numbers, incoming and outgoing call logs, display contrast adjustment, ringer pattern selection, self-test, clock setting, and a 3-digit password lock. The 8528T can support a Digital and Analog SoundPoint speakerphone or a 500A headset adapter.

Analog (Single-Line) Telephones

Single-line telephones are an economical choice for users who do not handle many calls and do not use modems and fax machines extensively.

All signals between analog telephones and the DEFINITY system are analog over a pair of wires. Only one incoming call can ring at a time, but the telephone can actually handle two calls — one active and one on hold. Depending on the particular telephone, you can alternate between two calls or set up a three-way conference using the switchhook or flash button. You can access DEFINITY voice features by either entering access codes from your touch-tone keypad or pressing feature buttons.

The following analog telephones are available:

- 6200 Series analog telephones
- 8100 Series analog telephones
- 9100 Series analog telephones

6200 Series Analog Telephones

The 6200 Series telephones are single-line, analog telephones.

There are two 6200 telephones available:

- 6210 telephone

  The 6210 telephone is a single-line analog telephone that can be wall mounted. This telephone has a built-in Data jack that allows a user to bridge a fax machine, modem, or laptop computer onto the single analog line.

- 6220 telephone

  The 6220 telephone is a single-line analog telephone that can be wall mounted. This telephone has a built-in Data jack that allows a user to bridge a fax machine, modem, or laptop computer onto the single analog line. The 6220 also has 10 speed dial buttons and a 2-way speakerphone.

8100 Series Analog Telephones

The 8100 Series telephones are single-line analog telephones that require one tip-and-ring pair for operation. These telephones are not currently sold as new.

There are several models of 8100 Series telephones:

- 8101M telephone

  The 8101M telephone is a single-line analog telephone that contains a Message light, selectable personalized ringing pattern, and a Data jack. This telephone allows users to access system features with the Flash button.

- 8101 telephone

  The 8101 telephone is a single-line analog telephone that contains a Message light, selectable personalized ringing pattern, and a Data jack. This telephone allows users to access system features with the Flash button. The 8101 provides the added features of automatic redial, (with a Redial button) and a Hold button.

- 8102M telephone

  The 8102M telephone is a single-line analog telephone that contains 12 programmable dialing buttons, automatic redial, selectable personalized ringing pattern, a Message light, a Hold button, a Data jack, and an Adjunct jack. This telephone allows users to access system features with the Flash button.

- 8110M telephone

  The 8110M telephone is a single-line analog telephone that contains 12 programmable dialing buttons, automatic redial, selectable personalized ringing pattern, a Message light, and a Hold button. This telephone also has a built-in speakerphone. The 8110M allows users to access system features with the Flash button.

9100 Series Analog Telephones

The 9100 Series telephones are cost-effective analog telephones (sold outside North America only). These telephones are not currently sold as new.

There are three models of 9100 Series telephones:

- 9101 telephone

  The 9101 telephone has the following features:

  ~ standard alphanumeric dial pad
  ~ convenient pulse or push-button tone dialing
  ~ a fully modular connection that provides maximum ease of installation
  ~ telephone-line powered, unaffected by power interruption

- easily installed on desk or table
- user-selectable ringer volume and pitch control
- flashing ringer light that indicates an incoming call
- flashing Message light
- Flash button for accessing system features such as Hold and Transfer

• 9103 telephone

The 9103 telephone has the following features:

- convenient pulse or push-button tone dialing
- a fully modular connection that provides maximum ease of installation
- battery backup in case of power interruption
- easily installed on desk or table
- user-selectable ringer volume and pitch control
- flashing ringer light that indicates an incoming call
- flashing Message light
- Flash button for accessing system features such as Hold and Transfer
- three memory-dialing buttons
- ability for you to program ten memory-dialing numbers on the numeric dial pad keys (0 and 1 through 9)
- on-hook dialing with 1-way speaker

- ~ Last Number Redial feature
- ~ Save feature, which enables you to save a number in memory for a temporary period of time

• 9110 telephone

The 9110 telephone has the following features:

- ~ convenient pulse or push-button tone dialing
- ~ easily installed on desk or table
- ~ hands-free 2-way speakerphone
- ~ ten memory-dialing buttons to which you can program 20 memory-dialing numbers
- ~ flashing ringer light that indicates an incoming call
- ~ flashing Message light
- ~ Flash button for accessing system features such as Hold and Transfer
- ~ Last Number Redial feature
- ~ Save feature, which enables you to save a number in memory for a temporary period of time
- ~ Mute button
- ~ Speaker volume control
- ~ user-selectable ringer volume and pitch control
- ~ user-adjustable speakerphone volume control

Attendant Consoles

To increase the effectiveness of attendants handling calls, DEFINITY ONE offers the following tools:

- DEFINITY 302C Attendant Console (requires connectivity to a 2-wire circuit pack)

  The DEFINITY 302B Attendant console requires connectivity to a 4-wire circuit pack.

- DEFINITY PC Console Release 2.0 or later

DEFINITY Attendant Console

The DEFINITY Attendant Console is a digital call-handling station with push-button control that enables your call attendants to answer calls, to place calls, and to manage and monitor some system operations. The Attendant Display shows call-related information that helps the attendant to operate the console. Attendants may select one of several available display languages.

DEFINITY PC Console

The DEFINITY PC Console is a software application that enables your call attendants to handle incoming calls efficiently by personal computer. Using the familiar Microsoft® Windows graphical interface, attendants can easily keep track of how long callers have been on hold and for whom they are waiting. Attendants can monitor up to six calls at once. They need not fumble with pen and paper when handling calls, as they can make notes on their computers. All this contributes to making a favorable first impression with your customers. Having the call-processing software on the same computer with spreadsheet, word processing, or other software enables the attendants to stay productive between calls.

Your company directory is displayed on screen with busy extensions shaded. A variety of search functions are available, so attendants can find names and extensions easily. On-line telephone identification enables attendants to identify employees quickly. Calls are transferred with the press of a button. On-line help makes it easy for attendants to remind themselves how to use the system.

The PC Console is easily customized, so even if attendants from different shifts share the same computer, they can each preserve their preferences in the call-processing environment. The PC Console is available in English, Dutch, Spanish, French, German, Italian, and Portuguese. If a Spanish-speaking attendant takes over for a French-speaking attendant, for example, a single press of a button converts all labels, error messages, and on-line help to Spanish.

Requirements

The following requirements must be met for PC Console to function properly:

- an IBM-compatible personal computer with:
  - a Pentium™-based, 100 Megahertz or higher processor
  - a minimum of 16 megabytes (MB) of RAM
  - a minimum of 4 MB of ROM
  - a 3.5-inch disk drive
  - an available COM port
  - sufficient hard disk space.

    The space required to support PC Console depends on the number of users you are supporting, the amount of information stored for each person, and whether you will include each person's photograph in PC Console.
- any of the following operating systems:
  - Microsoft Windows 3.1 or later (R2.0 only)
  - Microsoft Windows for Workgroups 3.11 or later (R2.0 only)
  - Microsoft Windows 95
  - Microsoft Windows NT
  - Windows 98 (R3.0 only)

- a 2- or 4-wire DCP telephone with a PassageWay adapter, an 8411 telephone, a CALLMASTER IV, a CALLMASTER VI, a 6424D+M telephone, or a 6416D+M telephone.
- local adjunct power (depending on your telephone)
- PassageWay Direct Connection

3 Adjuncts

DEFINITY ONE provides the following equipment to supplement services and features of your system and telephones:

- power systems
- on hold and delayed announcement systems
- headsets
- audio and visual paging
- alerts and sensors
- speakerphones
- security devices
- call accounting systems

Power Systems

Lucent Technologies offers the following solutions to help provide protection from power disturbances and disasters and to provide power for equipment:

- Uninterruptible Power Systems (UPS)

  A UPS helps safeguard your DEFINITY ONE and associated applications from utility power irregularities. During a power failure, the UPS battery activates, supplying power for a limited amount of time.

- Surge Protectors

  Surge protectors help protect PCs, fax machines, and other equipment from electrical surge damage. AC Protectors prevent voltage surges from entering the system via the AC utility line. Line Protectors prevent voltage surges from entering the system via incoming central office (CO) lines or via wiring for telephones (tip and ring) that extend to or from another building (In-Range Out-of-Building).

- Terminal Power Supplies

  Terminal Power Supplies provide local power for telephones and adjuncts that require additional power (for example, DCP telephones with headset adapters, and adjunct speakerphones).

On Hold and Delayed Announcement Systems

Lucent Technologies offers the following external announcement systems for DEFINITY ONE:

- Magic On Hold® Express Systems

  Magic On Hold Express systems provide businesses with fully customized, professionally produced announcements for customer-specific “on hold” environments. The professionally produced announcements are delivered remotely to your company directly from the production studio. Production options include legally licensed background music and/or customized information messages that play when a caller is placed on hold or in queue.

- Magic On Hold Systems

  Magic On Hold systems provide businesses with up to 3 minutes of continuous radio programming for customer specific on hold environments. Production options include legally licensed background music and/or customized information messages that play when a caller is placed on hold or in queue.

- Professional Announcement Recordings

  Professional announcement recordings (PARs) enhance Auto Attendant, Automatic Call Distribution (ACD), and Integrated Voice Response (IVR) applications. Professional announcement recordings greet and guide business callers using crisp, clear, and concise voice messages that help optimize the

caller's personal perception of automated communications. With professional announcement recordings, callers hear professional productions that deliver important information.

- Delay Announcement Systems

  Delay announcement systems serve announce only, information announcement, in-queue announcement, and broadcast messaging for businesses with automatic messaging applications. These systems enhance the image of your business by helping to prevent the callers from feeling abandoned during the call.

Headsets

Headsets help increase work productivity in telephone intensive applications and are proven to reduce neck strain and muscle tension for all workers who use a telephone at least 3 hours a day. Lucent Technologies provides a complete product line for use in Call Center applications, traditional business office applications, computer telephony applications, and mobility applications.

Audio and Visual Paging

Lucent Technologies provides overhead voice paging equipment that enables telephone users to make announcements by simply speaking into the handset of their telephone. DEFINITY ONE can support as many as nine paging zones, and one zone

can be set up to activate all zones at the same time. (A zone is the location of the loudspeakers: for example, conference rooms, warehouses, or storerooms.)

Visual paging includes indoor LED message display signboards, wireless keyboards for sign programming, connector kits for integrating with the PagePac Plus® equipment, and optional software for "ad-hoc" visual message programming.

Alerts and Sensors

Lucent Technologies provides a complete product line of alerts and sensors for your business. With alert devices, you can select the type of sound for incoming calls (for example, bell, horn, or chime sounds) or use visual signals (such as flashing lights) to indicate the presence of a ringing call, a voice mailbox message, or a voice paging message.

Sensor devices detect and analyze central office ringing signals to determine if the signal is a standard voice, data, or fax call. Once it determines the type of signal, the sensor device routes the call to the appropriate end point.

External Speakerphones

External speakerphones are available for providing total telephone operation without the use of the handset. Turning on the speakerphone is equivalent to lifting the telephone handset when placing or answering a call. Turning off the speakerphone is

equivalent to hanging up the handset. Although the majority of Lucent telephones have built-in speakerphones, external speakerphones are essential for applications such as conference calls.

Security Devices

To help secure your DEFINITY ONE, Lucent Technologies provides the following products:

- Access Security Gateway (ASG)

  The Access Security Gateway (ASG) offers a more secure alternative to static login password authentication when accessing the DEFINITY ONE system remotely. Using an encryption algorithm, the Access Security Gateway provides session-based challenge and response technology to secure access to the DEFINITY ONE system's remote maintenance and administration port, system administration terminal, and NET CON channels.

  The Access Security Gateway consists of two components:

  ~ Access Security Gateway Guard

    The Access Security Gateway Guard protects the DEFINITY ONE system from unauthorized access. When users attempt to access the ONE system remotely. the Access Security Gateway Guard prompts the users to enter their login ID and then issues a challenge. Using the Access Security Gateway Key, authorized users are able to provide the correct response to the challenge

issued by the DEFINITY ONE system. The challenge issued by the DEFINITY ONE system and the response that the system expects are constantly changed, helping to prevent unauthorized users from accessing the DEFINITY ONE system.

- ~ Access Security Gateway Key

  The Access Security Gateway Key enables authorized users to access the DEFINITY ONE system remotely. When the Access Security Gateway issues a challenge, users must enter the challenge into the Access Security Gateway Key to receive the correct response to the challenge. The users then enter the response to the Access Security Gateway Guard to access the system.

- Remote Port Security Device

  The Remote Port Security Device is a single-line dial-up port protection system that prevents unauthorized access to a host resource. Host resource dial-up ports are protected by installing the Remote Port Security Device Lock on the analog telephone line leading to the port. Access is provided only when the calling party uses the Remote Port Security Device Key, a unit that is installed on the analog telephone line at the calling party end.

  The Remote Port Security Device works with all data communications protocols and can be used in the following applications:

  - ~ protecting organizations with remote and home offices that communicate over the public telephone network via dial-up lines

- ~ safeguarding companies that remotely administer their communication and voice processing systems from their office headquarters, helping to ensure that critical network routing information, traffic data, and PBX feature translations are not compromised
- ~ controlling dial-up access by suppliers that provide remote maintenance services and ensures that only the service provider has access to the maintenance ports

Call Accounting Systems

Lucent Technologies provides the following products to help you reduce telephone expenses, optimize resources, assign costs, identify abuse, and clearly understand your telephone expenses and convey that understanding to others:

- Telecommunications Management System (TMS)

  Telecommunications Management System is a state-of-the-art, multi-user telemanagement system. Designed in the industrial-strength, on-line, dynamic server-based Informix NT, this application is unmatched in its performance and speed.

  Telecommunications Management System provides a full 32-bit seamless application that targets client/server environments that use local area networks (LANs) and wide area networks (WANs). Telecommunications Management System is ODBC compliant and uses MAPI/TAPI conventions.

Telecommunications Management System is a fully distributed network-based product.

Telecommunications Management System can support as many simultaneous users as you require and is offered in various modules that include call management (call accounting), asset management (inventory control), and service management (work/service orders). Telecommunications Management System also has a Cable Management offer that is available with either CAD or non-CAD capabilities.

- Call Accounting System(CAS) for Windows

  The Call Accounting System for Windows allows you to generate comprehensive and accurate accounting reports using the Microsoft Windows 98 or 95 environment. Detailed or summary reports can be expressed in two or three dimensional, color charts and graphs, or in text files suitable for downloading to other applications.The optional toll-fraud detection module allows you to detect fraudulent use of your long-distance services.

  You can generate reports that identify:

  ~ most frequently dialed numbers
  ~ most expensive calls
  ~ longest duration calls

  In addition, you can search the accounting data for a great variety of information, including dialed numbers, partial numbers, dates, times, call types, departments, and calling extensions.

You can define up to five levels of reporting hierarchy to which you can assign costs. The system archives your data for one accounting period. A flexible markup capability allows service businesses to adjust call pricing for each client.

CAS for Windows can generate twenty standard historical or real-time reports from as many as 100 locations and 10,000 stations. An individual system is capable of polling different types of call detail storage units or other CAS for Windows systems. The remote systems forward call records and alarms as they are generated.

A traffic engineering option allows you to monitor trunk usage, calling patterns, incoming traffic, and outgoing calls by area code. This allows you to analyze trends summarizing how your equipment is being used.

CAS for Windows is widely compatible and requires little maintenance, even while collecting data, generating reports, and managing remote data collection sites.

- Call Accounting System NT (CAS-NT)

  Call Accounting System NT has equivalent functionality as Telecommunications Management System, but only offers call accounting. CAS-NT is a LAN/WAN-based application that supports customers with multi-user requirements. CAS-NT is offered at a base size of 500 stations, but can be upgraded in 500 station increments.

CAS-NT is supported with a mandatory professional service offer for on-site installation, initialization, and training provided by the vendor. CAS-NT supports up to 50 sites, 5000 stations, and 5 simultaneous users. Hacker Tracker is also an available option.

4 INTUITY AUDIX Messaging

With less than 30 percent of person-to-person business calls reaching the intended party on the first attempt, day-to-day business can be frustrating. Integration with Lucent Technologies' multimedia messaging products can help ensure that important calls are not lost.

In addition to the call-answer capability, AUDIX provides new opportunities through multimedia messaging. Users can use multimedia messaging to mail one message to many people on a mailing list, to send a message with multiple components to one or many other subscribers, or to categorize and store messages for later reference.

This section describes the application and system features of the Lucent AUDIX application on the DEFINITY ONE Communications System and also provides a high-level overview of the system to orient you to the capabilities and functionality such an application can provide. This section includes:

- application overview
- additional sources of information
- accessing AUDIX administration
- features of AUDIX

Application Overview of AUDIX

Lucent AUDIX is a multimedia messaging application on the DEFINITY ONE platform. AUDIX allows users to integrate voice messages, text messages, fax messages, and binary files into a single message.

For example, a sales manager may want to inform the distributed sales force of a new compensation plan. Using Lucent AUDIX, the sales manager can send a message that consists of both voice and text components. The voice component of the message might be, “This message is going to all members of the Northeast Sales region. Congratulations on your excellent results last year. As of January 1st, the compensation plan for new product sales will be changed. Please print the attached text message for detailed information.” The text component of the message could then be created in Message Manager to specify the details.

Additional Sources of Information

You can obtain the following additional information for administering the AUDIX application:

- AUDIX System Administration documentation on the DEFINITY ONE documentation CD
- The Message Manager Installation chapter in the DEFINITY ONE Communications System Installation manual (555-233-109)

- AUDIX help topics in the DEFINITY Site Administration (DSA) online help system
- Command Line Administration Quick Reference on the DEFINITY ONE documentation CD

The DEFNITY ONE documentation CD contains the following quick reference information you can provide to AUDIX subscribers:

- Messaging Solutions Quick Reference Guide
- AUDIX Wallet Card
- Message Manager Quick Reference Guide.

Accessing AUDIX Administration

- Through the DEFINITY Site Administration (DSA) application
- By dialing directly to the AUDIX application using Telnet or another terminal emulator

Using DEFINITY Site Administration (DSA) to Access AUDIX Administration

To set up the connection to AUDIX administration:

1. On the browser pane of the DSA window, click the Tasks tab, then click Add System.
2. Click Add Voice Mail System.
3. In the System Name field, enter the name you want the new AUDIX to have in DSA.

Note: You can either make up a meaningful name to identify the switch, or your telecommunications manager may tell you what this name should be. This is the name that will appear in the Tree tab.

4. Indicate which of the following connection methods you plan to use:
   - Modem or data module
   - Direct serial port connection
   - Network connection
5. When prompted by the Add Voice Mail System wizard, provide additional information about the connection.
6. Indicate whether you want DSA to automatically log in to AUDIX or whether you want to manually log in each time.

7 If you chose to have DSA automatically log in, enter the AUDIX login and password information.

8 Review the Voice Mail System Summary and make any needed corrections.

9 Click Test to try out the connection.

If you the connection works, DSA displays the login prompt or the AUDIX Command Prompt screen. If the connection does not work, DSA displays an error dialog box with troubleshooting information.

10 Click Next and Finish.

11 You can confirm that the new AUDIX was added by clicking the Tree tab and seeing that it appears in the tree.

To change the voice mail system or connection information later, right-click the voice mail system in the DSA Tree tab and choose properties.

You can add as many systems as you want to DSA. If you are connecting to systems directly (using serial ports), you can connect to as many switches or AUDIX systems at once as you have ports. If you are connecting to systems over a network, you can connect to as many systems as you need to at once.

To connect to AUDIX administration:

1 On the DSA browser pane of the DSA window, click on the **Tree** tab.

2 Right-click on the AUDIX system you want to administer.

3 In the pull-down menu, select **4410 Emulation** or **513 Emulation**.

4 At the `login:` prompt, enter login/user name.

5 At the `password:` prompt, enter your password.

6 At the `TERM` prompt, click **F7** (Continue).

The system displays the **AUDIX Command Prompt** screen.

7 For more information, use the following sources of information:

- AUDIX System Administration documentation on the DEFINITY ONE documentation CD
- Command Line Administration Quick Reference on the DEFINITY ONE documentation CD
- Online help topics available from AUDIX administration screens

Using Telnet to Access AUDIX Administration

To access AUDIX via Telnet or another terminal emulator:

1 Set up connection to local Telnet or other terminal emulator using the following information:

- Local machine name for host name
- Specified port number for port
- VT100 for Term type

2 Once the connection is established, enter login/user name at the Telnet `login:` prompt.

3 Enter a password at the `password:` prompt

4 At the `TERM` prompt: enter a terminal type, such as vt100, 4410, or 514.

The system displays the **AUDIX Command Prompt** screen.

Features of AUDIX

There are several features on AUDIX that allow users to send, receive, and organize voice, text, and fax messages:

- Voice Messaging
- Voice Mailbox
- Digital Networking
- Message Manager
- Fax Messaging
- Automated Attendant
- Bulletin Board

Voice Messaging

The AUDIX Voice Messaging software application makes it possible to record and exchange voice messages with other users. The application contains stored voice prompts that guide users in creating, sending, retrieving, answering, saving, or forwarding spoken messages. It also answers calls for users who are busy or unavailable. In addition to a personal answering service, AUDIX can also be used as a a messenger to individuals or groups, an information service, an office receptionist, and as an automated attendant.

Users and callers instruct the AUDIX Voice Messaging system by pressing the keys on their touch-tone telephones in response to detailed voice prompts from the system.

The AUDIX software uses a high-quality voice-encoding algorithm known as Code-Excited Linear Prediction (CELP). CELP captures the nuances and subtle inflections of the human voice, which is an integral part of person-to-person communication.

Voice Messaging is similar to an electronic mail system in that messages can be sent to other individuals or groups without calling the recipient directly. The message is then stored in the recipient's AUDIX mailbox. Recipients can access stored messages at their convenience.

Voice Messaging enables the user to:

- Send messages to other AUDIX and Message Manager users
- Listen to messages received from other AUDIX and Message Manager users
- Forward messages received with comments attached

- Reply to messages received from other AUDIX and Message Manager users
- Create mailing lists containing up to 250 recipients

In addition to these basic capabilities, the Outcalling feature of AUDIX Voice Messaging also enables the user to:

- Automatically place a call from AUDIX to the user when there are messages waiting
- Specify the telephone number to be called by AUDIX when messages are waiting (may be an office, home, car, or pager)

Call Answer

Call Answer is an AUDIX feature that allows the system to answer a call and record a message when the user is unavailable. Call Answer enables users to:

- Have the AUDIX system answer incoming telephone calls
- Create personal greetings that AUDIX Voice Messaging uses to answer incoming calls
- Disable call answer so that a caller hears a greeting, but cannot leave a message
- Customize a set of standard greetings

- Record up to nine different personal greetings using the Multiple Personal Greeting feature
- Play a single greeting for all calls, or assign various personal greetings to play in response to different types of calls, for example, internal and external, busy and no answer, or out-of-hours

Voice Messaging Languages

The AUDIX Voice Messaging application is provided with a standard American English announcement set. This announcement set can be replaced or augmented with one of an ever-expanding number of options, including non-English languages and Telecommunications Device for the Deaf (TDD). Lucent account representatives have the most recent list.

Multilingual Support

With the optional multilingual feature, a user can install up to nine languages on the AUDIX system and operate them simultaneously. Callers can interact with the AUDIX system using different languages. For example, callers can follow voice prompts in languages that may or may not match the language of the people they are calling.

Users can record personal greetings in two different languages. Any prompts are also in the selected languages.

Customized Announcements

Announcements are composed of sets of spoken instructions or voice prompts in the AUDIX Voice Messaging application. One example of announcements is:

“To access your mailbox, press star R.”

AUDIX Mailbox

A mailbox is a storage area on a computer disk for messages, personal greetings, and mailing lists. All Lucent AUDIX users automatically receive a mailbox when they are administered on the system.

Each user accesses his or her mailbox through a private password. (Other users or callers leave messages in a user's mailbox, but cannot perform any other function related to that user's mailbox.) After a user logs in, the system voices the name of the user (if recorded) and reports the number of new messages (if any) received. Each message consists of the message header and message body.

Incoming Mailbox

Mailboxes are divided into two sections, the incoming mailbox, and the outgoing mailbox. The incoming section of a mailbox receives messages from other users, the AUDIX system, and callers redirected to the mailbox because no one answered the telephone. The user can save, delete, reply to, forward, and in other ways manipulate these messages. A user's incoming messages fall into three categories:

Table 2. Incoming Mailbox Categories

Category	Description
New	A message and header the user has not yet listened to. The Message Waiting Indicator (MWI) on the user's telephone turns on when a new message is present and turns off after the user has listened to it.
Unopened	A message whose header has been listened to, but not the message itself. The MWI does not stay on for this type of message.
Old	A message the user has listened to, but has not deleted.

The system administrator can set the order in which these categories are played to the user.

Outgoing Mailbox

The outgoing section of a mailbox stores messages a user creates, sends, or forwards. In most cases, these messages remain in the outgoing section until they are delivered. Outgoing messages are of the following types (listed in the default order in which users review outgoing messages). The system administrator can change this order, if desired.

Table 3. Outgoing Mailbox Categories

Category	Description
Filed	Messages that users create and save in the outgoing section of a mailbox. Users can later access these messages to modify, address and send again, or delete.
Undelivered	Messages that have not yet been sent (for example, those scheduled for delivery at a future time or date). Users can review, change, or cancel messages and their addresses at any time before delivery.
Nondelivered	Messages that the system could not deliver. The system attempts to deliver a message up to 10 times (or the administered number of times), then places the message in this category. Usually this indicates that the intended recipient's incoming mailbox is full, that the recipient's system cannot recognize or accept a message component (for example, is not fax-enabled), or that there were transmission problems (for example, with an AMIS analog line).

1 of 2

Table 3. Outgoing Mailbox Categories

Category	Description
Nondeliverable	Messages defined as “nondeliverable” can be rescheduled for delivery with a new address, or altered to allow forwarding, if needed.
Delivered	Message headers that identify messages delivered but not yet listened to or that identify messages containing components that could not be delivered. The latter type of message header is an *Incomplete Delivery* header. For example, if a message contains more than the four components allowable (that is, a voice, fax, text, and file attachment), the additional components are not delivered, and the message header indicates that a component was not delivered.
Accessed	Message headers that identify messages that have been listened to. A message is considered accessed even if only the header has been listened to.

2 of 2

Digital Networking

AUDIX Digital Networking provides the ability to exchange messages with subscribers on other AUDIX systems. The remote system can be collocated with or geographically distant from the local system.

AUDIX Digital Networking uses the proprietary AUDIX digital protocol to exchange messages, user profiles, and message status information with other machines. The digital protocol uses a digital file format, similar to a data file transfer

between two computer systems to transmit the information. Digitally transmitted messages are communicated quickly and with excellent sound quality.

Digital networking allows you to exchange voice, fax, text messages, and attached files from other AUDIX systems. Digital networking enables the user to:

- Address their messages by name only., known as name addressing. This feature applies *only* to administered remote recipients. *Administered* refers to remote users that have been entered in the database of the local system.
- Include the names and telephone numbers of remote recipients in their personal mailing lists. Nonadministered remote recipients can be included only by telephone number.
- Hear the spoken name of the person to whom they are addressing mail or looking up in the directory. If the administrator has not recorded these names, users hear only the remote mailbox ID.
- Use the names and number directory (* * N) to look up telephone numbers by name.
- Assign aliases to any remote recipients on systems administered for AUDIX Digital Networking. Administered remote recipients can be included by name or telephone number. Nonadministered remote recipients can be included by telephone number only.
- Use automatic addressing to respond to incoming messages.

Digital networking enhances AUDIX Messaging in many ways:

- Customers with business offices in more than one location, whether in the same building or in different cities, can exchange messages with all locations.
- Customers who exceed the capacity of one AUDIX system at a location can network multiple machines together to enable users to exchange messages as if they were on the same machine.

The following message-exchange features can be used for messages exchanged between remote users:

- The ability to play a recorded name, if a name is recorded for the remote user, when a user addresses a message to the remote user or when the user receives a message from the remote user.
- The ability to forward messages to one user or a group of users, respond to messages, and create group mailing lists.

For more information, use the following sources of information:

- AUDIX System Administration documentation on the DEFINITY ONE documentation CD
- Online help topics available from the Digital Networking browser screens

Lucent Message Manager

Lucent Message Manager is a combination of communications systems that function as one software application from a personal computer. Customers can create, send, and receive compound messages containing multiple media types—voice, fax, text, or file attachments (software files) to other users inside or outside of the corporate environment.

Message Manager is a Windows-based graphical user interface (GUI) that allows AUDIX system messages to be viewed on a PC screen through a local area network connection. The AUDIX system is referred to as the "AUDIX server" when it connects to a LAN.

What distinguishes Message Manager from ordinary voice messaging products is the visual access via a PC screen to information. In comparison to accessing information from a telephone keypad, viewing messages on a screen is faster for users. Users can quickly view at a glance who called, and when and why. This information helps users to prioritize and then access important information first, develop mailing lists more easily, and track multiple personal greetings.

Message Manager is available in seven languages—English, French, Spanish, Brazilian Portuguese, German, Dutch, and Czech. Additional languages are being considered for future releases.

Message Manager includes the following, basic features:

Table 4. Message Manager Features and Descriptions

Feature	Description
Send Messages to Multiple Recipients	You can create and send a message to one or several people, with one or more message components. The message is delivered as soon as possible or can be scheduled for a later delivery time.
Addressing	You can send the message to just one person, a list of people, or to someone who is on a remote AUDIX system.
Send Faxes	The fax software for Message Manager is used to create and send a new fax message. Creating a new fax is similar to printing a hard copy of your work in another program.
Fax From Other Applications	Although faxes can be stored in and sent from Message Manager, creating and sending a new fax is actually done from any other Microsoft Windows application that allows printing.
Create a Custom Fax Cover Page	You can use the Fax Cover Page Designer to add text or bitmap graphics to the fax cover page. You can also use the Designer to change the location and size of the Message Manager text display areas.

1 of 4

Table 4. Message Manager Features and Descriptions

Feature	Description
Use the Outgoing Folder	After a message is sent, you can check its delivery status by opening the Outgoing Folder. The Outgoing Folder lists all the messages you have sent, the time they were sent, and whether the recipient has received or accessed the message. In this folder, more delivery information is available by double-clicking a message header.
Build Personal Phonebook	You can use the Personal Phonebook in Message Manager to store "cards" with the addresses of AUDIX subscribers, as well as other numbers and notes. Once subscribers are added to the Phonebook, you can quickly add them to an address list. The Personal Phonebook is stored on your PC and can be used while working offline.
Build AUDIX Lists	With AUDIX lists, you can store the addresses of sets of people to whom you want to send messages all at once, such as a project team or a corporate department. You can quickly address a message to an entire address list. AUDIX lists are stored on the AUDIX server and are not available offline.

2 of 4

Table 4. Message Manager Features and Descriptions

Feature	Description
Work Offline	If you work away from the office, you may want to edit messages you have received or compose new messages, then later log in and send them during a single telephone call. This saves toll charges because an AUDIX server connection is not required except when you're ready to send or receive messages.
Minimize or Lock Message Manager	You can minimize Message Manager and still be notified of new messages throughout the day. Log in to Message Manager, then use standard Windows techniques to minimize the program and keep it active. Later, you can restore the program to retrieve messages or to create and send new messages. For enhanced security, Message Manager has a Lock feature. When you click the Lock button, the application is minimized and requires your AUDIX password to be restored. Locking Message Manager prevents others from accessing your AUDIX mailbox. This feature is inactive while you work offline.

3 of 4

Table 4. Message Manager Features and Descriptions

Feature	Description
Record Your Name or Greetings	When you install Message Manager, you can use your name and personal greeting that were recorded through the AUDIX telephone interface. However, you can select a menu option to record your name, or display a screen to record and manage greetings. The AUDIX server uses the choices you make in Message Manager for playing names or greetings to your callers.
Outcalling	If you are away from the office, you can still be notified of new AUDIX messages. Use the Outcalling feature to enter a telephone number that the AUDIX server dials to notify you of new messages.
Sound Card	Message Manager uses an audio connection to your telephone to play or record voice messages or greetings. However, you can use your computer's sound card with speakers and a microphone instead. This is also the only way to play or record your voice messages while you work offline.

4 of 4

You can provide the following information to Message Manager users:

- Message Manager Quick Reference Guide, which is on the DEFINITY ONE documentation CD
- Message Manager online help, which is available by selecting Contents from the Message Manager Help menu.

- A file customized just for your site, which is described in the Updating Your Site-Specific Information section of the Message Manager Installation chapter in the DEFINITY ONE Communications System Installation book (555-233-109)

FAX Messaging

The Lucent FAX Messaging application combines the send and receive capabilities of a stand-alone fax machine or fax modem on a PC with the many capabilities of Lucent messaging. Besides sending, receiving, and printing a fax over the telephone, a user can also forward a fax, annotate a fax with a voice message, send and broadcast a fax to multiple telephone users, and otherwise handle a fax message just as they would a voice message.

You can provide the following information to FAX Messaging users who also have Message Manager:

- Message Manager Quick Reference Guide, which is on the DEFINITY ONE documentation CD
- Message Manager online help, which is available by selecting Contents from the Message Manager Help menu.

You can provide the following information to FAX Messaging users who do not also have Message Manager:

- Messaging Solutions Quick Reference Guide, which is on the DEFINITY ONE documentation CD
- Online help available from the telephone user interface by pressing * H or * 4 at any time.

Automated Attendant

An automated attendant is an interactive telephone answering system. It answers incoming calls with a prerecorded announcement and routes them based on the caller's response to menus and prompts.

The system administrator sets up an automated attendant so that callers hear a menu of options. Callers then press the button on their telephone keypad that corresponds to the menu option they want and the automated attendant executes the selected option. Those calling from rotary telephones are typically told that they can hold or call another number to speak with a live attendant.

An automated attendant menu system, or *menu tree*, can be designed to contain subordinate layers of menus or bulletin boards. These sub-menus, or *nested menus*, play additional options that can include a choice leading to another nested menu.

The voiced menu options that callers hear are actually personal greetings that the user records for the automated attendant's extension. The content of the message can be changed just as any personal greeting can. The Multiple Personal Greetings feature can be used to provide different menus and options for different types of callers.

If your messaging system has multiple language sets available, the menu options can include a choice that routes callers to a sub-menu voiced entirely in another language. The Multiple Personal Greetings feature can also be used to record menus in various languages.

For more information on setting up and maintaining automated attendants, see the AUDIX System Administration documentation on the DEFINITY ONE documentation CD.

Bulletin Board

A bulletin board is an electronic message system that callers can access to hear messages. Callers dial the bulletin board telephone number and the system answers and presents a recorded message. The major difference between a bulletin board and an automated attendant is that a bulletin board does not have an option to route to a live attendant.

For more information on setting up and maintaining bulletin boards, see the AUDIX System Administration documentation on the DEFINITY ONE documentation CD.

5 Call Center

DEFINITY ONE Call Center applications are designed to connect each caller efficiently to the representative best suited to serve that caller. DEFINITY ONE begins the process by capturing information about the caller even before the call is routed. That information is integrated with existing databases (see Chapter 7, Computer Telephony Integration), and the combined data is used to match the caller to the agent. Additional DEFINITY ONE features politely keep callers waiting in queue (a holding place for incoming calls) informed about how long it will probably take to process the call. Detailed call statistics are constantly available to the agents and their supervisors.

Calls coming into your DEFINITY ONE call center are queued up and routed based on information that the system continually acquires. Each of your customers can be presented with a variety of options for leaving a voice message, leaving a fax, or monitoring the status of his or her call.

This section describes DEFINITY ONE call-center capabilities:

- Automatic Call Distribution, which manages call traffic and work flow
- Call Center Basic, Call Center Deluxe, and Call Center Elite, which enable you to set up a call center

DEFINITY ONE provides an applications platform that consists of several elements. When these elements are integrated to meet your business requirements, you will have the advanced call distribution that will deliver the performance and growth necessary for your business success.

Note: Some applications and products are unavailable in some countries. Please check with your local distributor for further information about which features and applications are available to you.

Automatic Call Distribution (ACD)

If your company has departments (such as sales, billing, or customer service) that handle large volumes of incoming calls, you can benefit by using DEFINITY ONE's powerful ACD capabilities. ACD is the basic building block for call center applications.

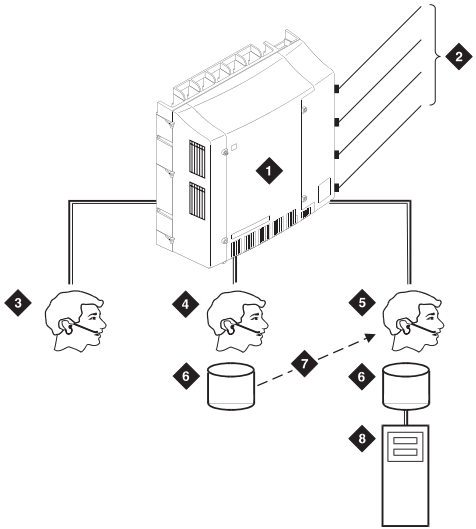
ACD offers you a method for distributing incoming calls efficiently and equitably among available employees or agents. ACD offers a number of ways to connect the agent to a call. With most idle agent distribution, an incoming call is routed to the agent who has been available for the longest time, resulting in balanced work loads for agents.

Agents in an ACD environment are assigned to a hunt group, a group of agents handling the same types of calls. DEFINITY ONE supports up to 99 different hunt groups. Each hunt group has associated trunks, stations, recordings, and queues. You can assign many ACD features on a per-hunt group basis to meet the different needs

of diverse agent groups. You can link a telephone number to an ACD hunt group by associating a published number (often an 800 number) with the hunt group extension number of the hunt group.

In the Figure 2 example of a travel agency, Hunt Group A receives calls only when agents are available since it has no queue. Calls to Hunt Group B can be queued while agents are unavailable, and redirected to Hunt Group C if not answered within an administrable time. Calls to Hunt Group C are redirected to voice mail if not answered within an administrable time.

Figure 2. A Basic Example of Automatic Call Distribution



1) DEFINITY ONE
2) Incoming Lines
3) Group A: Business Travel
4) Group B: Personal Travel
5) Group C: General Information
6) Queues
7) Call Coverage to Group C
8) Voice Mail

DEFINITY ONE can place all Automatic Call Distribution calls into a queue. Each call stays in the queue until an agent becomes available, until an optional timed interval expires, or until the caller hangs up. If the call has not been answered after an administrable period of time, an announcement can be played for queued callers. The call can then be connected to music to let the caller know that the call has not been dropped, it can be sent to a coverage path, or it can be connected to another announcement.

You can set a maximum queue length in a group to anywhere from 0 to 999 calls, and you can establish a queue warning level. If the preset maximum queue length is reached, additional incoming calls are redirected to a call-coverage path (if administered), ensuring that calls are routed to an extension that will answer the call or are given a busy signal. A priority-queuing feature allows you to designate which calls should receive priority; these calls override the standard first-in-out queuing pattern.

Two features provide for redirection of ACD hunt group calls.

- Intraflow allows an ACD call to be redirected from one hunt group to another through coverage paths that are assigned to determine call redirection criteria.
- Interflow allows new calls in a hunt group's queue to overflow and be sent to another ACD hunt group on another system using the Call Forwarding All Calls feature. Interflow can be useful during the evening, during peak operation times, or at other times when agents are unavailable.

ACD agents can use any DEFINITY ONE telephone. The CALLMASTER digital telephone is particularly recommended to meet the needs of ACD agents. A number of special ACD agent features can be assigned to these agents' telephones to enable them to perform their jobs effectively. In addition, special features are available to assist supervisors in observing and monitoring the performance of these agents.

Additional features give your company even more options when using ACD.

- Queue Status uses button lamps and telephone displays to indicate call status for calls waiting in an ACD queue on telephones with a digital display. It can also display how long the oldest call has been waiting.
- Dialed-Number Identification Service allows agents to identify (via display telephones) the purpose of each incoming call and greet the caller appropriately.
- Automatic Available hunt group allows the CONVERSANT Voice Information System or other "nonhuman" agent positions to be automatically staffed and made available.
- Each agent can be logged into as many as four hunt groups at a time.
- Malicious Call Trace allows you to designate stations that can trace emergency or threatening calls. When an agent receives a malicious call, the agent presses the Malicious Call Trace button. The system gathers trace information and optionally connects a voice recorder to the call. All equipment used to complete the call is held up (the call cannot be disconnected) until the feature is deactivated.

- Redirection on No Answer allows an unanswered, ringing call to be redirected to an ACD queue or to a Vector Directory Number after an administered interval. The agent position will also be taken out of service.
- Station Hunting allows calls to be routed first to the called extension, then according to a linear, circular, or modified circular sequence of extensions. The circular sequences work to distribute calls equitably, ensuring that there are no overworked “first” extensions in a hunt group.

DEFINITY Extender

DEFINITY Extender allows your agents to work from home. With DEFINITY Extender, agents can use DCP telephones from home and work exactly as they would in an office. See Chapter 8, Telecommuting/Virtual Office, for more information on DEFINITY Extender.

Basic Call Management System

The Basic Call Management System, an integrated, internal capability, is a cost-effective solution for small start-up Call Centers or for existing companies with minimum system-measuring/reporting requirements. The Basic Call Management System helps you fine tune your Call-Center’s operation by providing reports with the data necessary to measure your Call Center agents’ performances.

This feature offers call management control and reporting at a low cost for Call Centers of up to 200 agents. The Basic Call Management System is ideal for companies that need call management features.

The Basic Call Management System collects and processes DEFINITY ONE ACD call data (up to 7 days) within the system; an adjunct processor is not required to produce call management reports.

The Basic Call Management System provides various measurements for monitoring the operations of an ACD application. Basic Call Management System software organizes ACD calls and call-center measurements into functionally different reports that supply information useful for managing ACD facilities and personnel. The reports can be displayed on the system administration terminal in real time, printed immediately, or scheduled for printing at a later time via the Report Scheduler feature.

The following are the types of reports that can be generated:

- Real-time reports
  - ~ Agent Status
  - ~ System Status
  - ~ Vector Directory Number Status
- Historical reports
  - ~ Agent
  - ~ Agent Summary

- ~ Split
- ~ Split Summary
- ~ Trunk Group
- ~ Vector Directory Number report

Call Center Basic

The Call Center Basic package enhances your Call Center by allowing access to the following:

- Automatic Call Distribution (ACD)
- Auto Available Split
- MIA Across Splits/Skills Option
- MIA Treatment for ACW
- Multiple Call Handling on Request
- Forced Multiple Call Handling
- Move Agent/Change Skills while Staffed
- Multiple Announcement Boards
- Redirect on no Answer (RONA)
- Service Observing by Class of Restriction

- Service Observing Remote
- Timed After Call Work/Agent Pause Between Calls
- VuStats (including the Service Level and Login IDs enhancements)

Call Center Deluxe

The Call Center Deluxe package enhances your Call Center by including sophisticated Call Center capabilities such as advanced routing and vectoring and expected wait-time announcements. The Call Center Deluxe package includes all the capabilities of the Call Center Basic package in addition to the following features:

- Call Work Codes (CWC)
- Call Vectoring
- Call Prompting (Administrable Inter-digit Timeout and Administrable Converse Data Passing Rate)
- Redirect on no Answer to Vector Directory Number
- Support Network Provided Digits (Caller Information Forwarding)
- Service Observing on Vector Directory Numbers
- Vector Directory Number of Origin Announcement
- Vector Directory Number Return Destination

- Vector Administration (Route to with/without Coverage and Multiple Audio/Music Sources)
- Vector Initiated Service Observing
- Vectoring Advanced Routing
- ANI/II Digits Routing
- ASA Routing
- Best Service Routing Single Site
- EWT Routing
- Vector Directory Number Calls Routing
- Wildcard Matching

Call Center Elite

The Call Center Elite package enhances your Call Center by including all the capabilities of the Call Center Deluxe package in addition to the following features:

- Expert Agent Selection
- Reason Codes for Login, Logout, and ACW

6 Wireless Solutions

Most businesses today struggle to improve customer service and increase profits while they control costs and staff size. That means employees have to be more productive, more responsive, and often more mobile. Wireless solutions allow you to control costs by reducing time and resources spent on paging employees, interrupting work to find a telephone, rushing to answer calls, or being tethered to the desk waiting for an important call. Reliable wireless tools remove the fear of losing customers who couldn't wait to reach you directly.

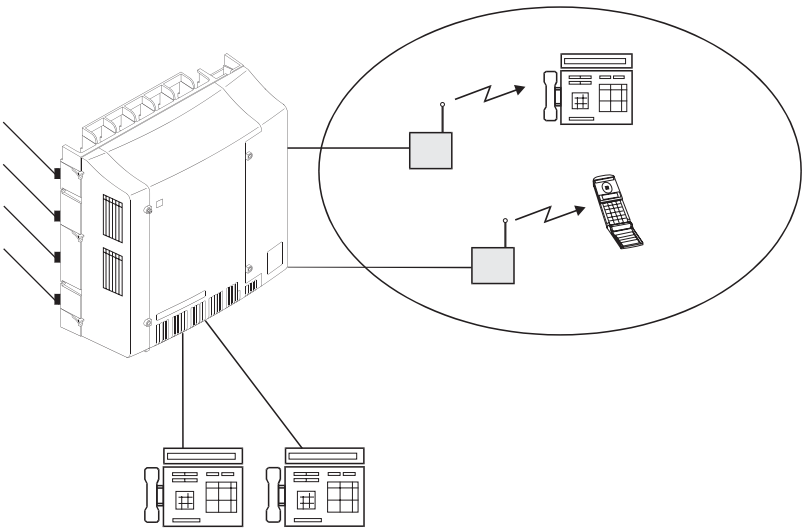
Lucent Technologies' cordless telephones and speakerphones give you complete freedom to make and receive calls around your immediate work area. Lucent Technologies is the top U. S. provider of wireless solutions for business. Lucent Technologies' Mobility Solutions offer a range of options from cordless telephones to integrated cellular business systems that greatly enhance the flexibility of wireless telephones.

Note: Some applications and products are unavailable in some countries. Please check with your local distributor for further information about which features and applications are available to you.

Medium Range Mobility Solution

The TransTalk 9000 (Figure 3) is a multiline, single zone or multizone solution that allows you to roam up to 700 feet (213 meters) from the base station. It effectively covers up to 500,000 square feet (45,000 square meters) in most business environments.

Figure 3. TransTalk 9000



TransTalk 9000 is available in two configurations:

- complete System, consisting of a carrier that holds up to six radio modules, MDW 9031 pocketphone, and corresponding charging cradles, radio modules, and holsters
- stand-alone, consisting of a single radio module, wireless telephone, charging cradle, and holster

The wireless telephones have the following features:

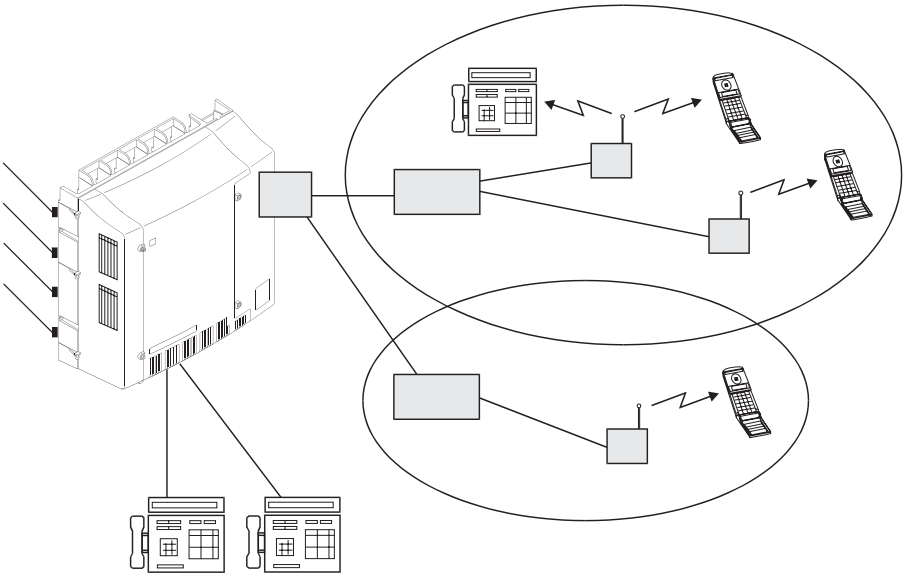
- crystal clear voice quality
- consistent privacy and secure operation
- Intercom feature
- Conference and Transfer capabilities
- programmable feature buttons
- automatic registration
- trouble lights
- extended battery life
- battery pack and optional battery backup
- rapid battery charger (2 1/2 hours)
- dynamic power adjustment

- Mute button
- mobility range test capabilities

Long Range Mobility

Lucent Technologies offers two robust systems that will keep you in touch with customers, coworkers, and suppliers wherever you go in your office complex—desk-to-desk, office-to-office, or office-to-warehouse. In both systems, overlapping zones allow you to move about freely without changing telephones (Figure 4). The telephone connection is “handed off” from one transmitter to another as necessary (within the influence of a single radio controller).

Figure 4. Long Range Mobility



The DEFINITY Wireless Business System R1 - PWT can be integrated with DEFINITY ONE, and thus have some inherent efficiencies.

The system features Lucent Technologies' Wireless System Engineering Expert Design System. This patented software, which is unique in the wireless industry, analyzes the building or campus space and determines how the wireless system should be configured. It precisely locates base stations within the structure or structures. The software effectively eliminates the most difficult aspect of wireless implementation and ensures maximum efficiency and lower lifecycle costs.

DEFINITY Wireless Business System R1 - PWT

The DEFINITY Wireless Business System R1 - PWT relies on DEFINITY ONE to manage mobility. It uses Personal Wireless Telecommunications technology, which is a leading protocol in the United States. This standard, which has the primary advantage of permitting up to 12 simultaneous conversations per base station, defines the radio interface between the portable telephones and the base stations in the system.

The DEFINITY Wireless Business System R1 - PWT is fully integrated with DEFINITY ONE and offers users full access to DEFINITY ONE features. The system has the following maximum capacities:

- 1500 wireless telephones
- 240 base stations

- 7,000 to 40,000 calls per busy hour (depending on DEFINITY ONE configuration)
- 25 million square foot (360,000 square meters) coverage area

Application Starter Package

The Wireless Starter Package enhances mobility within your business locations by enabling employees to receive important calls when they are away from their desks. Available in single-zone and multizone packages for anywhere from 1 to 25 users, the Wireless Starter Package gives workers convenient business calling features in compact handsets.

The following are the DEFINITY ONE Starter Packages for wireless:

- TransTalk: 1 to 8 handset packages
- DEFINITY Wireless Business System R1 - PWT: 6 and 10 handset packages

Availability may vary by location. Call your Sales Representative for details.

7 Computer Telephony Integration

Computer Telephony Integration (CTI) is the linking of telephone communication systems to personal computers, which can increase productivity and customer satisfaction through the exchange of information between the PC and the telephone. CTI applications integrate data processing, data communications, and voice communications.

DEFINITY ONE supports the following types of CTI applications.

- Server-Based Solutions, which require the Lucent CTI server and the MAP-D (Multi-application Processor for DEFINITY) board (TN801B).
- PassageWay Direct Connection Solutions, which require the PassageWay Direct Connection interface and service provider software to provide you with an interface between your PC and DEFINITY ONE via your telephone.

Server-Based Solutions

DEFINITY ONE supports third-party CTI applications via ASAI and TCP/IP links. These CTI links are supported on DEFINITY ONE using the MAP-D (Multi-application Processor for DEFINITY) processor complex. The MAP-D processor complex consists of a Pentium based processor running Unixware operating system software and special driver software. The MAP-D is integrated with the DEFINITY

ONE system, allowing Lucent CTI server software to run as part of the DEFINITY ONE system. DEFINITY LAN Gateway and CallVisor PC/LAN are supported on the MAP-D.

The MAP-D board (TN801B) requires three slots in the CMC cabinet. However, if placed in slots 6 and 7, the MAP-D will only require two slots.

MAP-D on DEFINITY ONE supports eight ASAI links. The maximum MAP-D message rate is 120 full duplex messages per second. With Release 7.1 software and the use of the C-LAN board, ASAI bandwidth increases to 240 messages per second. If the C-LAN board is not installed, the message rate remains at 120 messages per second.

Third-Party Applications

All of the third-party CTI applications currently supported by DEFINITY ECS are also supported by DEFINITY ONE. The following is a list of some CTI applications that are currently available. Availability of these applications varies by country.

- SmartRoute

  SmartRoute is a sophisticated routing system for call center environments. It enables users to define custom sets of rules for real-time call routing by associating scripts with PBX facilities receiving calls. SmartRoute enhances the ability of a call center's PBX/ACD to make decisions about call routing by

enabling customer-oriented decisions. Scripts may be set up to access various sets of customer-specific data via an ODBC interface, enabling users to route callers intelligently to the best-fit agent for the particular situation.

- Sixth Sense®

  Sixth Sense enables call centers to perform screen-pops and a variety of subsequent call wrap-up functions such as completing forms, updating databases, faxing information, sending E-mail, etc. Sixth Sense is a 32-bit Microsoft Windows application that runs on Windows NT and Windows 95 and waits for certain events to occur, such as:

  ~ telephony events (call ring, answer, or hang up)
  ~ keyboard or mouse events (hotkey)
  ~ Dynamic Data Exchange (DDE) events
  ~ timers

  When Sixth Sense detects a particular event, it triggers a script to take a particular action such as opening or closing applications, querying or updating databases, popping screens, generating documents, faxing information, or pre-filling forms. By automating these activities, Sixth Sense saves call center agents a significant amount of time.

- Intuition

  Intuition is a scaled down version of Sixth Sense that was designed to be a cost-effective software application to provide easier entry into CTI applications for small Call Center customers. Intuition automates the business process by using sophisticated rules-based intelligence. It “listens” for events such as inbound and outbound calls, DDE, hot key and time based events, then applies the Rules you define. For example, the you can define an Intuition Rule that runs a script or opens a spreadsheet when you get a call from a stockbroker.

  While Intuition is similar to Sixth Sense, Intuition integrates tightly with SoftPhone Agent v.5 and includes the following new features:

  ~ Script Recorder for creating script by recording user keystrokes
  ~ simulation for telephony events
  ~ auto-attendant support for scriptless call handling
  ~ enhanced User Interface

- Fast Call® Agent 3.0

  FastCall Agent is the next generation of Lucent’s most popular CTI middleware product known as FastCall. This new release is newly designed and now offers an even easier installation and usability than ever before. FastCall Agent provides a broad range of CTI functionality without requiring changes to applications or development of custom software programs.

FastCall Agent resides between the telephone system and computer applications – thus the term “middleware.” This approach allows the agent to enable these applications with inbound and outbound CTI capabilities without computer code changes within the application itself. This provides tremendous flexibility for companies with multiple departments that can benefit from CTI capabilities, particularly when each department has a different application. In addition, changes to the application do not effect FastCall Agent. Rather, FastCall Agent can be reconfigured to adapt to a new application quickly and easily. FastCall Agent “screen pops” populate a call center agent’s Windows-based application screen based on the calling number (ANI), called number (DID, DNIS, ACD group, or other telephone system identifier), or the caller’s touch tone input as the incoming call is received. These applications could include databases, help desk packages, sales force automation programs, personal information managers (PIMs), contact managers, word processors, spreadsheets, customized inquiry systems, or a combination.

PassageWay Direct Connection

PassageWay Direct Connection products bring the telephone and personal computer together into an integrated voice and data workstation that can greatly enhance communications and productivity. PassageWay Direct Connection is well-suited for those users who are constantly conducting business using both a Windows-based personal computer and a telephone and want to boost their efficiency.

PassageWay Direct Connection provides valuable computer-telephony benefits, plus it is a platform bridge to a wealth of other computer-telephony applications. Microsoft Windows Telephony Application Programming Interface (TAPI) support and Telephony Manager Script Editor and Auto-Task Manager allow independent software vendors or internal software developers to create new computer telephony integration applications or to enable existing applications to be interfaced to the telephone. These independent software vendors' products use the PassageWay platform to expand the power and flexibility of computer telephony integration at the desktop.

PassageWay Direct Connection supports international companies that need "A-law" support. PassageWay Direct Connection also supports the 8400 series telephones, which allow both 2-wire and 4-wire connections, and the 6400 series telephones, which allow 2-wire connections.

PassageWay Direct Connection consists of the following applications:

- PassageWay Telephony Manager
- PassageWay Service Provider

PassageWay Telephony Manager R2.0

PassageWay Telephony Manager is a set of computer telephony integration (CTI) applications that enable you to control telephone calls (both incoming and outgoing) directly from your IBM-compatible PC. These applications run with Microsoft

Windows 95 and Microsoft Windows NT 4.0 or later and provide you with an interface between your PC and DEFINITY ONE via your telephone.

PassageWay Telephony Manager increases your telecommunications capabilities by providing the following applications:

- Telephony Manager

  Telephony Manager enables you to control telephone calls (both incoming and outgoing) directly from your PC. From the Telephony Manager window, you can:

  - make calls from your PC
  - answer calls at your PC
  - view the calling/called party information for each call if you receive caller ID at your telephone
  - provide space to take notes during calls
  - place calls on hold with your PC
  - hang up calls from your PC
  - transfer calls from your PC
  - set up and manage conference calls from your PC
  - program system feature buttons

- Phonebook

  Phonebook is a PC application that enables you to maintain names, addresses, telephone numbers, and other information you need in a “card file.” You can place calls directly from Phonebook “cards,” and you can set Telephony Manager

to match the telephone numbers of incoming calls (caller ID) with entries in Phonebook. If the telephone number matches an entry in Phonebook, Telephony Manager displays the name of the caller, enabling you to know who is calling before you answer your telephone.

- Log Manager

  Log Manager enables you to access information from the call log, which stores a record of every call you make and receive while Telephony Manager is running. Using Log Manager, you can review and edit notes you took during calls via Telephony Manager and place calls directly from the call records.

- Script Editor

  Script Editor is an application that enables you to automate routine tasks by recording scripts that you can run with Telephony Manager. Scripts are user-defined tasks (such as running a program, redirecting a call, or performing a set of actions). For example, using Script Editor, you can program automatic “screen pops,” where your database application searches your files to find a match with the information for the incoming call (such as the caller ID number or caller ID name) automatically. If a match is found, the record containing the matching information in your database application is displayed without your having to perform any actions. You can use these scripts with Auto-Task Manager and Telephony Manager Function buttons.

- Auto-Task Manager

  Auto-Task Manager is an application that enables you to specify criteria (for example, incoming call or outgoing call, calling party number, calling party name, or call prompting digits) that will "trigger" scripts to run automatically. For example, suppose you created a script that automatically redirects incoming calls to a specific extension. Using Auto-Task Manager, you can create a trigger that will run your "redirect" script when you receive calls with Telephony Manager from specific telephone numbers or people.

- Anywhere Dialer

  Anywhere Dialer is an application that enables you to dial telephone numbers from any Windows application via Telephony Manager.

Telephony Manager also includes the PassageWay Service Provider, which enables Telephony Manager to run with the Microsoft Windows Telephony Application Programming Interface (TAPI). For more information on the PassageWay Service Provider, refer to the next section.

PassageWay Service Provider

The PassageWay Service Provider is software that enables TAPI-compliant applications such as PassageWay Telephony Manager, contact manager software packages, etc., to communicate using your PC, your telephone, and your DEFINITY ONE system.

The PassageWay Service Provider accepts the basic TAPI requests from your TAPI-compliant application and translates these requests into instructions to PassageWay Direct Connection to control your telephone and interact with your DEFINITY ONE system.

Requirements

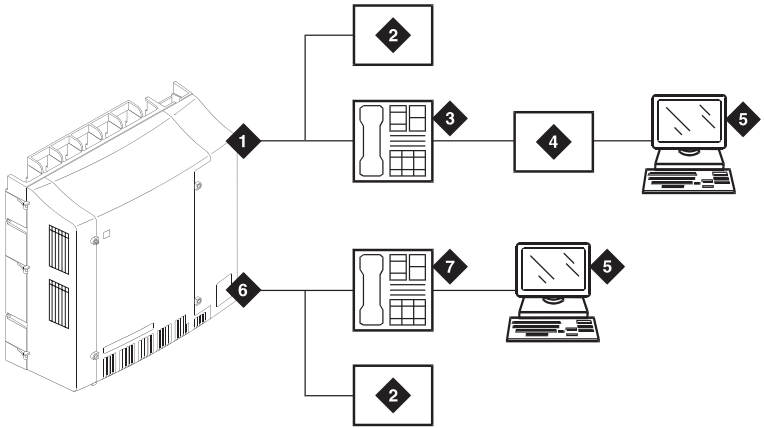
The following system requirements must be met for PassageWay Direct Connection to function properly:

- An IBM-compatible personal computer with:
  - a 486 or higher processor (Pentium recommended)
  - a minimum of 16 megabytes (MB) of RAM
  - a minimum of 25 MB of hard disk space
  - a 3.5-inch disk drive (CD-ROM drive recommended)
  - an available serial port
  - a Windows-compatible pointing device (a mouse or trackball)
  - a VGA (or higher resolution) monitor
- Any of the following operating systems:
  - Microsoft Windows 95
  - Microsoft Windows NT 4.0

- Any of the following telephones:
  - ~ 6400 series telephone
  - ~ 8400 series telephone
  - ~ 7400 series telephone
  - ~ CALLMASTER 4-wire Digital Communications Protocol telephone (with adjunct power)
- Local adjunct power (or closet power) for the PassageWay adapter
- PassageWay adapter (The PassageWay adapter is not required if you have an 8411D, 8411B, or CALLMASTER VI telephone.)

Figure 5 shows two typical PassageWay configurations.

Figure 5. PassageWay Direct Connect Configurations



1) 2- or 4-wire DCP Port

2) Auxiliary Power

3) DCP Telephone

4) Passageway Adapter

5) Personal Computer (with Microsoft Windows)

6) 2-wire DCP Port

7) 8411 DCP Telephone with built-in PassageWay Interface

Third-Party Applications

The following third-party CTI applications that use PassageWay Direct Connection are currently available. Availability of these applications varies by country.

- FastCall

  FastCall delivers multiple CTI capabilities for the Call Center type environment as well as the Knowledge Worker desktop. These include Screen Pop (based on calling/called party and/or caller input identification); Coordinated Voice and Data Transfer; Outbound Preview Dialing; Inbound Call Handling Rules (user-defined call coverage); PC-based Telephony (conference, transfer, drop, and hold calls from the PC).

  FastCall is a “middleware” and call control solution for users who are capable of building their own macros to support a variety of TAPI applications. FastCall actually sits between PassageWay and any existing Windows-based application that can reside on your LAN, desktop PC, or mainframe computer. This approach allows existing applications to be quickly “telephony enabled” without the need for low-level software development. FastCall takes advantage of simple keyboard recorded scripts/macros to link an existing Windows application (LAN or desktop) to PassageWay.

  The primary target market for FastCall is the Knowledge Worker or Informal Call Center Agent who wants to automate an existing Windows application (for example, Lotus Organizer, ACT, Paradox, Access, Telemagic, FoxPro,

Rumba/AS400, etc.) to perform one of the tasks defined previously (for example, inbound Screen Pop). FastCall works with Windows 95 and Windows NT 4.0 or later operating systems.

- SNAP Connection™

  SNAP Connection is a “middleware” and call control application that interfaces PassageWay with any Windows-based application on a LAN or a desktop. Easy to install and easy to use, SNAP Connection comes pre-configured with 20 macros for the most popular applications (including ACT! 2.0/3.0, ECCO Pro 3.02, Maximizer 3.0, Goldmine 2.5, 3.2, and 4.0, Info Select 3.0, Windows Notepad, On-Schedule 3.0, Lotus Organizer 97 and 1.2, Microsoft Outlook 7.0, Microsoft Schedule + 7.0, Sidekick 2.0 and Sidekick Deluxe for Windows 95, Time & Chaos 4.07, 4.07A, 4.08, and 5.X, Telemagic 2.0A Up-to-Date for Windows 95 for easy “plug and play.”

  SNAP Connection seamlessly integrates your Lucent telephone with all your Windows programs. SNAP Connection includes the following:

  ~ PC Phone, which enables a user to make, receive, and manage your phone calls from your PC.

  ~ Call Log, which keeps a record of the caller’s name, number, time, date, and the duration of the call.

  ~ Screen Pop, which automatically launches a supported third party application that contains more information about the caller.

- Address Book, which stores additional information about your contacts and up to 10 pages of notes for each contact.
- Data Exchange, which is a utility program that imports names and telephone numbers into SNAP Connection.
- Mini-Dialer, which allows the user to highlight a name or number in any Windows program and then click the Dialer icon to have the number dialed.

SNAP Connection works with Windows 95 and Windows NT 4.0 or later operating systems.

- Commence™

  Commence is a workgroup information manager that helps keep you in control and in contact with your business customers and associates. Commence automates your communication tasks and greatly aids workgroup communication.

- PhoneLine®

  PhoneLine provides online access to up-to-date enterprise directory information and provides the resources to use the information in networked, stand-alone, and mobile computing environments. It improves worker productivity by freeing users from struggling with outdated paper directories and providing them with fast online access to accurate corporate and personal directories. PhoneLine's extensive directory searching features enable users to locate directory entries

quickly by any field. Computer telephony support (via PassageWay Direct Connection and CentreVu Computer Telephony) enables users to dial any directory entry and manage all phone activities through their PCs.

PhoneLine makes it easy to dial, transfer, conference, and receive incoming calls. Incorrect dialing of commonly used phone numbers is eliminated using PhoneLine. Inbound screen pops can be enabled to provide on screen caller identification and call screening capabilities.

Phone book printing capabilities within PhoneLine are provided for situations where paper directories may still be required. SMTP and MAPI integration enables email messages to be initiated from PhoneLine. MasterDirectory, the directory management tool provided with PhoneLine, collects and synchronizes directory information from a wide variety of sources (such as PBXs, telecom, and corporate databases, etc.). Once the data is consolidated, MasterDirectory works in conjunction with PhoneLine (and PC Console) to distribute the latest enterprise directory information to the end users throughout the organization.

8 Telecommuting/Virtual Office

Lucent Technologies' research, supported by industry studies, shows that telecommuters are generally 15 to 30 percent more productive when they work at home. They convert travel time into productive work time, are less likely to be distracted by normal office routines, and frequently end up working longer hours with greater output. During severe weather, they can continue working when others cannot.

Special DEFINITY ONE system modules are available for telecommuting. In addition, many standard DEFINITY ONE and voice messaging features work well for telecommuters.

DEFINITY ONE Features for Telecommuting

DEFINITY ONE includes several features that make telecommuting even more convenient.

Remote Call Coverage/Call Forwarding Off-Net/Coverage of Calls Redirected Off-Net

Remote Call Coverage and Call Forwarding Off-Net allow calls to be redirected to a remote location. This allows you to have calls placed to your office telephone number redirected to your home office. You can administer the system to either monitor calls and bring them back for additional processing if not answered (for example, voice mail) or to leave calls at the remote (off-net) location. (There is a one-second delay before the caller connects to the remote telephone.)

Extended User Administration of Redirected Calls (Telecommuting Access)

Extended User Administration of Redirected Calls (also called Telecommuting Access) allows you to change the active call coverage path or forwarding extension from any on-site or off-site location. Thus you can change the path or extension from your home office, for example.

Personal Station Access

Personal Station Access allows you to transfer your telephone station preferences and permissions to any other compatible telephone. This includes the definition of terminal buttons, abbreviated dial lists, and Class of Service and Class of Restrictions permissions. It can be used on-site or off-site (with DEFINITY Extender). This

feature has several telecommuting applications. For example, several telecommuting employees can share the same office on different days of the week. The employees can easily and remotely make the shared telephone “theirs” for the day.

Station Security Codes

Station Security Codes protect access to telephone stations. Now these codes can be changed by the telephone users. This feature allows you to easily ensure protection of your console features.

All of these features are described in detail in the DEFINITY ECS Release 7 Administrator’s Guide (*555-230-502*), which is on the documentation CD, under the following feature names:

- Call Coverage
- Call Forwarding
- Extended User Administration of Redirected Calls
- Personal Station Access
- Station Security Codes

Pipeline 15

The Ascend Pipeline® 15 is an easy-to-use ISDN-BRI terminal adapter that provides a single user access to remote services (such as a corporate headquarters, intranet, or the Internet) over an ISDN-BRI line. The Pipeline 15 supports high-speed digital connections while simultaneously offering two analog ports for sharing the ISDN-BRI line with analog devices such as a telephone, fax machine, answering machine, and/or modem. By combining separate transmission services over a single line, the Pipeline 15 allows users to consolidate billing and achieve superior consolidated performance.

Installing and configuring the PipeLine 15 is easy. The Pipeline 15 connects to an IBM-compatible PC, Macintosh®, or UNIX® workstation via an RS-232 serial cable and has a powerful graphical user interface that lets users set up and configure their unit in less than 15 minutes.

The Pipeline 15 supports integrated Multilink PPP, Multilink Protocol Plus, and Bandwidth Allocation Control Protocol, which will save users money each year by dynamically adding and subtracting bandwidth based on need. The Pipeline 15 also supports caller line ID devices on its two analog ports and advanced analog calling features such as hold, drop, conference, and transfer.

DEFINITY Extender

DEFINITY Extender is a single-box remote voice and data solution for telecommuters, remote agents, and branch offices using the DEFINITY One. DEFINITY Extender helps increase the productivity and performance of remote workers by allowing them to access the features of the DEFINITY ONE system and their corporate LAN. With the DEFINITY Extender, remote voice access is just as simple as remote data access for off-premises employees.

The DEFINITY Extender product family provides off-site employees with all of the features of their DEFINITY ONE system, no matter where they are located, over analog or ISDN-BRI connections. A switch module located at the DEFINITY ONE location and a remote module located at the off-premises location are all you need to provide an off-premises employee with full voice and data communications functionality.

AUDIX Features for Telecommuting

The following AUDIX features are useful for telecommuting:

- *Multiple Personal Greetings* allow subscribers to prepare a pool of up to nine personal greetings to save time and provide more personal customer service. Separate messages can indicate the subscriber is on the telephone, away from the desk, on vacation, etc.

- *Outcalling* automatically dials a prearranged telephone number or pager when messages are received in a user's mailbox. The system tells whoever answers that messages have been received and allows them to log in to the AUDIX system.
- *Priority Outcalling* provides outcalling notification of priority messages only. This allows the telecommuter to be relatively undisturbed by notifications of messages that do not require immediate attention.
- *Call Answering for Nonresident Subscribers* provides AUDIX system mailboxes for remote users who do not have a telephone but do have an extension number on DEFINITY ONE.

For example, when working at home, you set up Priority Outcalling so the system will call you when you have messages marked "priority" by the caller. Then you activate a personal greeting that says something like, "Thanks for calling. I'm working away from the office today. I'll be checking voice mail periodically, so please leave a message. If your message is urgent, press 2 after recording it. This will give your message priority status. The system will notify me of your priority message almost immediately."

Starter Application Package

The Virtual Office Starter Package lets you provide voice and data access for off-site workers and telecommuters. Ideal for businesses with employees who often work at home or other remote locations, this package allows workers to access your business

LAN or the Internet from a remote office or home. Off-site workers can even receive telephone calls using a single telephone number no matter where they are, enabling them to work where they need to.

Call your Sales Representative for details.

9 System Administration

DEFINITY ONE offers a variety of easy-to-use modular tools for managing your system.

Terminal and facility administration features allow you to administer telephones, computers, facilities, and features throughout your system or network. Traffic management features allow you to measure, manage, and report on the voice and data communications traffic throughout your system or network. Maintenance features allow you to view the health of your system and perform maintenance procedures on your own system, if you choose to do so.

This broad system management philosophy extends DEFINITY ONE's power and flexibility into the tools for managing the system. These tools are based on the user-friendly architecture that is the hallmark of DEFINITY products.

DEFINITY Site Administration Release 1.0

As previously stated, the DEFINITY ONE applications are pre-loaded on the hardware platform. The actual set up of customer translations are administered through a common system management tool, DSA, which is integrated into the platform itself. DEFINITY Site Administration is a new general-purpose DEFINITY System Management tool that makes basic administration of the DEFINITY system

more convenient. With this application, users can navigate, display, add, modify, and/or remove the DEFINITY system and related object more easily than they could using an SAT terminal. The standard SAT interface it is still available to use for administration through terminal emulation.

DEFINITY Site Administration streamlines common system administration tasks by providing:

- short cuts to command administration commands
- the ability to schedule tasks to run at a later date
- the ability to print button labels
- the ability to easily create AUDIX subscribers with either a default mailbox or a custom mailbox

DEFINITY Site Administration, which provides an easy-to-use, 32-bit, Windows-compliant, graphical user interface, runs on Windows 98, Windows 95, and Windows NT 4.0 or later. Designed to support DEFINITY AUDIX and INTUITY AUDIX systems, DEFINITY Site Administration requires an active DEFINITY system or AUDIX connection for proper operation.

DEFINITY Site Administration provides the following functionality:

- Browser

  The Browser provides navigation and access to features and services. The user creates hosts and their related data objects and access their DEFINITY and/or AUDIX hosts from the Browser. The Browser is based on a standard tree view and forms the central user interface component in DEFINITY Site Administration.

- Emulation

  The emulation support in DEFINITY Site Administration includes AT&T 4410 and provides the most basic and primitive form of System Administration.

- Graphically Enhanced DEFINITY Interface (GEDI)

  The Graphically Enhanced DEFINITY Interface feature provides users with a Windows-like interface to:

  - add DEFINITY objects
  - remove DEFINITY objects
  - change DEFINITY objects
  - view the status of DEFINITY objects
  - duplicate DEFINITY objects
  - test DEFINITY objects
  - generate tasks that may be scheduled to run at a later date and time

- Scheduler

  The Scheduler enables users to specify a task to run at a specific date and time. A task is a collection of one or more operations that users can specify to run at a predetermined time. Tasks can be generated from either the Graphically Enhanced DEFINITY Interface, the Add User Wizard, or Call Accounting Data Export.

- Event Log

  The Event Log enables users to view the results of running and completed tasks.

- Job Viewer

  The Job Viewer enables users to view the task or job status while it is being executed. The Job Viewer also shows the queue of jobs yet to run.

- Button Label Printing

  The Button Label Printing feature enables users to print button labels for the handsets using a standard Windows laser printer. This feature also provides a graphical print preview. The Button Label Printing feature supports printing multiple labels of the same type.

- Add User Wizard

  The Add User Wizard assists in the creation of station and subscriber details by automatically providing help such as available extensions and ports and allowing users to base the creation on an existing template.

- Call Accounting Data Export

  The Call Accounting Data Export feature enables users to export information on stations, trunks, agent login identification, Authorization Codes, and trunk circuits from the DEFINITY ONE system to share with any third party call accounting program that can work with DEFINITY Site Administration.

- Import/Export Capability

  DEFINITY Site Administration provides easy graphical exporting and importing of agent login, coverage paths, hunt groups, data modules, stations, trunk groups, and VDNs. Users can export data fields to databases such as Microsoft Excel. Users can then change the data, import the data back into DEFINITY Site Administration, and then resend the data to the DEFINITY ONE system. The import/export capability can also assist users in creating corporate directories and custom reports.

- Global Change Capability

  The global change capability enables users to select and change field values in one or more of the following objects that matches a search filter:

  ~ agent login ID
  ~ coverage path
  ~ data module
  ~ hunt group
  ~ station

- ~ trunk group
- ~ VDN

- Create Station Templates Wizard

  The Create Station Templates wizard steps users through easy-to-follow instructions on how to create station templates.

- Add Bridged Appearances Wizard

  The Add Bridged Appearances wizard steps users through easy-to-follow instructions on how to add bridged appearances to telephones.

- Out of Service Trunks

  The Out-of-Service Trunks feature creates a task that checks periodically for out-of-service trunks. If an out-of-service trunk is found, the users are notified either in the DSA message box or by email.

- Reports

  DEFINITY Site Administration provides the following reports:

  - ~ Browse Dial Ranges, which enables users to quickly and easily view the complete dial ranges in the DEFINITY ONE system.
  - ~ Browse Stations, which enables users to quickly view all assigned stations in the DEFINITY ONE system.

- Browse Unused Ports, which enables users to view the available ports in the system.
- Find Unused Extension, which enables users to view unused and available extensions.

Terminal Administration

DEFINITY ONE includes features that ease, simplify, and accelerate the administration process from a terminal.

Portless Administration/Administration Without Hardware

The Administration Without Hardware feature gives you the ability to administer station forms without specifying a port location. Administered stations will not cause alarms or errors to be generated when the station is translated but not yet installed. These station types are referred to as “phantom” stations. Phantom extensions can be used for Automatic Call Distribution Dialled-Number Identification Service. This feature allows a phantom extension to be administered on the switch for each call type that needs to be identified to agents. The phantom Automatic Call Distribution extension either is “call forwarded” (via an attendant console) to an Automatic Call Distribution split or has its coverage path defined to include the Automatic Call Distribution split. The name field administered for the phantom extension will identify to the Automatic Call Distribution agent which service the caller is

attempting to reach, allowing the agent to properly address the caller. (Automatic station relocation/terminal translation initialization, which is described in the next section, is part of the Portless Administration/Administration Without Hardware feature.)

The Administration Without Hardware feature also supports the ability to store station templates (models). These can later be used with the duplicate station command to implement many station forms of the same type in the switch.

The Administration Without Hardware feature can be used to streamline system initializations, major additions, and rearrangement/changes by allowing telephone translations to be entered before the actual ports are assigned.

The Administration Without Hardware feature can be used on the following terminal types:

- analog telephones
- Digital Communications Protocol telephones
- hybrid telephones

DEFINITY ONE's configurations support additional terminal types to those listed above. These include:

- attendant consoles
- voice/computers (such as Digital Communications Protocol terminals with voice and data capabilities)
- data modules

- analog queue warning ports
- announcement circuit packs

Automatic Station Relocation/Terminal Translation Initialization

DEFINITY ONE provides terminal translation initialization, a feature that works with the Administration Without Hardware feature. (Terminal translation initialization is part of the Portless Administration/Administration Without Hardware feature, but it can also be a stand-alone feature.) Terminal translation initialization associates the terminal translation data with a specific port location through the entry of a special feature-access code, a terminal translation initialization security code, and an extension number from at a terminal that is connected to a wired — but untranslated — jack.

After a terminal is connected to an appropriate jack, the terminal user can dial the appropriate codes followed by a pretranslated extension number of an Administration Without Hardware terminal. The system will complete the administration of the terminal by associating the translation data with the port location and performing appropriate checks.

Terminal translation initialization reduces the labor associated with system initializations, major additions, rearrangement and changes, and building wiring. Translation data entry can be performed without knowledge of the physical layout of

circuit packs. End-users can move their own station equipment if a building is wired to support it, reducing costs for station moves. Individual lines need only be wired to the correct type of port, rather than a specific port.

System administrators maintain control over the use of terminal translation initialization through security codes. By activating and deactivating security codes, administrators can control who uses terminal translation initialization — and when.

Scheduling

DEFINITY ONE's functional scheduling allows you to specify the time at which a command will be executed or to specify that it should be executed on a periodic basis. Only commands that do not require user interaction after being entered on the command line (such as list, display, test) can be scheduled.

DEFINITY ONE also supports scheduling of "one shot" requests — commands that are executed only once and then removed from the scheduling queue automatically by the feature, such as save translation commands.

Functional scheduling enhances administration. For example, scheduling of save translations is particularly important when large numbers of translation changes are made during the day, ensuring that they will be saved to tape at the specified time. The "one shot" report is particularly useful for scheduling large print jobs at night that are normally run only once.

Basic Reporting

DEFINITY ONE has built-in capabilities for generating reports. These reports are available without special hardware or software.

System Measurements reports supply information on the status of all communication facilities. These reports help determine the efficiency of resources, including but not limited to trunk groups, hunt groups, and the attendant group.

System Status reports supply information associated with the attendant group, major and minor alarms, and traffic measurements.

- The Recent Change History feature reports on the most recent administration and maintenance commands entered. DEFINITY ONE also supplies:
  - ~ new site data on the station form. New fields include the set color, building, floor, and headset. In addition, user-defined validation checks are provided for a subset of the site data items.
  - ~ scaling enhancements, as well as a ranging and filtering capability, for large switches. These enhancements allow your system administrator to restrict data reporting to only the desired amount of switch parameters.

DEFINITY ONE also includes the following reports:

- The Class-of-Restriction report lists the extensions that have a particular Class of Restriction value or that fall within a range of Class of Restriction values.

- The Class-of-Service report lists the extensions that have a particular Class of Service value or that fall within a range of Class of Service values.
- The Site Data report lists, by extension, the site data associated with stations in the system. Ranging and filtering capabilities are provided for selected site fields.

Performance Measurements

A number of performance measurements are available on DEFINITY ONE. These measurements are available in the form of switch-based reports for local or remote access, and can be collected for subsequent analysis and reporting by adjuncts and operation support systems using the operation support system interface protocol. These reports include:

- Call Coverage reports
- Coverage Points

  These measurements can be used to engineer group sizes at coverage points and to detect station user abuse of the call-coverage feature.

- Processor Occupancy report

  These measurements are listed for the last hour, today's peak hour, and yesterday's peak hour.

The Traffic Summary report offers additional measurements that help configure the switch, determine the switch's capacity for growth, and report unauthorized switch-access attempts.

These measurements can be used to verify that your system and its users are not experiencing performance degradation due to overloaded switch resources.

- Attendant Position report
- Security Violations report
- Tandem Traffic report

The following measurements are useful in helping you evaluate the network engineering design for possible reconfiguration. They can help you decide how to reconfigure networks for lower-cost operation.

- Hunt Group Measurements
- Automatic Route Selection Pattern Measurements
- Trunk Group Detailed Measurements

The following measurements and reports are needed for engineering and load balancing a large switch. These measurements include:

- Blockage Study report
- Port Network and Link Usage

All of these measurements are accessible to an external host via the operation support system interface.

ECS Reports Generator

The ECS Reports Generator is an easy to use, graphical reporting tool that does the following:

- maintains a location database of all the systems managed (in addition to DEFINITY ONE, it supports Lucent Technologies' System 75, G1, and G3 systems)
- provides automated connections via predefined scripts to the various systems
- captures all predefined reports immediately, or schedules off-peak downloading to your personal computer
- creates faxable order forms and keeps a record of all purchases for all systems in the network
- provides cut-through administration capability with a 513 terminal emulator
- provides flexible sorting and formatting options for report display and export to other applications
- provides an easy-to-navigate interface, with simple setup procedures

The scheduler can be used for off-peak, automatic polling of systems for daily reports required for monitoring your DEFINITY ONE environment. It can also be set up to invoke special scripts or personal computer applications.

The ECS Reports Generator produces all standard reports, plus the following.

- The Unused Extension Report shows all unused extensions.
- The Configuration Pictorial graphically depicts your system, with cabinet, carrier, and slot representation. It maps the station data to the configuration data so you can easily determine where stations are assigned for a port on a circuit pack. You can easily see which ports are free on which slots and what the port names are.
- The Configuration Summary provides a total system inventory with totals of circuit packs in use and the total number of free ports. It also recommends ways to consolidate and conserve resources.
- The Station Reports allow you to sort station data in a variety of columns.
- The Phone Directory allows you to create and maintain a directory list for general distribution. You can define some extensions as unlisted, and they will not be printed in the directory.
- The Out of Service Trunks report notifies you during off-peak hours of any trunks that are not functioning.

All of these custom reports can export data formatted for use by other database management applications.

Call Charge Information

DEFINITY ONE provides two ways to know the approximate charge for outgoing calls:

- Advice of Charge — For ISDN trunks

  Advice of Charge collects charge information from the public network for each outgoing call. Charge advice is a number representing the cost of a call; it is recorded as either a charging or currency unit.

- Periodic Pulse Metering — For non-ISDN trunks

  Periodic Pulse Metering accumulates pulses transmitted from the public network at periodic intervals during an outgoing call. At the end of the call, the number of pulses collected is the basis for determining charges.

Call-charge information helps you to account for the cost of outgoing calls without waiting for the next bill from your network provider. This information is especially important in countries where telephone bills are not itemized. You can also use this information to let employees know the cost of their telephone calls, encouraging them to save money on toll calls.

Note: This is unavailable in some countries. Please check with your Account Executive or local distributor for availability in your country.

Call Detail Recording

Also included in the timely and efficient management of your communications system is the management and control of call costs. The Call Detail Recording capability allows you to monitor and analyze call patterns and usage in your system. DEFINITY ONE has enhanced the Call Detail Recording capabilities available to you.

Call Detail Recording Features

DEFINITY ONE enhances Call Detail Recording with the following capabilities:

- distinguish voice from data on trunk calls
- determine if a data call used a conversion resource, such as a modem pool
- choose whether to record the vector directory number in the “Dialled Number” field of the Call Detail Recording record, or record either the split or the agent extension in the same field
- allow Call Detail Recording records to be generated for internal calls (calls to and from a set of extensions, including data endpoints) so administered (a maximum of 500 extensions in large configurations)
- with Call Privacy, allow up to seven digits of the dialled number to be blanked from the Call Detail Recording record

- use a second Call Detail Recording port for sending Call Detail Recording data to a second source
- provide Call Detail Recording call splitting, which allows incoming and outgoing calls to be split into separate call records in order to track calls that transferred to other internal parties

DEFINITY ONE includes the Variable Format Records feature, which provides a flexible means of incorporating new fields in the call detail record as new switch features and new Call Detail Recording devices become available. The variable format allows you to define a record in terms of its content (from a set of available data elements), the position of its fields, and the spacing between the fields. This method can be used to construct the 15-, 18-, and 24-word standard formats and custom formats.

If calls come in while the Call Detail Recording link is down and the buffer is filled to maximum, DEFINITY ONE gives you the following administrable call-record handling options:

1. block the calls with reorder
2. allow the calls to overwrite records
3. route the calls to an attendant with the option to proceed as a non-Call Detail Recording call

Call Detail Recording Devices

The following output devices are supported by DEFINITY ONE:

- local storage devices such as the Call Detail Recording Unit and any customer-provided storage device with an RS-232C interface
- processing devices — such as the Lucent Technologies Call Accounting System Plus, Cost Allocator, or host processors — that are supported over an RS-232C interface with XON/XOFF flow control
- asynchronous ASCII printers with RS-232C interface

The enhanced variable format records feature capability in DEFINITY ONE supports any customer-defined data presentation, and therefore can support any devices over an RS-232C interface.

Call Accounting Systems

Several options are available to you for call accounting, depending on what type of system administration tools you are using.

Call Accounting System for Windows

The Call Accounting System for Windows allows you to generate comprehensive and accurate accounting reports using the familiar Microsoft Windows environment, which allows you to run several tasks at once. See “Call Accounting Systems” in Chapter 3, Adjuncts, for more information.

Call Accounting System Terminal

Lucent Technologies' Call Accounting System Terminal is an easy-to-install hardware and software package that allows you to assign expenses to as many as three organizational levels. For example, you might assign costs at the department, cost center, or extension level.

The system makes it easy for you to generate a wide variety of accounting and system reports. For example, the Facility Grade of Service Report helps identify the number of number of trunk lines needed to respond efficiently to incoming calls. You can also generate toll fraud reports and alarms that identify excessive personal calls, unauthorized calls, and calls to expensive dial-up recordings.

Security

Besides the toll-fraud detection options available with the DEFINITY ONE Call Accounting Systems (described in the previous section), DEFINITY ONE includes many other security features, some of which are an integral part of the system design.

Security Violation Notification

Security violation notification identifies potential hackers' attempts to access DEFINITY ONE. It notifies you when the number of invalid barrier-code attempts or invalid login attempts is greater than the administered threshold.

A monitor report displays the last 16 invalid barrier-code attempts and the last 16 invalid login attempts. This report is automatically updated every 30 seconds.

Call Restrictions

By dialing an access code, administrators, and attendants have the ability to restrict users from making or receiving certain types of calls. There are five restrictions:

- Outward — Users cannot place external calls.
- Station-to-station — Users cannot place or receive internal calls.
- Termination — Users cannot receive any calls (except priority calls).
- Toll — Users cannot place toll calls.
- Total — Users can neither place nor receive any calls.

Starter Application Package

The System Administration Starter Package has all the functionality of the DEFINITY Site Administration package but for a single site. This Windows-based software application lets you make changes to your DEFINITY ONE system administration quickly and efficiently from your PC. If you grow, this package can be upgraded to the full multisite version. Call your Sales Representative for details.

10 Networking

DEFINITY ONE provides not only powerful voice and data capabilities, but connections to a variety of voice and data networks as well. Lucent Technologies has long been a leader in networking. DEFINITY ONE continues to build on those established networking strengths to offer you network management features, network interfaces, a variety of private network configurations, and end-to-end ISDN capabilities. Lucent Technologies' leadership in developing and supporting open international networking standards is also apparent in DEFINITY ONE's compatibility with the QSIG global standards.

Note: Some applications and products are unavailable in some countries. Please check with your local distributor for further information about which features and applications are available to you.

Uniform Dial Plan

Uniform Dial Plan provides a common 4- or 5-digit dial plan that can be shared among a group of switches. Interswitch and intraswitch dialing both require 4- or 5-digit dialing. This feature is used with an electronic tandem network (ETN); main,

satellite, and tributary switches; and Distributed Communications Systems. In addition, it can provide uniform 4- or 5-digit dialing between 2 or more private-switching systems without ETN, main, satellite, and tributary switches, or DCS.

With Uniform Dial Plan, a unique 4- or 5-digit number is assigned to each station on the network. This unique number (location code plus extension) can be used at any location in the Electronic Tandem Network to access that station. DEFINITY ONE enhances the standard uniform dial plan with the unrestricted 5-digit uniform dial plan, which allows up to five digits to be parsed for call routing.

Distributed Communication System — Integrated SDN and Non-Integrated SDN

For a multilocation company that requires several systems, Distributed Communications System (DCS) may be the answer. DCS is a network arrangement of private switches, referred to as nodes. The maximum number of nodes that can be in a DCS varies from 20 to 63, depending on the particular configuration of switches. DCS nodes can be physically located in the same building, spread across a campus, or scattered across the country or around the world. Digital trunks interconnect the switches that serve the DCS complex. The links connecting a Distributed Communication System may also be provided across a Software Defined Network.

The functions and features of Distributed Communication System are made possible by the use of an advanced interprocessor data link connecting each switch, allowing call-processing to be passed from one switch to another. The data link supplies selected feature transparency and efficient utilization of facilities that can be shared.

Feature transparency means that features work the same from the user's perspective, whether the telephones involved are assigned to the same switch or different switches. Users in a DCS can dial each other with four or five digits as if they were all on the same switch.

Here are just a few examples of feature transparency in a Distributed Communication System:

- Leave Word Calling — Allows you to touch a button on your voice-terminal and leave a standard "call me" message with your name and phone number. When your DEFINITY ONE is linked with other switches in a DCS, you can call any employee in your company and press the Leave Word Calling button to automatically leave a message requesting a call back.
- Calling-Party Name Display — If your telephone is equipped with a digital display, information about the person calling you is displayed before you pick up the receiver. You can know who is calling if that person is in a nearby building or even across the country.

- Centralized Messaging — Messaging services for the entire Distributed Communication System network may be coordinated by one system, depending on volume and the version of the main and remote switches. This means that switches with smaller messaging requirements do not share a voice messaging system with another switch.

DEFINITY ONE's Distributed Communication System features DCS over ISDN-PRI with path replacement for optimizing trunks. Thus when you transfer out of your AUDIX voice messaging system, for example, DEFINITY ONE sets up a new path that optimizes system resources.

Distributed Communications System and ISDN

Distributed Communication System nodes are connected by digital trunks (using DS1 and ISDN-Primary Rate Interface facilities, for example). To support DCS customers, DEFINITY ONE can transport DCS messages over ISDN-Primary Rate Interface D channels. As a result, you are not limited to private-line connections between your various locations. You can also use public network services. (See Figure 6.)

The Software Defined Network supports all DCS features except the following:

- DCS attendant control of trunk group access
- DCS attendant direct trunk group selection
- DCS busy verification of terminals

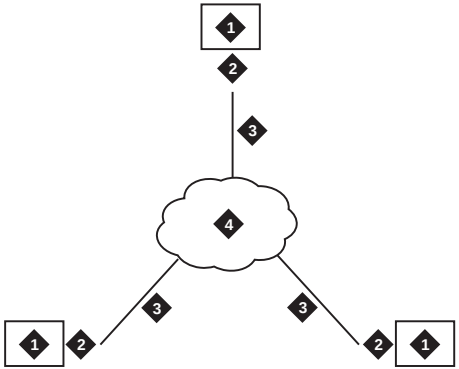
All other capabilities and limitations associated with the DCS still apply.

AUDIX systems networked via DCS can also be supported over ISDN-Primary Rate Interface. (See Chapter 4, INTUITY AUDIX Messaging, for more information.)

DEFINITY ONE DCS Networks

If your company has two or more sites with DEFINITY ONE, you can network them together using the DCS over ISDN-PRI feature (DCS+). This requires each system to use ISDN-PRI signaling. The network connections can be either ISDN-PRI or private network DS1 dedicated facilities. Figure 6 shows a network using ISDN-PRI signaling.

Figure 6. A Network Using DCS with ISDN-PRI



1) DEFINITY ONE

2) Signaling via ISDN-PRI

3) Transmission via ISDN-PRI or Private Network T1/E1 Facilities

4) Public or Private Network

QSIG Global Networking

DEFINITY ONE is a pioneer in providing compatibility with the QSIG global networking protocol. This means you can connect DEFINITY ONE with other switches throughout the world. Lucent Technologies developed QSIG Global

Networking feature to comply with the QSIG standards developed by the European Computer Manufacturer's Association and the International Standardization Organization. It supports the ISDN-Primary Rate Interface connection from switch to switch as long as both switches support the same protocol.

The Lucent Technologies' implementation of QSIG features the Name Identification supplementary service and the Call Forwarding and Call Transfer features. QSIG enables the system to move calls from their original paths to new paths that cost less or use resources more efficiently. New paths can be set up after a call has been transferred or after a call has been forwarded using the Diversion with Rerouting feature. DEFINITY ONE's implementation of QSIG also supports the ISO QSIG private network diversion supplementary service, as described in the QSIG standard.

World Class Routing

DEFINITY ONE has been designed to be a world-class system that meets the needs of both domestic and global customers. One capability essential in meeting those needs is the ability to flexibly dial any location in the world, regardless of the dial plan used at that location. In recognition of this requirement, DEFINITY ONE has been designed with World Class Routing.

World Class Routing is a powerful enhancement to DEFINITY ONE's call-routing capabilities, linking several call-routing features to build a communications network capable of providing flexible call routing for any type of dialing plan while accommodating changes in both international and domestic dialing plans.

The following are key components of World Class Routing:

- *Digit Conversion* converts a dialed number for public network number to a private network number and vice versa. Dialed numbers matching entries in the digit conversion tables are treated and converted. Converted calls can be routed via the most optimum route, resulting in reduced network charges and appropriate use of the private network.
- *Toll Analysis* compares a dialed number to entries in the system's list. Based on the results, calls may be restricted from completion.
- *Automatic Route Selection* digit analysis compares a dialed public network number with entries in the system's tables, mapping the number to a selected public network routing pattern.
- *Automatic Alternate Routing* digit analysis compares a dialed private network number with entries in the system's tables, mapping the number to a selected private network routing pattern.

World Class Routing supports the Automatic Route Selection and Automatic Alternate Routing as separate features, but through generalized administration applicable to both features, provides both the same routing abilities. In addition, there are a number of capabilities that enhance the flexibility of routing in supporting your domestic and/or global calling requirements.

For example, 18-digit routing allows DEFINITY ONE to determine call routing by analyzing up to 18 digits with no restriction on the grouping or format of the digits, eliminating any assumptions about the use of a particular dialing plan.

International Direct Distance Dialed calls generally consist of an international access code, a country code, and a national number. Both codes may vary in length. DEFINITY ONE's support for International Direct Distance Dialed calls eliminates any restriction on the grouping and format of digits on Automatic Route Selection numbers. Call routing is determined by the digits and the length of the dialed number.

Multinational World Class Automatic Alternate Routing allows the Automatic Alternate Routing number (Electronic Tandem Network number) to be any number of digits in length.

Digit conversion can be used to reroute numbers, initially dialed to use Automatic Route Selection, to be converted to use Automatic Alternate Routing and vice versa. This utility can analyze a maximum of 18 digits. In this way, destinations in a customer's network can be called using the public network number. This feature can also be used to reroute certain Direct Distance Dialed destinations to specified alternate destinations (such as intercept, attendant, or another Direct Distance Dialed number).

Network Management Features

DEFINITY ONE has a variety of features that enable you to manage your network resources effectively. Here are just a few examples of the DEFINITY ONE's features that can be used to manage your network: Time of Day Routing, Automatic Route Selection, Automatic Alternate Routing, Additional Network Feature Path

Replacement, Subnetwork Trunking, Generalized Route Selection, Facility Restriction Level, Bearer Capacity Class, Remote Network Access, Public Network Call Priority, and Authorization Codes.

Time of Day Routing

Time of Day Routing allows you to select the most economical routing of Automatic Route Selection and Automatic Alternate Routing calls based on the time of day and week a call is made.

With Time of Day Routing, your company can take advantage of lower calling rates during specific times. If your company has locations in different time zones, you can maximize the use of your public or private network facilities by utilizing those in the location that has the lowest calling rates at the particular time a call is made. You can also use this feature to change the routing patterns when an office is closed and to eliminate unauthorized calls. You can set up eight separate time of day charts to control routing at different times of the day.

Automatic Route Selection

Automatic Route Selection routes public network calls on the most desirable (usually the most economical) trunking facilities available on your DEFINITY ONE when the call destinations are accessible through your public network.

DEFINITY ONE supports up to 254 routing patterns. Each routing pattern consists of up to 6 routing preferences (types of facilities) set up in the order you want them checked when a call is placed. Typically, the least expensive facility will be first on the list; the most expensive will be last.

If Generalized Route Selection is not being used when a call is made, the system selects a routing pattern based on the digits dialed. The routing preferences in that pattern are checked in the order they were listed, and the first available facility is used to place the call. If a facility is not available, the call can be queued until a facility becomes available.

Automatic Alternate Routing

Automatic Alternate Routing enables you to ensure that private network calls will be routed over the various trunking facilities available in your private network in the most effective manner possible. As with Automatic Route Selection, you set up various patterns for routing calls — in this case, with the private network. Depending on your DEFINITY ONE's configuration, you can have up to 254 routing patterns. Each pattern includes a primary preference — the most preferred and direct route — and 5 alternate preferences. If the primary preference in a pattern is unavailable, the system searches the alternate preferences in the specified order until it finds one available.

Generalized Route Selection

Generalized Route Selection gives you the capability to not only select the optimal call routing based on the dialed number, but also select the appropriate facility based on the type of call. Generalized Route Selection enhances Automatic Route Selection and Automatic Alternate Routing by incorporating additional parameters such as the type of call to be used in the decision of how a call is routed.

Different types of calls require the use of different types of facilities. For example, high-speed data calls must use digital facilities, whereas voice and voice-grade data calls can use either analog or digital facilities. DEFINITY ONE uses Generalized Route Selection to differentiate between these and other types of calls and route them on the appropriate trunks. Based on the call types and available trunk facilities, voice and data calls may be routed over different trunk types or integrated on the same trunk group. DEFINITY ONE also provides the capability to route calls based on the data format and the need for restricted or unrestricted facilities.

In order to select the appropriate trunking facility for a call, DEFINITY ONE must know the type of call being made. In order to do this, each originating facility such as a telephone or data module has a bearer-capability class assigned. Some originating facilities, such as data modules, may have multiple bearer- capability classes. Each trunk group in the routing pattern is assigned a list of allowed bearer-capability classes. When a user makes a call, the system queries the originating facility for its bearer-capability class and then tries to route the call on a trunk group with a bearer-

capability class that matches the bearer-capability class of the originating facility. If an exact match is not found, the system then tries to find a trunk group with a compatible bearer-capability class.

Since the system automatically chooses the right trunk based on the system administration, DEFINITY ONE's dial plan can be independent of the type of call being dialed. This flexibility makes life easier for your system users, who do not have to worry about dialing a different access number for different call types.

Facility Restriction Level

Facility Restriction Levels are used to limit user calling privileges for incoming and outgoing calls. The Facility Restriction Level determines if a call attempt is permitted and which routes can be used or denied in the routing process. Eight levels of Facility Restriction Levels can be assigned to telephones, computers, system management tools. DEFINITY ONE does not require the Facility Restriction Level to be in an ascending order when administered in the patterns or preferences through system management.

When a call is attempted, the system compares the Facility Restriction Level of the telephone with the Facility Restriction Level of the trunk routes available to complete the call. If the Facility Restriction Level of the telephone is equal to or higher than the Facility Restriction Level of trunks, the call is completed; if it is lower, the call is blocked on that preference and compared to the Facility Restriction Level of the next

route available. If the call fails to match the Facility Restriction Level on the available preferences, the call may queue for the first available and compatible trunk group (equal to or higher).

DEFINITY ONE also provides a feature called Alternate Facility Restriction Levels that allows the attendant to temporarily change the Facility Restriction Levels on originating facilities to a different set of Facility Restriction Levels. It is used to grant users greater access to trunking facilities than is normally provided, such as when charges are lower during evening hours.

Authorization Codes

Authorization codes are used on particular calls to temporarily raise a telephone's Facility Restriction Level. This feature is useful for those who make calls from telephones other than their own or from outside the network. If a call you dial is blocked because the telephone's Facility Restriction Level is too low, you can enter your authorization code. If the Facility Restriction Level associated with the authorization code is equal to or higher than the Facility Restriction Level of the trunk facilities required to place the call, the call is then completed. Up to 5,000 different authorization codes will be in effect for your system at any one time. Using DEFINITY ONE's system management tools, you can assign authorization codes and change their associated Facility Restriction Level and network access permissions.

Network Interfaces and Equipment

DEFINITY ONE supports a variety of interfaces to voice and data networks. Trunks supply links between DEFINITY ONE, the public network, and other switches. DS1 interfaces offer high-speed digital connectivity between switches.

Trunk Group Circuits

Trunks provide the communications links between DEFINITY ONE and other switches, including central office switches and other premises switches. Trunks that perform the same function are grouped together and administered as trunk groups. Trunks interface with DEFINITY ONE via port circuit packs. DEFINITY ONE's trunk group circuit types include the following.

Local Exchange Trunks

Local exchange trunks connect DEFINITY ONE to a central office. The following are some of the types available:

- central office trunks, which connect DEFINITY ONE to the local central office for incoming and outgoing calls
- foreign exchange trunks, which connect DEFINITY ONE to a central office other than the local one

- Wide Area Telecommunications Service trunks, which allow you to place long-distance outgoing voice-grade calls to telephones in defined service areas, priced according to distance in the service area, length of the call, time of day, and the day of the week
- 800-service trunks, which let your business pay the charges for inbound long-distance calls so that callers can reach you toll-free
- Direct Inward Dialing trunks, which connect DEFINITY ONE to the local central office for incoming calls dialed directly to stations without attendant assistance
- Digital Service 1 trunks, which can be used to provide ISDN Primary Rate Interface local exchange trunk services. DS1 by itself can be used to provide local exchange trunk services

Tie Trunks

Tie trunks carry communications between DEFINITY ONE and other switches in a private network. Several types of trunks can be used, depending on the type of private network you establish.

Auxiliary Trunks

Auxiliary trunks connect devices with the switch. Some of the features that are supported with this type of trunk are recorded announcements, telephone dictation service, malicious call trace, and loudspeaker paging.

Miscellaneous Trunks

Miscellaneous trunks perform functions that do not fit neatly into any of those already described:

- release-link trunks are used between switch locations to provide Centralized Attendant Service.
- remote-access trunks provide off-premises users with access to DEFINITY ONE's features and networking.

Digital Interfaces

Lucent Technologies supports both T1 and E1 facilities. As industry standards around the world, T1 and E1 facilities provide the latest alternative to analog trunking.

E1 Interface

DEFINITY ONE supports E1 connections. T1/E1 access and conversion allows simultaneous connection to both T1 (1.544 Mbps) and E1 (2.048 Mbps) facilities (using separate circuit packs).

T1 Interfaces

When planning your networking requirements, one of the options you should consider is multiplexing over Digital Services 1 (DS1) facilities. As the industry standard for interconnecting digital systems, DS1 is an economical alternative to analog trunking arrangements. Multiplexing up to 24 digitized voice/data communications paths onto a single T1 carrier or other high-speed digital facility (such as fibre or microwave) can reduce your network trunking and equipment costs.

Used to connect switches to the public network or to other switches in a private network, DS1 also delivers high-speed, end-to-end digital connectivity. Voice and data calls are completed at transmission speeds of up to 64 Kbps.

DEFINITY ONE offers several options in supporting the DS1 interface. The options include support for voice-grade DS1, alternate voice/data, and Digital Multiplexed Interface. The voice-grade DS1 interface is a T1 D4 channel-bank-compatible interface.

ISDN

DEFINITY ONE provides complete ISDN support. ISDN eliminates the need for multiple, separate access arrangements for voice, data, facsimile, and video services and networks. Using inexpensive twisted copper, ISDN can deliver voice, data, and video services in digital format.

ISDN is a global access standard established by the Consultative Committee for International Telephone and Telegraph designed to help you move and manage information with unprecedented ease and productivity — anywhere in the world. ISDN uses a layered protocol that conforms to layers one, two, and three (physical, link, and network layers) of the 7-layer Open Systems Interconnect Reference Model of the International Standards Organization.

DEFINITY ONE supports the ISDN Primary Rate Interface, which is used for connecting premises equipment such as switches to the network and acts as a powerful interface between intelligent equipment such as switches and computers. However, trunk-side BRI is supported in countries that support the Euro-ISDN (ETSI) standards.

Centralized Attendant Service

DEFINITY ONE owners who have more than one switch location can benefit greatly by using the Centralized Attendant Service feature. Centralized Attendant Service reduces the number of required attendants, and, in most cases, all those attendants can be located at one of the switch locations, called “main.” Switches at the other locations, called “branches,” redirect their calls to the Centralized Attendant Service main. Thus, a company can have a centralized attendant group at the headquarters office and can handle calls from there for the branch offices.

All locations in a Centralized Attendant Service arrangement have a listed directory number. Calls to a branch listed directory number terminate at the main location, even if the branch location has an attendant. These listed directory number calls are routed to the centralized attendant group over trunk circuits called release-link trunks or over QSIG trunks. These release-link trunks are used only for centralized attendant calls and signaling.

After a call is processed by the centralized attendant, it can be extended back to the branch location. The release-link trunk is then dropped and made available for other calls to the centralized attendant.

If a DEFINITY ONE is a node within a Distributed Communication System and Centralized Attendant Service is provided, a centralized attendant can do the following:

- control access to specific trunks at other nodes
- directly access to specific trunks at another location
- place test calls to telephones and trunk groups at other nodes
- receive a visual warning that all trunks in a remote trunk group are busy or that the number of busy trunks in a remote group has reached a specified level

This feature ensures that all calls directed to an attendant at your company are handled efficiently.

Main/Satellite/Tributary

If you have modest network requirements, a main/satellite/tributary configuration is an attractive possibility for private networking. In this configuration, one DEFINITY ONE location is the main, and remote switches are satellites or tributaries. Attendant positions and public network facilities are usually concentrated at the main.

All calls to or from a satellite pass through the switch at the main. The system appears to be a single switch with one listed directory number. A uniform dial plan provides a common 4-digit or 5-digit dial plan for a main/satellite configuration.

A tributary is similar to a satellite, but it has one or more attendant positions and its own listed directory number. Calls to its listed directory number go directly to the tributary.

The switches in a main/satellite/tributary network are connected by tie trunks. Trunks and switching facilities can be added as requirements grow.

An important DEFINITY ONE networking feature is Main/Satellite Extended Trunk Access. Extended Trunk Access allows dialed digits that are undefined at a satellite or tributary switch to be routed over a trunk group to a main switch for interpretation. This flexibility means changes to the network numbering plan do not have to be propagated to all switches. Extended Trunk Access improves your control and reduces administration costs by making trunk networks considerably easier to maintain.

Electronic Tandem Network

If your company requires a medium-to-large network spanning a large geographic area, nationwide or even worldwide, Electronic Tandem Network is the answer. An Electronic Tandem Network is a wide-area private network that tandems calls through one or more switches to route the calls to their destinations.

An Electronic Tandem Network consists of tandem switches, inter-tandem tie trunks that interconnect them, access or bypass trunks from tandem switches to main switches, and the software and equipment to support call routing over the trunking facilities. Different Electronic Tandem Network locations are connected via analog or digital tie trunks. For example, a DS1 interface can act as a high-speed (1.544 Mbps) digital backbone for voice and data communications between Electronic Tandem Network locations.

An Electronic Tandem Network can be configured hierarchically. An Electronic Tandem Network can connect individual switches; it can also connect other private networks (such as Main/Satellite/Tributary networks) together.

Within an Electronic Tandem Network, each location is identified by a unique private network location code, similar to the public network office codes that exist within an area code. When accessing the Electronic Tandem Network, a user dials a feature access code for the Automatic Alternate Routing feature plus the 7-digit number, for a total of eight digits.

Starter Application Package

The Networking Starter Package includes the hardware and software you need to provide consistent, enhanced communications among multiple company locations cost effectively. Depending on your business needs, you can select a networking package to provide centralized voice mail, remote call coverage, interoffice Calling Party/Called Party displays, and other productivity-enhancing features.

Call your Sales Representative for details.

A Features

This appendix provides a list of the features of DEFINITY ONE arranged in the following categories:

- Automatic Routing Features
- Basic Features
- Call Center Features
- Private Networking Features
- Trunk Group Features

This appendix lists all DEFINITY ONE Solutions' capabilities available anywhere. *Some of the listed features are optional.* Please check with your local Lucent Technologies' representative for further information about system features and what is available in your country.

The *DEFINITY ECS Release 7 Administrator's Guide* manual (555-230-502) describes each feature in detail and provides complete implementation and administration information. Some features are systems of their own and have their own documentation, such as Call Detail Recording, AUDIX voice messaging system, and Call Management System. See your local distributor for more information on each of these features.

Automatic Routing Features

DEFINITY ONE provides a variety of automatic-routing features for public and private networks. Automatic Alternate Routing (AAR) and Automatic Route Selection (ARS) are the foundation for these automatic-routing features. They route calls based on the preferred (normally the least expensive) route available at the time the call is placed. Generally, AAR routes calls over a private network and ARS routes calls using the public network numbering plan. However, both AAR and ARS support public and private networks. You can use the other features listed in this section when you use AAR and ARS.

- Automatic Alternate Routing (AAR)
- Automatic Route Selection (ARS)
- AAR/ARS Overlap Sending
- AAR/ARS Partitioning
- Alternate Facility Restriction Levels
- Facility Restriction Levels and Traveling Class Marks
- Generalized Route Selection
- Subnet Trunking
- Time of Day Routing

Basic Features

The following features are supported with DEFINITY ONE:

- Abbreviated Dialing
- Administered Connections
- Administrable Language Displays
- Administration Without Hardware
- Alphanumeric Dialing
- Alternate Operations Support System Alarm Number
- Answer Detection
- Attendant Auto-Manual Splitting
- Attendant Backup Alerting
- Attendant Call Waiting
- Attendant Calling of Inward Restricted Stations
- Attendant Console
- Attendant Control of Trunk Group Access
- Attendant Crisis Alert

- Attendant Direct Extension Selection With Busy Lamp Field
- Attendant Direct Trunk Group Selection
- Attendant Display
- Attendant Intrusion (Call Offer)
- Attendant Override of Diversion Features
- Attendant Priority Queue
- Attendant Recall
- Attendant Release Loop Operation
- Attendant Serial Calling
- Attendant Split Swap
- Audible Message Waiting
- Audio Information Exchange Interface
- Authorization Codes
- Auto Start and Don’t Split
- Automatic Callback
- Automatic Call Timer

- Automatic Circuit Assurance
- Automatic Exclusion
- Automatic Incoming Call Display
- Automatic Route Selection/Automatic Alternate Routing Shortcut Dialing
- Automatic Transmission Measurement System
- Block Collect Call
- Bridged Call Appearance — Multi-Appearance Telephone
- Bridged Call Appearance — Single-Line Telephone
- Bulletin Board
- Busy Verification of Terminals and Trunks
- Call Charge Information
- Call Coverage
- Call Detail Recording
- Call Forwarding
- Call Park
- Call Pickup

- Call Waiting Termination
- Class of Restriction
- Class of Service
- Code Calling Access
- Conference — Attendant
- Conference — Terminal
- Consult
- Controlled Toll Restriction
- Coverage Callback
- Coverage Incoming Call Identification
- Crisis Alert to a Digital Station
- Customer-Provided Equipment Alarm
- Data Call Setup
- Data Hot Line
- Data Privacy
- Data Restriction
- Default Dialing

- Demand Print
- Dial Access to Attendant
- Dial Plan
- Dialed Number Identification Service
- Distinctive Ringing
- Dual DCP I-Channels
- Easy Beyond Today
- Emergency Access to the Attendant
- Enhanced Abbreviated Dialing
- Enhanced Voice Terminal Display
- Extended User Administration of Redirected Calls
- External Device Alarming
- Facility Busy Indication
- Facility Test Calls
- Fiber Link Administration
- Go to Cover

- Group Listen
- Group Paging
- Hold
- Hold — Automatic
- Hunt Groups
- Individual Attendant Access
- Integrated Directory
- Integrated Services Digital Network — Basic Rate Interface (ISDN-BRI)
- Intercept Treatment
- Intercom — Automatic
- Intercom — Dial
- Internal Automatic Answer
- Last Number Redial
- Leave Word Calling
- Line Lockout
- Listed Directory Number

- Loudspeaker Paging Access
- Manual Message Waiting
- Manual Originating Line Service
- Manual signaling
- Misoperation Handling
- Modem Pooling
- Multi-Appearance Preselection and Preference
- Music-on-Hold Access
- Night Service
- Numeric Terminal Display
- PC/PBX Connection
- Personal Station Access
- Personalized Ringing
- Power Failure Transfer (Emergency Transfer)
- Priority Calling
- Privacy — Attendant Lockout
- Privacy — Manual Exclusion

- Public Network Call Priority
- Pull Transfer
- Recall signaling
- Recorded Announcements
- Recent Change History
- Recorded Announcement
- Recorded Telephone Dictation Access
- Remote Access
- Restriction — Controlled
- Ringback Queuing
- Ringer Cutoff
- Ringing — Abbreviated and Delayed
- Security Violation Notification
- Send All Calls
- Station Hunting
- Station Security Codes
- Station User Administration

- Telephone Self Administration
- Temporary Bridged Appearance
- Tenant Partitioning
- Terminal Translation Initialization
- Terminating Extension Group
- Timed Reminder and Attendant Timers
- Transfer
- Transfer — Outgoing Trunk to Outgoing Trunk
- Translation Copy Protection
- Trunk Flash
- Trunk Group Busy/Warning Indicators to Attendant
- Trunk Identification By Attendant
- Trunk-to-Trunk Transfer
- Visually Impaired Attendant Service
- Voice Message Retrieval
- Voice Terminal Alerting Options

- Voice Terminal Display
- Whisper Page
- World Class Tone Detection
- World Class Tone Generation

Call Center Features

DEFINITY ONE offers the following features designed to help you set up and maintain a modern Call Center:

- Abandoned Call Search
- Add/Remove Skills
- Agent Call Handling
- Auto-Available Split
- Automatic Call Distribution
- Basic Call Management System
- Best Services Routing (Queue to Best)
- Call Prompting
- Call Vectoring

- Calling Party/Billing Number
- Centre Vu Advocate
- Centre Vu Virtual Routing
- Direct Agent Announcement
- Expert Agent Selection
- Flexible Billing
- Inbound Call Management
- Intraflow and Interflow
- Enhanced Look-Ahead Interflow
- Malicious Call Trace
- Multimedia Call Handling
- Multiple Call Handling
- Queue Status Indications
- Reason Codes
- Redirection on No Answer
- Service Observing
- Universal Call ID

- VDN in a Coverage Path
- VDN of Origin Announcement
- Voice Response Integration
- VuStats

Private Networking Features

The great expandability of DEFINITY ONE makes it a logical choice for setting up private networks. Consequently, the system includes many private networking features:

- Centralized Attendant Service
- Distributed Communications System
- DCS Alphanumeric Display for Terminals
- DCS Attendant Control of Trunk Group Access
- DCS Attendant Display
- DCS Automatic Callback
- DCS Automatic Circuit Assurance
- DCS Busy Verification of Terminals and Trunks

- DCS Call Coverage
- DCS Call Forwarding
- DCS Call Waiting
- DCS Distinctive Ringing
- DCS Leave Word Calling
- DCS Multiappearance Conference/ Transfer
- DCS Over ISDN-PRI D-channel
- DCS Trunk Group Busy/Warning Indication
- DCS With Reroute
- Enhanced DCS
- Extended Trunk Access
- Extension Number Portability
- Inter-PBX Attendant Calls
- Node Number Routing
- Private Network Access
- QSIG
- QSIG Call Completion

- QSIG Call Forwarding (Diversion)
- QSIG Call Independent Signaling Connections
- QSIG Call Transfer
- QSIG DCS Interworking - Called Number ID
- QSIG Message Waiting Indication (MWI)
- QSIG Name and Number Identification
- QSIG Path Replacement
- QSIG Value- Called Number ID
- Transit Counter
- Uniform Dial Plan
- User to User Information over Public Network

Trunk Group Features

DEFINITY ONE offers an array of features for managing trunk groups efficiently:

- ATM-CES Trunks
- ATM Trunks
- Brazil — R2 MFC Backwards Signal

- Call-by-Call Service Selection
- Caller ID on Analog Trunks
- CAMA - E911 Trunks
- DS1 Trunk Service (T1 and E1)
- Digital Multiplexed Interface
- Facility and Non-Facility Associated Signaling
- IP Trunks
- ISDN — BRI and PRI
- Japan — 2MB Digital Trunk
- Russia — Incoming ANI
- Wideband Switching

B Documentation Library

This appendix contains a list of all the user documents available on the DEFINITY ONE Communications System CD ROM (555-233-802, comcode 108444431). Note that the AUDIX PDF files and the Message Manager Quick Reference Card are not orderable separately through the Publications Fullfillment Center. The PEC code for the CD is 63881.

To order paper copies of these documents, contact the Lucent Technologies Publications Center at the address A complete list of Business Communications System (BCS) documents is available on the World Wide Web. Ask your account representative for the web address.

To order additional copies of the documentation library CD, contact the Lucent Technologies Publications Center and use documentation ordering number 555-233-802.

Basic

DEFINITY ONE™ Communications System Overview, 555-233-001, comcode 108444449

DEFINITY ONE™ Communications System Installation, 555-233-109, comcode 108444456

DEFINITY ONE™ Communications System Maintenance and Repair, 555-233-111, comcode 108516717

DEFINITY ONE™ Communications System Roadmap, 555-233-736, comcode 108444472

DEFINITY ONE™ Communications System Installation Quick Reference Card, 555-233-738, comcode 108445339

DEFINITY ONE™ Communications System AUDIX Administration Command Line Quick Reference Card, 555-233-737, comcode 108444712

DEFINITY ECS

DEFINITY® System's Little Instruction Book for Basic Administration, 555-230-727, comcode 108413527

DEFINITY® System's Little Instruction Book for Advanced Administration, 555-233-712, comcode 108413519

DEFINITY® System's Little Instruction Book for Basic Diagnostics, 555-233-713, comcode 108413501

DEFINITY® Enterprise Communications Server Release 7 Administrator's Guide, 555-233-502, comcode 108343229

DEFINITY® Enterprise Communications Server Release 7 Administration for Network Connectivity, 555-233-501, comcode 108343088

DEFINITY® Enterprise Communications Server Release 7 Reports Guide, 555-230-511 comcode 108383845

DEFINITY® Enterprise Communications Server Release 7 Console Operations, 555-230-700, comcode 108383837

DEFINITY® Enterprise Communications Server Release 7 Console Operations Quick Reference, 555-230-890, comcode 108383811

DEFINITY® Enterprise Communications Server and System 75 and System 85 Terminals and Adjuncts Reference, 555-015-201, comcode 108603994

DEFINITY® Enterprise Communications Server Release 7 System Description, 555-230-211, comcode 108343260

AUDIX

AUDIX® Messaging Wallet Card

AUDIX® Multimedia Messaging Quick Reference Guide

Message Manager Quick Reference Guide, 585-310-776
(Not orderable through the Publications Fulfillment Center)

AUDIX Administration Files, PDF format
(Not orderable through the Publications Fulfillment Center)

Security

BCS Products Security Handbook, 555-024-600, comcode 108074378

BCS Products Security Handbook Addendum, 555-024-600ADD, comcode 108422536

Guide Builder

Guide Builder ™ Software for DEFINITY ONE™ Communications System, 555-233-804, comcode 108444464

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