Lucent Technologies
Bell Labs Innovations

INTUITY™ Messaging Solutions

Release 4

Switch Integration with Digital Station Interface

585-310-251
Comcode 108185224
Issue 2
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- Answered by the called station
- Answered by the attendant
- Routed to a recorded announcement that can be administered by the CPE user

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Acknowledgment
This document was prepared by Product Documentation, Lucent Technologies, Columbus, OH.

Contents

About This Book

Purpose

This book, *INTUITY™ Messaging Solutions Release 4 Switch Integration with Digital Station Interface,* 585-310-251, contains instructions for integrating the Lucent INTUITY system with the Northern Telecom (Nortel) Meridian 1 and Meridian SL-1 switches.

It includes guidelines and requirements for switch administration and procedures for administering the Lucent™ INTUITY system for switch integration.

Intended Audiences

This book is intended primarily for on-site technical personnel who are responsible for installing the Lucent INTUITY system and performing initial administration and acceptance testing. Secondary audiences include the following from Lucent Technologies:

- Field support — Technical Service Organization (TSO)
- Helpline personnel
- Sales support
- Design support
- Factory assemble, load, and test (ALT) personnel
- Provisioning project managers — Sales and Technical Resource Center (STRC)

We assume that the primary users of this book have completed the INTUITY Messaging Solutions Installation and Maintenance training course (see "Training" under "Related Resources" below).

Release History

This is the second release of this book. The following major changes have been made since the first release:

- It is no longer necessary to configure a primary port for Nortel Meridian 1 and Meridian SL-1 integrations with more than 16 Tip/Ring lines. Procedures for the primary port have been removed from this book. Integrations using a primary port will still function correctly, however.
- A section entitled "Setting the Call Redirection Display Strings", which describes a new window added under the Lucent Intuity main menu, has been included in Chapter 4, "Lucent Intuity Administration for Switch Integration with Digital Station Interface".
- Appendix B, "Administering Call Routing for Far-End Switches" has been added to describe the call routing setup for far-end remote switches in a customer network.
- The procedures in Appendix A, "Administering Express Messaging" have been streamlined.

How to Use This Book

This book is designed to step you through the switch integration process. You can also use it as a quick reference to obtain specific information on a topic.

For Complete Installation Instructions

Read Chapter 1, "Overview of Switch Integration with Digital Station Interface", first for background information and a checklist of tasks necessary for switch integration (Table 1-1). Use the information in the other chapters in this book and the referenced books in the appropriate sequence as directed by the checklist.

For Troubleshooting Information

For troubleshooting information, see Chapter 5, "Integration Validation and Troubleshooting".

For More Connectivity and Pinout Information

For information on pinouts and connectivity in addition to that provided in this book in Chapter 3, "Requirements and Administration for Nortel Meridian 1 and Meridian SL-1 Switches", see Appendix E, "Cable Connectivity", in the system installation book for your platform.

To Locate Specific Topics

This book includes an alphabetical index.

Conventions Used in This Book

Understanding of the conventions used in this book is necessary to interpret the information in the procedures.

Terminology

- The words “subscriber” and “user” are interchangeable terms that describe a person administered on the Lucent INTUITY system. The word “user” is the preferred term in the text; however, “subscriber” appears on most of the screens and is the command word you must type at the command line, for example: **change subscriber “Jane Doe”**
- The word “type” means to press the key or sequence of keys specified. For example, an instruction to type the letter “y” is shown as

  Type **y** to continue.
- The word “enter” means to type a value and then press the Enter key (ENTER). For example, an instruction to type the letter “y” and press ENTER is shown as

  Enter **y** to continue.
- The word “select” means to move the cursor to the desired menu item and press ENTER. For example, an instruction to move the cursor to the start test option on the Network Loop-Around Test screen and then press ENTER is shown as

  Select `Start Test.`
- The Lucent INTUITY system displays *windows, screens, and menus*. Menus (Figure 1) present options from which you can choose to view another menu, or a window or screen. Screens request that you enter a command at the `enter command:` prompt (Figure 2). Windows request and show system information (Figure 4 and Figure 3).

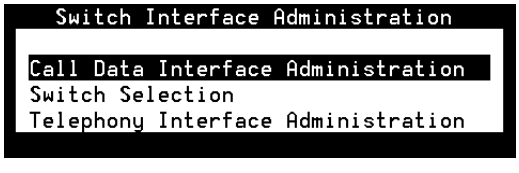

Figure 1. Example of a Lucent INTUITY Menu

```
AUDIX [redacted] Active [redacted] Alarms:   w [redacted] Logins: 2
change machine                                              Page 1 of 1
                              MACHINE PROFILE

Machine Name: local        Type: local          Location: local

 Voiced Name? n                                Extension Length: 4
    Voice ID: 0                               Default Community: 1

ADDRESS RANGES
    Prefix                    Start Ext.   End Ext.        Warnings
 1: _____________________     0000         9999
 2: _____________________     _____        _____
 3: _____________________     _____        _____
 4: _____________________     _____        _____
 5: _____________________     _____        _____
 6: _____________________     _____        _____
 7: _____________________     _____        _____
 8: _____________________     _____        _____
 9: _____________________     _____        _____
10: _____________________     _____        _____

enter command: change machine
```

Figure 2. Example of a Lucent INTUITY Screen

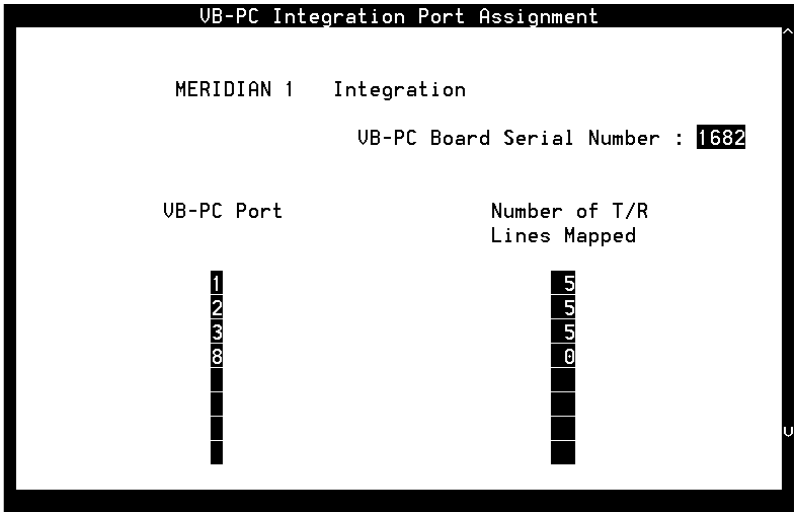

Figure 3. Example of a Lucent INTUITY Window Requesting Information

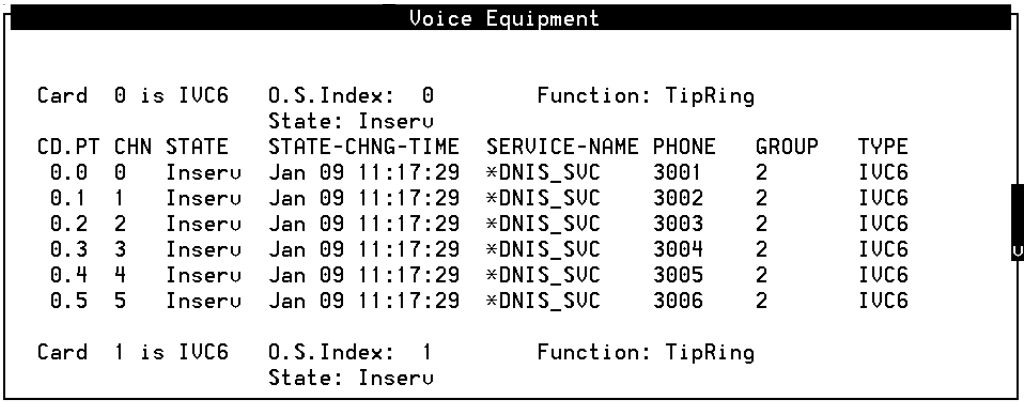

Figure 4. Example of a Lucent INTUITY Window Showing Information

Keyboard and Telephone Keypad Representations

- Keys that you press on your terminal or PC keyboard are represented as rounded boxes. For example, an instruction to press the Enter key is shown as

  Press ENTER.

- Two keys that you press at the same time on your terminal or PC keyboard (that is, you hold down the first key while pressing the second key) are represented as a series inside a rounded box. For example, an instruction to press and hold ALT while typing the letter “d” is shown as

  Press ALT-D.

- A combination keystroke is a series of keystrokes that combines the two key function described above plus a third key, that is, you press and hold down the first key, then press the second key, then release those keys and press a third key. A combination keystroke is represented as an equation. For example, an instruction to press and hold ALT while typing the letter “d” and then typing the number “1” is shown as

  Press ALT-D + 1

- Function keys on your terminal, PC, or system screens (also known as soft keys*)* are represented as rounded boxes followed by the function or value of that key enclosed in parentheses. For example, an instruction to press function key 3 is shown as

  Press F3 (Choices).

- Keys that you press on your telephone keypad are represented as square boxes. For example, an instruction to press the first key on your telephone keypad is shown as

  Press 1 to record a message.

Screen Displays

- Values, system messages, field names, and prompts that appear on the screen are shown in typewriter-style `Courier` type, as shown in the following examples:
  - Enter a switch number in the `Switch Number` field.
  - `You need to restart the voice System to make these changes active.`
- The sequence of menu options that you must select to display a specific screen or submenu is shown as follows:

  Start at the Lucent INTUITY main menu and select

  ```
  > Switch Interface Administration
      > Switch Selection
  ```

  In this example, you first access the Switch Interface Administration menu. From that menu you select the Switch Selection window.
- Windows and screens shown in this book are examples only. The ones you see on your system will be similar, but not exactly the same.

Other Typography

- Commands and text you type in or enter appear in **bold type**, as in the following examples:
  - Enter **change-switch-time-zone** at the `enter command:` prompt.
  - Enter **y** in the `Remote [Y/N]` field.
- Command variables are shown in ***bold italic*** type when they are part of what you must type and *regular italic* type when they are not, for example:

  Enter **ch ma *machine_name***, where *machine_name* is the name of the call delivery machine you just created.

Safety and Security Alert Labels

The Lucent INTUITY document set uses the following symbols to call your attention to potential problems that could cause personal injury, damage to equipment, loss of data, service interruptions, or breaches of toll fraud security:

⚠ CAUTION:
Indicates the presence of a hazard that if not avoided can or will cause minor personal injury or property damage, including loss of data.

⚠ WARNING:
Indicates the presence of a hazard that if not avoided can cause death or severe personal injury.

⚠ DANGER:
Indicates the presence of a hazard that if not avoided will cause death or severe personal injury.

⚠ SECURITY ALERT:
Indicates the presence of a toll fraud security hazard. Toll fraud is the unauthorized use of a telecommunications system.

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- VT100 is a trademark of Digital Equipment Corporation
- Windows is a trademark of Microsoft Corporation.

Related Resources

This section describes additional documentation and training available for you to learn more about installation of the Lucent INTUITY product.

Documentation

This book is designed to be used in conjunction with the appropriate installation and maintenance books for your platform:

- *INTUITY Messaging Solutions Release 4 MAP/40P System Installation*, 585-310-196
- *INTUITY Messaging Solutions Release 4 MAP/100 System Installation*, 585-310-173
- *INTUITY Messaging Solutions Release 4 MAP/5P System Installation*, 585-310-185
- *INTUITY Messaging Solutions Release 4 MAP/40 Maintenance*, 585-310-171
- *INTUITY Messaging Solutions Release 4 MAP/40P Maintenance*, 585-310-197
- *INTUITY Messaging Solutions Release 4 MAP/100 Maintenance*, 585-310-174
- *INTUITY Messaging Solutions Release 4 MAP/5P Maintenance*, 585-310-186

The following administration book is also referenced:

- *INTUITY Messaging Solutions Release 4 Administration*, 585-310-564

See the inside front cover of this book for information on how to order Lucent INTUITY documentation.

Training

Lucent Technologies recommends the following training class as a prerequisite to installing a Lucent INTUITY system:

- Course No.BTT 506H, INTUITY Messaging Solutions Installation and Maintenance
- Course No. BTC 102H, INTUITY AUDIX™ System Administration

The following training classes are recommended for account teams who interact with customers integrating a Lucent system with a non-BCS switch:

- Course No. BSP 014L, Multimedia Sales Seminar
- Course No. BSP 029CC, Multimedia Solutions “Electronic Tutor”

For more information on Lucent INTUITY training, call the BCS Education and Training Center at one of the following numbers:

- Organizations within Lucent: (904) 636-3261
- Lucent Technologies customers and all others: (800) 255-8988

Technical Assistance

The following resources are available for technical assistance with Lucent Technologies products and services:

- Within the United States, for assistance on installation of systems integrated with a switch via a digital station interface, call 1-800-242-2121, and enter extension 85474.
- Within Canada, for all systems, call 1-800-242-1234.
- Within any other country, for all systems, call your local distributor.

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INTUITY™ Messaging Solutions Release 4 Switch Integration with Digital Station Interface, 585-310-251.

Overview of Switch Integration with Digital Station Interface

1

Overview

Integration of the Northern Telecom (Nortel) Meridian 1 and Meridian SL-1 switches with the Lucent™ INTUITY™ system requires that a digital station interface circuit card be installed in the Lucent INTUITY platform. With the digital station interface, these switches can be integrated with the following Lucent INTUITY multi-application platforms (MAPs):

- MAP/40
- MAP/40P
- MAP/100
- MAP/5P

Purpose

This chapter provides background information necessary to integrate a Lucent INTUITY system with a Nortel Meridian 1 or Meridian SL-1 switch using a digital station interface circuit card.

Method of Integration

Switch integration refers to the sharing of information between a messaging system and a switch to provide a seamless interface to callers and system users. A fully integrated messaging system answers each incoming telephone call with information taken directly from the switch.

Digital Station Interface Circuit Card

To integrate with Meridian 1 and Meridian SL-1 switches, the Lucent INTUITY system uses as an interface a VoiceBridge-PC (VB-PC) digital station interface circuit card. This circuit card is responsible for interacting with the switch to provide call information and manage message waiting indicator (MWI) updates.

Ports

The digital station interface circuit card has eight ports. Each port emulates a proprietary digital station (telephone set). The emulated digital station forms the key link between the Lucent INTUITY system and the switch for obtaining the call information when the call is forwarded to the Lucent INTUITY system.

Station Emulation

For integration with Meridian 1 and Meridian SL-1 switches, the digital station interface circuit card emulates the Nortel model 2616 digital station. The ports on the digital station interface circuit card can have various keys, such as call appearance keys and other feature keys, configured similarly to the keys on an actual digital station.

The 2616 digital stations have displays that show fields indicating the calling party (CLI) number, the called party (CP) number, and the reason for call redirection, if redirection has taken place. These displays provide the call information necessary for integrating the switch with the Lucent INTUITY system. The application programming interfaces (APIs) that come with the digital station interface circuit card enable the station display to be read.

Hunting

One of the features of the Meridian 1 and Meridian SL-1 switches used to route calls to the INTUITY AUDIX® system is *hunting*. A single *hunt chain* is created that contains extension numbers corresponding to the Tip/Ring lines connected to the Lucent INTUITY system. These extension numbers are mapped, one to one, to the keys of the ports on the digital station interface circuit card. The first Tip/Ring extension number in the hunt chain is assigned as the Lucent INTUITY message retrieval number. The remaining members of the hunt chain are a set of contiguous extension numbers beginning with the second Tip/Ring extension. Whenever the Lucent INTUITY message retrieval number is called, the switch attempts to connect to the first extension number in the hunt chain. If the first

extension is busy, the switch attempts to connect to the second extension number, and so on until the switch obtains a free extension number in the hunt chain. The switch terminates the call on the first available port. The search for a free extension number in the hunt chain is called *hunting*.

Systems with More Than 16 Tip/Ring Lines

A limitation of the hunting feature on the Meridian 1 and Meridian SL-1 switches determines how the Lucent INTUITY system makes use of hunting. These switches allow hunting of only 16 channels, whereas the Lucent INTUITY system platforms can support as many as 64 channels, with one channel mapped to each Tip/Ring line.

For systems with more than 16 Tip/Ring lines, the lines are divided into groups, with each group containing 15 (or fewer) members. Each group is associated on the switch with an automatic call distribution directory number (ACD DN). Hunting among the groups is accomplished by use of a linking ACD DN in the hunt chain.

Primary and Bridged Call Appearances

The method of setting up extension numbers for the integrations with Meridian 1 and Meridian SL-1 switches is called *bridging*. The Tip/Ring port appearances are called the *primary call appearances*, while the various keys of the ports on the digital station interface circuit card having the same extension numbers are called *bridged call appearances*. The switch rings both these appearances when a system user dials a particular extension number.

Figure 1-1 illustrates the configuration used to simultaneously ring the primary and bridged call appearances. Each Tip/Ring port on the Lucent INTUITY system is connected to the switch through an analog line as an analog station. Each of the ports on the digital station interface circuit card is connected to the switch as a digital station through a digital line. For every extension of the Lucent INTUITY Tip/Ring ports a corresponding line appearance key on the emulated digital station on the digital station interface circuit card port is configured.

All system users have forwarding on no answer and busy to the first number of the hunt chain. When a call lands on a port, both the primary call appearance and the bridged call appearance are rung. The Lucent INTUITY system senses a ring event on one of its Tip/Ring lines, while the driver on the digital station interface circuit card simultaneously senses a ring event on the corresponding key. The switch integration software obtains the display details pertaining to this call, parses the data, and derives the necessary call information.

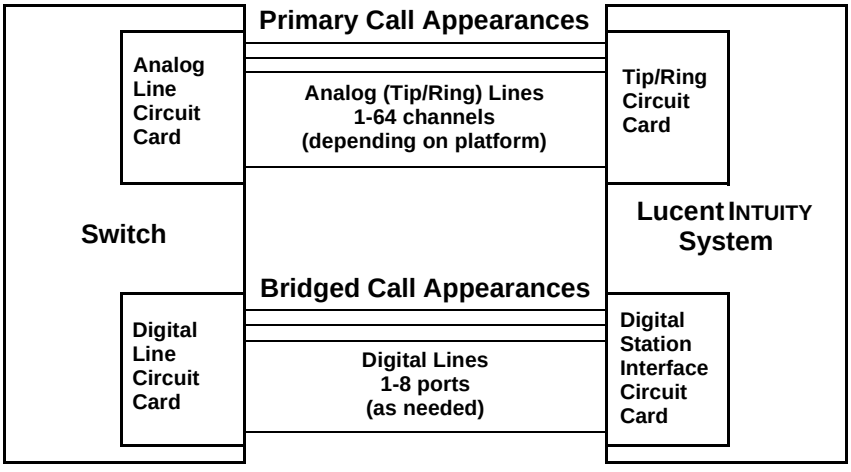


Figure 1-1. Lucent INTUITY System and Switch Connectivity for Integration

External calls are differentiated from internal calls by the presence of a data string for the CLI. The reason for redirection is decoded from data in another string. Since the Tip/Ring lines on the Lucent INTUITY system are mapped one-to-one to the keys on the port of the digital station interface circuit card, the display information can be mapped to the corresponding Tip/Ring port on which the call lands. The Tip/Ring line channel number is sent to the Lucent INTUITY system.

Message Waiting Indicator Updates

MWI updates are also performed using the 2616 digital station features. Two keys of the 2616 digital station, called the message indication key (MIK) and the message cancellation key (MCK), are configured on each of the ports of the digital station interface circuit card. By using the MIK or MCK key features, the MWI, (whether it is a light or a stutter tone), is turned on or off, respectively. The driver on the digital station interface circuit card provides information about whether the MWI update was successful.

One port on the digital station interface circuit card (normally, port 8) is dedicated for MWI updates, regardless of how many ports are necessary for Tip/Ring line mapping. A unique extension number is assigned for this port, which need not be contiguous with the extension numbers assigned for the Tip/Ring lines. No hunting is done for MWI updates, and the extension number assigned for MWI updates is not part of the hunt chain.

Demarcation Points

Lucent service technicians dispatched for Lucent INTUITY system installation cannot make direct connection to or perform administration on switches that are not maintained by Lucent personnel or entities. The demarcation point for systems using the digital station interface circuit card is the end of the Lucent-provided connector cables. See "Connectivity" in Chapter 3, "Requirements and Administration for Nortel Meridian 1 and Meridian SL-1 Switches". Lucent services personnel may, however, connect the Lucent-supplied cables to the digital station interface circuit card installed in the Lucent INTUITY system.

For additional information concerning the extent of the installation, see the contract between the customer and Lucent Technologies.

Joint Acceptance Testing

Joint acceptance testing is to be executed by both the customer representative and the INTUITY AUDIX® on-site installer when the integration includes Lucent Technologies products and customer-provided equipment. Acceptance testing is performed at the end of an installation to demonstrate to the customer that the integration is operational. The purpose of joint acceptance testing is to have knowledgeable people available to test and resolve issues before final completion of the service order.

Lucent INTUITY Features and Functionality Supported

Listed below are Lucent INTUITY features and functions supported in integrations with Meridian 1 and Meridian SL-1 switches:

- Call forward to personal greetings
  - Internal
  - External
  - Busy
  - No answer
  - Out-of-hours
- Transfers (blind transfers only)
  - Escape/return to operator (0)
  - Subscribers
  - Dial extension (*T)
  - Dial by name (*A)

- Message notification
  - — Outcalling
  - — MWI updates
- Private networking configuration with multiple switches behind a single Lucent INTUITY system
- Applications
  - — INTUITY AUDIX
  - — Lodging
- INTUITY AUDIX networking
  - — High-speed digital networking (DCP)
  - — TCP/IP networking
  - — AMIS analog
- Fax messaging

Lucent INTUITY Features and Functionality Unsupported

Hunting of multiple hunt groups is *not* supported. Therefore, configurations cannot be implemented whereby Tip/Ring lines are dedicated for some Lucent INTUITY feature or application, such as the Lucent INTUITY Lodging application or an automated attendant.

Integration Performance

- The average MWI update time is approximately 5 seconds. The time may increase under heavy switch load and if the Lucent INTUITY system has a number of invalid subscriber mailboxes.
- The average call answer delay is approximately one ring. The delay may increase under heavy traffic on the switch or the Lucent INTUITY system. The delay may also increase if QPC578 digital line circuit cards are used on the switch (Meridian SL-1 switch only). See "Switch Hardware Requirements"in Chapter 3, "Requirements and Administration for Nortel Meridian 1 and Meridian SL-1 Switches".
- MWI updates to members in an automatic call distribution (ACD) group are not supported when a message is delivered to an automatic call distribution directory number (ACD DN). Therefore, in systems where shared mailboxes are used, MWI updates cannot be performed on the various stations that access the shared mailbox.
- Transfers in a networked switch configuration may take longer than in a non-networked configuration.

- Automated attendant setup for call routing to external locations takes longer for completing the call and may require additional switch setup.
- A small percentage of calls may be answered in an unintegrated mode during a very heavy traffic condition. If QPC578 digital line circuit cards are used on the switch (Meridian SL-1 switch only), performance may degrade further. The NT8D02 digital line circuit card performs better than the QPC578 card. See "Switch Hardware Requirements"in Chapter 3, "Requirements and Administration for Nortel Meridian 1 and Meridian SL-1 Switches".)
- Disconnects are slower and less reliable for systems with switch software Release 15 and Release 16 than with Release 17 and greater because the switch does not provide disconnect supervision with the earlier releases. See "Switch Software Requirements" in Chapter 3, "Requirements and Administration for Nortel Meridian 1 and Meridian SL-1 Switches".

General Configuration Requirements

- Contiguous extension numbers are assigned to the Tip/Ring ports of the Lucent INTUITY system from the second tip/ring port onwards.
- The voice ports are divided equally among the ports on the digital station interface circuit card used for integration.
- As a general rule, no more than nine voice ports should be mapped to a port on the digital station interface circuit card.
- If MWI updates are to be performed on the system, a port on the digital station interface circuit card must be dedicated to this function.
- The digital lines that are to connect to the ports on the digital station interface circuit cards in the Lucent INTUITY system must be from different digital line circuit cards on the Meridian switch, preferably from digital line circuit cards in slot 0 or slot 1. This arrangement distributes the traffic across the digital line circuit cards and gives high priority for the ports.

Checklist for Switch Integration

The following checklist (Table 1-1) outlines sequentially the process of integrating the Lucent INTUITY system with a Meridian 1 or Meridian SL-1 switch. It is assumed that you are performing the integration as part of installation of the Lucent INTUITY system and completing the procedures specified in the system installation book for your platform.

The switch integration software package should already installed on your system before you begin. To verify that the correct software is installed, see information on the View Installed Software window in the maintenance book for your platform. The window should list the following:

```
VB-PC DRIVER and SWIN Software
```

If you need to install the software, see Chapter 9 (for MAP/5P) or Chapter 8 (for all other platforms), “Installing the Switch Integration Software Packages,” in the maintenance book for your platform.

Table 1-1. Checklist for Switch Integration with Digital Station Interface

Task	Description	Reference	✓
1.	Administer the switch.	Chapter 3, ‘‘Requirements and Administration for Nortel Meridian 1 and Meridian SL-1 Switches’’. Information in Chapter 2, ‘‘Planning for Switch Integration with Digital Station Interface’’, is also needed.	
2.	Complete Chapters 1 through 4 up to the section, “Powering Up the System” in the system installation book.	Chapters 1 through 4 in the system installation book for your platform.	
3.	Complete the remainder of Chapter 4 in the system installation book.	Chapter 4, “Powering Up the System” in the system installation book for your platform.	
4.	Complete the appropriate procedures for your switch type in Chapters 5 and 6 of the system installation book up to the section, in Chapter 6 titled, “Administering Channels.”	Chapters 5 and 6 in the system installation book for your platform.	
5.	Administer the Lucent INTUITY switch integration windows.	Chapter 4, ‘‘Lucent Intuity Administration for Switch Integration with Digital Station Interface’’. Information in Chapter 2, ‘‘Planning for Switch Integration with Digital Station Interface’’, is also needed.	
6.	Ensure that the switch has been administered to perform acceptance tests for the two test subscribers.	None. Cooperation with the switch administrator is required.	
7.	Return to the “Administering Channels” section in Chapter 6 of the system installation book and complete all required tasks through Chapter 16.	Chapters 6 through 16 in the system installation book for your platform.	
8.	Validate and, if necessary, troubleshoot the integration.	Chapter 5, ‘‘Integration Validation and Troubleshooting’’.	
9.	Cut to service by notifying the switch administrator or your project manager to change the system users’ call forwarding coverage path to the Lucent INTUITY system.	None.	

Planning for Switch Integration with Digital Station Interface

2

Overview

This chapter describes the information that must be obtained in advance of performing the procedures to integrate a Northern Telecom (Nortel) Meridian 1 or Meridian SL-1 switch with the Lucent™ INTUITY™ system. Worksheets are included to record the necessary information. Completion of the worksheets:

- Ensures that both the switch and the Lucent INTUITY system are properly administered.
- Aids cooperation between the personnel installing the Lucent INTUITY system and the switch administrator.

Responsibility for implementing the information on the worksheets is as follows:

- The project planner or project manager is responsible for completing the worksheets.
- The switch administrator must provide information on the worksheets specific to the switch. The switch administrator is also responsible for administering the information on the switch.
- The Lucent installer is responsible for administering information on the worksheets specific to the Lucent INTUITY system.

Purpose

This chapter provides worksheets (Table 2-2 through Table 2-10) used by planners or project managers, Lucent installers, and the switch administrator to integrate a Lucent INTUITY system with a Nortel Meridian 1 or Meridian SL-1 switch. A checklist is also provided (Table 2-1) to ensure that all the worksheets are completed in advance of the integration.

Checklist for Planning

The following checklist (Table 2-1) lists the worksheets that must be completed before the integration. Use the checklist to ensure that all worksheets are completed.

Table 2-1. Planning Checklist

Worksheet	Section	✓
Table 2-2	"Determining the Number of Ports to Use on the Digital Station Interface Circuit Card"	
Table 2-3	"Obtaining Terminal Numbers for Ports on the Digital Station Interface Circuit Card"	
Table 2-4	"Obtaining the Lucent Intuity Message Retrieval Number"	
Table 2-5	"Obtaining the Dedicated MWI Port Extension Number (Optional)"	
Table 2-6	"Obtaining Extension Numbers and ACD DNs for the Lucent Intuity Tip/Ring Lines"	
Table 2-7	"Mapping Tip/Ring Extensions to Keys on the Digital Station Interface Circuit Card Ports"	
Table 2-9	"Determining the Call Redirection Display Strings Currently Set on the Switch"	
Table 2-10	"Determining the Serial Number of the Digital Station Interface Circuit Card"	
Table 2-11	"Determining the Start and End Times for Night Audits (If Run)" NOTE: This worksheet is required *only* for integrations with Meridian 1 and SL-1 switches when night audits are run.	
Table 2-12	"Obtaining the Day/Night Service Automated Attendant Number (If Used)" NOTE: This worksheet is required *only* for integrations with Meridian 1 and Meridian SL-1 switches when the customer has day/night service and uses the automated attendant feature of the INTUITY AUDIX system.	
Table 2-13	"Obtaining the Express Messaging Automated Attendant Number (If Used)" NOTE: This worksheet is required *only* for integrations with Meridian 1 and Meridian SL-1 switches that will use the Lucent INTUITY Express Messaging feature.	
Table 2-14	"Obtaining the Call Routing Automated Attendant Number (If Used)"	
Table 2-15	"Obtaining Numbers for the Call Routing Automated Attendant Menu (If Used)"	
Table 2-16	"Planning for Phantom Numbers (If Used)"	

Determining the Number of Ports to Use on the Digital Station Interface Circuit Card

Table 2-2 provides guidelines for determining the number of ports to use on the digital station interface circuit card based on the number of extension numbers required on the Lucent INTUITY system.

- As a general rule, for satisfactory performance, a maximum of nine extension numbers on the Lucent INTUITY system can be mapped to a single port on the digital station interface circuit card. See "Mapping Tip/Ring Extensions to Keys on the Digital Station Interface Circuit Card Ports" below for information for more information on the distribution of Tip/Ring lines across the ports.
- Operating efficiency can be enhanced by distributing the extension numbers for the Tip/Ring channels across a greater number of ports.
- If MWI updates are to be performed on the system, *one port* on the digital station interface circuit card must be reserved *exclusively* for this purpose. By convention, port 8 is used for MWI updates. If MWI updates are not to be performed, then extension numbers can be mapped to all eight ports on the digital station interface circuit card.

Worksheet

Use the following worksheet (Table 2-2) to record the total number of ports to be used on the digital station interface circuit card. If MWI updates are to be done on the system, be sure to include one port for that purpose in the total.

Table 2-2. Worksheet for the Number of Ports to be Used

Number of Tip/Ring Extensions Required	Minimum Recommended Number of Ports (Excluding Port for MWI Updates)	MWI Updates Required? (Y/N)	Total Number of Ports Required (Including Port for MWI Updates
5 or fewer	1		
6-10	2		
11-18	3		
19-24	4		
25-30	5		
31-40	6		
More than 40	7		

Examples

- For a system with 18 voice channels, 3 ports (minimum) on the digital station interface circuit card are recommended. If MWI updates are to be performed on the system, 4 ports (minimum) are required.
- For a system with the maximum of 64 voice channels, 7 ports on the digital station interface circuit card are recommended. If MWI updates are to be performed on the system, 8 ports are required.

Obtaining Terminal Numbers for Ports on the Digital Station Interface Circuit Card

Every termination on the Meridian 1 or Meridian SL-1 switch is uniquely identified by a *terminal number* (TN). The switch TN is a 4-digit number, for example 4 0 4 0, that identifies the physical location on the switch digital line card of a line to or from the switch. The digits designate, from left to right, the following:

Loop number	The loop to which the termination belongs.
Shelf number	The shelf on which the circuit termination's card is present.
Card number	The number of the card that contains this termination.
Unit number	The termination on the specified card.

NOTE:
Do not confuse the abbreviation "TN" used for a terminal number on the switch with the abbreviation "TN" used in Lucent circuit pack designations.

Load Leveling

For load leveling, every port of the digital station interface circuit card on the Lucent INTUITY system should be assigned to a different digital line card on the switch. That is, only one port should be assigned to a particular switch digital line card.

On Meridian 1 and Meridian SL-1 switches, the digital line cards in slot 0 and slot 1 are given higher priority than the cards in other slots. Therefore, for optimal system performance, all ports should be assigned to digital line cards in these slots.

Worksheet

Use the following worksheet (Table 2-3) to record the TNs for the ports on the digital station interface circuit card that will be used for switch integration. Use the following procedure to fill in the worksheet:

1. Obtain from the switch administrator a switch TN for *each* port on the digital station interface circuit card that will be used for integration or MWI updates.
   - Make sure each TN is from a different digital line card on the switch.
   - Assign only one port to a digital line card.
   - Assign the ports to digital line cards in slot 0 or slot 1.

   NOTE:
   A TN is not required for any ports that will not be used for integration. By convention, port 8 is used for MWI updates.

2. Fill in the Table 2-3 to show the mapping between the ports on the digital station interface circuit card and the switch TNs.

Table 2-3. Worksheet for Port-to-Terminal Mapping

Port Number	Switch TN
1	
2	
3	
4	
5	
6	
7	
8	

Obtaining the Lucent INTUITY Message Retrieval Number

The Lucent INTUITY number is the extension number that system users call to retrieve their messages. This number is the first Tip/Ring extension in the hunt chain mapped to the keys on the digital station interface circuit card ports. See "Mapping Tip/Ring Extensions to Keys on the Digital Station Interface Circuit Card Ports" below for related information.

The extension number assigned as the Lucent INTUITY number does *not* need to be contiguous with the extension numbers used for mapping the remaining Tip/Ring lines. (It may be contiguous, however.) See "Obtaining Extension Numbers and ACD DNs for the Lucent Intuity Tip/Ring Lines" below for related information.

Worksheet

Use the following worksheet (Table 2-4) to record the Lucent INTUITY message retrieval number.

Table 2-4. Worksheet for the Lucent INTUITY Message Retrieval Number

Lucent INTUITY number:

Obtaining the Dedicated MWI Port Extension Number (Optional)

If MWI updates are to be performed on the system, obtain from the switch administrator a unique number not assigned to any other extension on the switch.

The extension number assigned for MWI updates does *not* need to be contiguous with the extension numbers used for the remaining Tip/Ring lines. (It may be contiguous, however.) See "Obtaining Extension Numbers and ACD DNs for the Lucent Intuity Tip/Ring Lines" below for related information.

Worksheet

Use the following worksheet (Table 2-5) to record the MWI port extension number.

Table 2-5. Worksheet for the MWI Port Extension Number

MWI port extension number:

Obtaining Extension Numbers and ACD DNs for the Lucent INTUITY Tip/Ring Lines

Integration with a Meridian 1 or Meridian SL-1 switch requires *contiguous* extension numbers for the Tip/Ring lines on the Lucent INTUITY system. An extension number is required for every Tip/Ring line on the system.

NOTE:
The *first* extension number is assigned as the Lucent INTUITY message retrieval number and is configured separately (see Table 2-4). The extension number for MWI updates is also configured separately (see Table 2-5). These two extension numbers do not needs to be contiguous with each other or the remaining Tip/Ring lines. All other Tip/Ring extension numbers on the system *must* be contiguous.

For example, if 30 Tip/Ring lines are needed, any of the following sets of 29 contiguous extensions could be used, depending on the number of digits in the dial plan (extension length).

2001-2029, 000-028, 65550-65578

These ranges do *not* include the Lucent Intuity message retrieval number or the MWI port extension number.

For systems with more than 16 Tip/Ring extension numbers, the switch administrator must provide unique automatic call distribution directory numbers (ACD DNs) for each group of 15 extension numbers from 16 upwards:

- ACD DN 1 is used for Tip/Ring extensions 16-30.
- ACD DN 2 is used for Tip/Ring extensions 31-45.
- ACD DN 3 is used for Tip/Ring extensions 46-60.
- ACD DN 4 is used for Tip/Ring extensions 61-64.

Worksheet

Use the following worksheet (Table 2-6) to configure the extension numbers and ACD DNs. To fill in the worksheet, do the following:

1. Obtain an appropriate set of contiguous extension numbers from the switch administrator.
2. Obtain an appropriate set of ACD DNs from the switch administrator, if required (systems with more than 16 Tip/Ring extension numbers).
3. In Table 2-6, record the Lucent INTUITY message retrieval number as the first extension number (`Ext. 1`).

   See Table 2-4 for the Lucent INTUITY message retrieval number.
4. Beginning with `Ext. 2 in the table` and proceeding *in order*, record all the extension numbers, from lowest to highest.
5. Record the ACD DNs, if required.

NOTE:
The extension number used for MWI updates is *not* recorded in Table 2-6.

Table 2-6. Worksheet for Obtaining Lucent INTUITY Extension Numbers

Tip/Ring Extension Numbers/ACD DNs				
Ext. 1: (Lucent INTUITY number	ACD DN 1:	ACD DN 2:	ACD DN 3:	ACD DN 4:
	Ext. 16:	Ext. 31:	Ext. 46:	Ext. 61:
Ext. 2:	Ext. 17:	Ext. 32:	Ext. 47:	Ext. 62:
Ex. 3:	Ext. 18:	Ext. 33:	Ext. 48:	Ext. 63
Ext. 4:	Ext. 19:	Ext. 34:	Ext. 49:	Ext. 64:
Ext. 5:	Ext. 20:	Ext. 35:	Ext. 50:	Not used.
Ext. 6:	Ext. 21:	Ext. 36:	Ext. 51:	
Ext. 7:	Ext. 22:	Ext. 37:	Ext. 52:	
Ext. 8:	Ext. 23:	Ext. 38:	Ext. 53:	
Ext. 9:	Ext. 24:	Ext. 39:	Ext. 54:	
Ext. 10:	Ext. 25:	Ext. 40:	Ext. 55:	
Ext. 11:	Ext. 26:	Ext. 41:	Ext. 56:	
Ext. 12:	Ext. 27:	Ext. 42:	Ext. 57:	
Ext. 13:	Ext. 28:	Ext. 43:	Ext. 58:	
Ext. 14:	Ext. 29:	Ext. 44:	Ext. 59:	
Ext. 15:	Ext. 30:	Ext. 45:	Ext. 60:	

Mapping Tip/Ring Extensions to Keys on the Digital Station Interface Circuit Card Ports

The Tip/Ring lines on the Lucent INTUITY system must be mapped correctly to the keys and ports on the digital station interface circuit card.

- For best system performance, distribute the Tip/Ring lines as equally as possible across the recommended number of ports. (See Table 2-2 for the recommended number of ports.)
- If the lines cannot be distributed exactly equally, map the larger number of lines to the lowest-numbered ports.

For example, excluding the dedicated port for MWI updates, for systems with 24 Tip/Ring lines a minimum of 4 ports is recommended (Table 2-2). The optimal distribution of the lines across the ports is 6-6-6-6. If for enhanced system performance the 24 lines are to be mapped onto 5 ports, the optimal distribution is 5-5-5-5-4. For 6 ports, the distribution is 4-4-4-4-4-4. For 7 ports, the distribution is 4-4-4-3-3-3-3.

As another example, excluding the dedicated port for MWI updates, a minimum of 7 ports is recommended for systems with 64 Tip/Ring lines. The optimal distribution of the lines across the ports is 10-9-9-9-9-9-9. If MWI updates are not to be performed on the system, then all 8 ports are available for Tip/Ring mapping, and the optimal distribution is 8-8-8-8-8-8-8-8.

Worksheet

Use the following worksheet (Table 2-7) to map the Lucent INTUITY system Tip/Ring lines to the keys of the digital station interface circuit card ports. The lines must be mapped in sequential order *across* the ports. To fill in the worksheet, do the following:

1. Record the switch TNs obtained for the ports on the digital station interface circuit card in the fields at the top of the worksheet.

   See Table 2-3 for the switch TNs.

2. If the system is to perform MWI updates, fill in the key 0 scr entry for port 8 with the extension number recorded in Table 2-5.

   NOTE:
   By convention, port 8 is used for MWI updates. Another port can be used, however.

3. Starting with the first Tip/Ring extension number on the Lucent INTUITY system (see Table 2-6) and preceding *sequentially*, fill in the fields in the table *horizontally*, one-by-one, starting with the field for the key 0 scr.

   Observe the following guidelines:

   - If any port is not used, leave its corresponding column blank.
   - If the system has a port dedicated for MWI updates do not map any Tip/Ring numbers to that port. The extension number you entered in Step 2should be the only entry for the port.
   - Start by entering the first Lucent INTUITY number in the first row for port 1 (key 0 scr). Then move horizontally across to key 0 scr for port 2, key 0 scr for port 3, and so on. After you fill in the row corresponding to key 0 scr, use the same procedure to fill in the row for key 1 scr. Continue in this manner until you have assigned all the extension numbers for all the Tip/Ring ports.

NOTE:
The worksheet contains no Key 7. The switch reserves Key 7.

Table 2-7. Worksheet for Key Mapping

Key Number	Port 1 switch TN:	Port 2 switch TN:	Port 3 switch TN:	Port 4 switch TN:	Port 5 switch TN:	Port 6 switch TN:	Port 7 switch TN:	Port 8 switch TN:
key 0 scr								
key 1 scr								
key 2 scr								
key 3 scr								
key 4 scr								
key 5 scr								
key 6 scr								
key 8 scr								
key 9 scr								
key 10 scr								
key 11 scr								

Example

The following example (Table 2-8) shows entries for a system with 21 Tip/Ring lines where MWI updates are to be performed:

- Ports 1 through 4 are used for call integration, and port 8 is dedicated for MWI updates. The switch TNs for these ports are, respectively, 4 0 1 0, 4 0 1 1, 4 0 1 2, 4 0 1 3, and 4 0 1 4.
- The Lucent INTUITY message retrieval number is 5555, and therefore 5555 is used as the extension number for the first Tip/Ring line (key 0 scr, port 1).
- For Tip/Ring lines 2 through 21, contiguous extension numbers 2001 through 2020 are used. These numbers are mapped sequentially across ports 1 through 4.
- The extension number assigned for MWI updates is 5999, and it is recorded under port 8.
- The distribution of Tip/Ring lines to ports is 6-5-5-5.

Table 2-8. Example of Worksheet for Key Mapping

Key Number	Port 1 switch TN: 4 0 1 0	Port 2 switch TN: 4 0 1 1	Port 3 switch TN: 4 0 1 2	Port 4 switch TN: 4 0 1 3	Port 5 switch TN:	Port 6 switch TN:	Port 7 switch TN:	Port 8 switch TN: 4 0 1 4
key 0 scr	**5555**	**2001**	**2002**	**2003**				**5999**
key 1 scr	**2004**	**2005**	**2006**	**2007**				
key 2 scr	**2008**	**2009**	**2010**	**2011**				
key 3 scr	**2012**	**2013**	**2014**	**2015**				
key 4 scr	**2016**	**2017**	**2018**	**2019**				
key 5 scr	**2020**							
key 6 scr								
key 8 scr								
key 9 scr								
key 10 scr								
key 11 scr								

Determining the Call Redirection Display Strings Currently Set on the Switch

The Lucent INTUITY system uses call redirection display strings sent by the switch to parse call data. The settings for these strings on the switch and on the Lucent INTUITY system must match for the integration to succeed.

The switch administrator can check the call redirection display strings currently set on the switch by using overlay 95 and entering the following commands at the switch administration terminal:

LD95
REQ **PRT**
TYPE **CPND**
CUST **0**

Among other details, the output of these commands shows the call redirection display strings, as follows:

CFNA: <***call_forward_on_no_answer***>
HUNT: <***call_forward_on_busy***>
CFWD: <***cover_all_calls***>

where:

- <*call_forward_on_no_answer*> is the string to forward answered calls to the Lucent INTUITY system.
- <*call_forward_on_busy*> is the string to forward busy calls to the Lucent INTUITY system.
- <*cover_all_calls*> is the string for call forward all calls to the Lucent INTUITY system.

Worksheet

Use the following worksheet (Table 2-9) to record the current switch settings for the call redirection display strings.

NOTE:
If the output of the overlay 95 commands above does *not* list the call redirection display strings, then leave Table 2-9 blank. Ensure that the switch administrator configures the strings as described in "Configuring the Call Redirection Display Strings" in Chapter 3, "Requirements and Administration for Nortel Meridian 1 and Meridian SL-1 Switches". See also "Setting the Call Redirection Display Strings" in Chapter 4, "Lucent Intuity Administration for Switch Integration with Digital Station Interface".

Table 2-9. Worksheet for Switch Call Redirection Display String Settings

Reason	String Configured on the Switch
Call forward on no answer	
Call forward on busy	
Cover all calls	

Determining the Serial Number of the Digital Station Interface Circuit Card

The serial number of the VB-PC digital station interface circuit card is a 4-digit number needed for Lucent INTUITY administration. This number is printed on a stamp affixed to the card faceplate, where it is easily visible. It also appears on the surface of the circuit card. For an illustration of the circuit card showing the

locations of the serial number, see Chapter 5, “Replacing or Installing Circuit Cards” in the maintenance for your platform. The serial number may be prefixed by characters indicating the switch type. You must strip off these characters to get the 4-digit serial number. For example, a card for the Meridian 1 switch might be labeled M1 3093. Strip off the prefix (M1) to get the serial number: 3093

Worksheet

Use the following worksheet (Table 2-10) to record the serial number of the digital station interface circuit card.

Table 2-10. Worksheet for the Digital Station Interface Circuit Card Serial Number

Serial number:

Determining the Start and End Times for Night Audits (If Run)

The Meridian 1 and Meridian SL-1 switches normally perform an audit every 24 hours. Since the audit is usually done at night, it is called the night audit or midnight audit. Any MWI activity that occurs while the audit runs can create a conflict that disables the affected digital station interface port. If all ports go out of service, no calls can be integrated and switch personnel must return the ports to service. Therefore, MWI updates *must* be blocked while the switch audit runs.

Worksheet

Use the following worksheet (Table 2-11) to record the times when audits normally start and end. Use the 24-hour format *HH MM SS*, where:

- *HH* is the hour in the 24-hour system (range 0-23).
- *MM* is the minute (range 0-59).
- *SS* is the second (range 0-59).

Table 2-11. Worksheet for the for the Night Audits Start and Stop Times

Start time for night audits: (24-hour format)	End time for night audits: (24-hour format)

Obtaining the Day/Night Service Automated Attendant Number (If Used)

NOTE:
This worksheet is required only for Meridian 1 and Meridian SL-1 integrations when the customer has day/night service.

The day/night service number is an INTUITY AUDIX extension number administered as an automated attendant mailbox.

Worksheet

Use the following worksheet (Table 2-12) to record the automated attendant number used for day/night service.

Table 2-12. Worksheet for the Day/Night Service Automated Attendant Number

Day/night service number:

Obtaining the Express Messaging Automated Attendant Number (If Used)

NOTE:
This worksheet is required only for Meridian 1 and Meridian SL-1 integrations when the customer uses the Lucent INTUITY Express Messaging feature.

The Lucent INTUITY Express Messaging number is an INTUITY AUDIX extension number administered as an automated attendant that a system user dials to use the Express Messaging feature. See Appendix A, "Administering Express Messaging" for a description of this feature. See also "Planning for Phantom Numbers (If Used)" below for information on administration required for phantom numbers.

Worksheet

Use the following worksheet (Table 2-13) to record the Express Messaging number.

Table 2-13. Worksheet for the Express Messaging Automated Attendant Number

Express Messaging number:

Obtaining the Call Routing Automated Attendant Number (If Used)

NOTE:
This worksheet is required only for Meridian 1 and Meridian SL-1 integrations when the customer uses an automated attendant number for call routing to far-end switches in the customer network.

A call routing number is an INTUITY AUDIX extension number configured as an automated attendant that a system user dials to access far-end switches in a customer network. See Appendix B, "Administering Call Routing for Far-End Switches" for a description of this feature and "Obtaining Numbers for the Call Routing Automated Attendant Menu (If Used)" below for additional planning that must be done for this feature. See also "Planning for Phantom Numbers (If Used)" below for information on administrative requirements for phantom numbers.

Worksheet

Use the following worksheet (Table 2-13) to record the automated attendant number for call routing to far-end switches.

Table 2-14. Worksheet for the Call Routing Automated Attendant Number

Call routing number:

Obtaining Numbers for the Call Routing Automated Attendant Menu (If Used)

NOTE:
This worksheet is required only for Meridian 1 and Meridian SL-1 integrations when the customer is creating a menu of locations for routing calls to far-end switches in the customer network.

For every menu choice offered via the call routing automated attendant feature:

1. Obtain from the switch administrator a unique phantom extension number.
2. Determine the telephone number for the far-end location.

See Appendix B, "Administering Call Routing for Far-End Switches" for a description of this feature and "Obtaining the Call Routing Automated Attendant Number (If Used)" above for additional planning that must be done for this feature. See also "Planning for Phantom Numbers (If Used)" below for information on administrative requirements for phantom numbers.

Worksheet

Use the following worksheet (Table 2-15) to record the phantom numbers and external location numbers for the menu for call routing to far-end switches.

Table 2-15. Worksheet for the Call Routing Automated Attendant Menu

Digit (Menu Choice)	Phantom Extension for Automated Attendant Menu	External Location Number
1		
2		
3		
4		
5		
6		
7		
8		
9		
0		

Planning for Phantom Numbers (If Used)

A *phantom number* (also called a dummy number) on the switch is an extension number that is not associated with a switch port or a telephone station. In integrations with the Meridian 1 and Meridian SL-1 switches, a phantom number is used for directing the call to the Lucent INTUITY system by enabling the forward all calls feature on the phantom extension to the Lucent INTUITY system.

A phantom number is also used for the Lucent INTUITY Express Messaging feature and the call routing automated attendant. See "Obtaining the Express Messaging Automated Attendant Number (If Used)" and "Obtaining the Call Routing Automated Attendant Number (If Used)"above.

WARNING:
All phantom numbers must be assigned to switch 0 (zero) in the INTUITY AUDIX database. If switch 0 is not used for these extensions (which do not have real stations), the system will try to turn MWIs on and off and will continually fail to do so. This condition can seriously impede system performance.

For information on administering the switch number, see the description of the `Switch Number:` field on Page 1 of the Subscriber screen in "Adding, Changing, and Removing Users", in Chapter 5, "User Administration", in *Intuity Messaging Solutions Release 4, Administration",* 585-310-564.

Worksheet

Use the following worksheet (Table 2-16) to record any phantom numbers used for switch integration.

Table 2-16. Worksheet for Phantom Numbers Used for Switch Integration

Phantom numbers:

Requirements and Administration for Nortel Meridian 1 and Meridian SL-1 Switches

3

Overview

This chapter provides information on requirements for switch software, hardware, connectivity, and administration for integration of a Northern Telecom (Nortel) Meridian 1 or Meridian SL-1 switch with the Lucent™ INTUITY™ system.

Purpose

This chapter is designed to help Lucent technicians ensure that correct administration is completed on the switch so that the switch and the Lucent INTUITY system can be integrated successfully. The switch administrator is responsible for performing the switch administration. However, Lucent technicians and the switch administrator must cooperate to ensure that the appropriate administration is completed.

Switch Software Requirements

The following software is required on the switch for integration with the Lucent INTUITY system:

- Generic 11, Release 15 or later with Options 11, 21, 21a, 51, 61, 71, and 81

  NOTE:
  The line disconnect tone allowed (LDTA) software feature may be required in some countries. Release 15 and Release 16 support silence disconnect only and do not support LDTA.

- Option package 19 for digital display (DDSP)
- Option package 46 for message center (MWC)

See "Verifying the Switch Software Release" and "Verifying the Switch Option Packages" below for information on how the switch administrator can verify the software release and option packages installed on the switch.

Switch Hardware Requirements

The following hardware packages (Table 3-1) are required on Meridian switches for integration with the Lucent INTUITY system:

Table 3-1. Required Switch Hardware

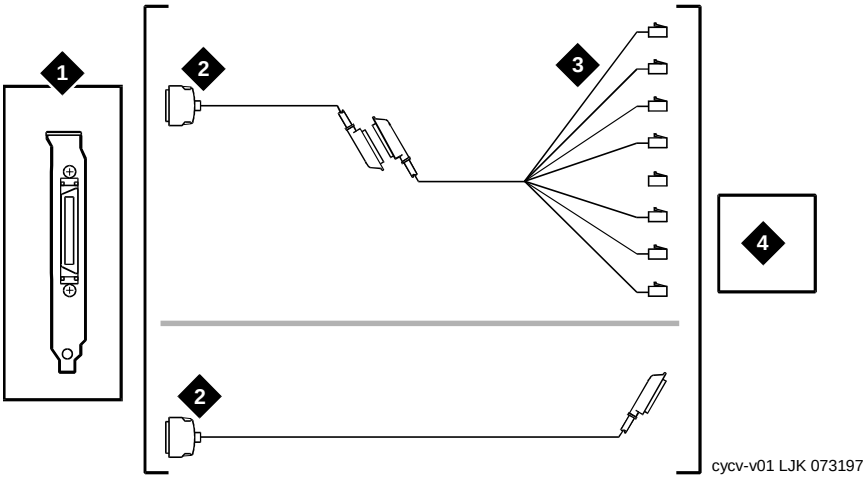
Switch	Hardware Required
Meridian 1	■ NT9D009 or NT8DO3 circuit card for connection to the Lucent INTUITY analog ports ■ NT8D02 8-port digital station interface circuit card
Meridian SL-1	■ QPC594 circuit card for connection to the Lucent INTUITY analog ports ■ QPC578 8-port digital station interface circuit card

Connectivity

The Lucent INTUITY system is shipped with the digital station interface circuit card installed at the factory. See Chapter 5, "Replacing or Installing Circuit Cards", in the maintenance book for your platform for information on replacing or reinstalling a digital station interface circuit card.

The digital station interface circuit card is shipped with the following cables:

- A 0.6-m (2-ft) amphenol connector cable (Comcode 407780956 — including circuit card and cable), with 25-pair 50-pin connectors on both ends (Figure 3-1).
- A 1-m (3-ft) octopus cable (Comcode 407789064), with a 25-pair 50-pin connector on one end (for the digital station interface circuit card connection) and eight RJ-45 connectors on the other for connection to the customer equipment (Figure 3-1).



1. Digital station interface circuit card
2. 0.6-m (2-ft) 25-pair 50-pin connector cable
3. 1-m (3-ft) octopus cable
   NOTE: In-line adapters (RJ-11-to-RJ45) may be required.
4. Customer equipment

Figure 3-1. Connecting the Lucent INTUITY Digital Station Interface Circuit Card to Customer Equipment

Configurations

The switch and the digital station interface circuit card on the Lucent INTUITY system can be connected by either of the following standard configurations. (See "Connecting the Lucent Digital Station Interface Circuit Card to Customer Equipment" below.)

- The 25-pair 50-pin cable can connect directly to the digital station interface circuit card and the customer equipment.
- The octopus cable and the 25-pair 50-pin cable can be coupled and then the 25-pair 50-pin cable connected to the digital station interface card and the customer equipment.

Some configurations with Meridian 1 and Meridian SL-1 switches require RJ-11-to-RJ45 inline adapters (356B — Comcode 105197297) at the switch side to convert the cable ends of the octopus cable.

See Appendix E, "Cable Connectivity" in the *System Installation* book for your platform for more information and an illustration of the cabling.

Connecting the Lucent Digital Station Interface Circuit Card to Customer Equipment

Use this procedure and Figure 3-1 to connect the digital station interface circuit card to customer equipment.

1. Attach the 50-pin connector end of the connector cable to the faceplate of the digital station interface circuit card.
2. If required, connect the 1-m (39-in.) octopus cable (provided with the circuit card) to the other end of the cable.
3. If required, connect the RJ-45 connectors on the opposite end of the octopus cable to the customer equipment.

NOTE:
The station jacks for Notel equipment are normally RJ-11, not RJ-45. You must use in-line adapters to convert the RJ-11 to RJ-45 to connect to their equipment.

The cable end is now ready to be connected to the customer equipment. See the information in "Demarcation Points" in Chapter 1, "Overview of Switch Integration with Digital Station Interface".

Custom Wiring

Customer wiring configurations may involve special considerations. In many integrations a 66-M1-50 block may be used with B bridging clips. However, other customer wiring configurations are possible.

The following pinout diagram (Table 3-2) is provided as reference for 50-pin connections made at a switch interconnection point.

Table 3-2. Cabling Requirements for 50-Pin Cable Connection

Phone Line Number	Pin Number	Pair Color	Lead Designation
1	26	White-Blue	Tip
	1	Blue-White	Ring
2	29	White-Brown	Tip
	4	Brown-White	Ring
3	32	Red-Orange	Tip
	7	Orange-Red	Ring
4	35	Red-Slate	Tip
	10	Slate-Red	Ring
5	38	Black-Green	Tip
	13	Green-Black	Ring
6	41	Yellow-Blue	Tip
	16	Blue-Yellow	Ring
7	44	Yellow-Brown	Tip
	19	Brown-Yellow	Ring
8	47	Violet-Orange	Tip
	22	Orange-Violet	Ring

Connecting the Tip/Ring Lines

The Tip/Ring (analog voice) lines are connected between the Lucent INTUITY system and the switch. See Chapter 3, "Making Cable Connections", in the system installation book for your platform for information on connecting the Tip/Ring lines to the Lucent INTUITY system.

Required Switch Administration

You must work with the switch administrator to ensure that the proper switch administration has been performed. The following information is provided to assist you in working with the switch administrator.

Overlays

Administration on the switch is done via *overlays* that allow switch administrators to modify system parameters. Overlays are loaded by entering the command below at the switch administration terminal.

LD<*overlay*>

where <*overlay*> is an overlay number.

Verifying the Switch Software Release

The switch administrator can verify the software release installed on the switch by using overlay 22 and entering the commands below at the switch administration terminal.

LD22
REQ **ISS**

The output of these commands lists the software release loaded on the switch. This number should be 15 or greater (17 or greater in some applications). See "Switch Software Requirements" above.

Ensure that the switch administrator has the appropriate release of the software installed on the switch.

Verifying the Switch Option Packages

The switch administrator can verify the software packages installed on the switch by using overlay 22 and entering the commands below at the switch administration terminal.

LD22
REQ **PRT**
TYPE **PKG**

The output of these commands lists all software packages installed on the system. Switch option packages 19 (for DDSP) and 46 (for MWE) should be installed. See "Switch Software Requirements" above.

Ensure that the switch administrator has the appropriate switch option packages installed on the switch.

Verifying the Attendant Console Day/Night Service Support Number (If Used)

If attendant day/night service is used, the switch administrator can determine the attendant console day/night service support number by using overlay 21 and entering the commands below at the switch administration terminal.

LD21
REQ **PRT**
TYPE **CDB**
CUST **0**

Among other details, these commands display the following output:

NITE DN:<*number*>

where <*number*> is an extension number.

Request that the switch administrator make the NITE DN number equal to the Lucent INTUITY message retrieval number.

The switch will pass 0 (attendant number) as a called party (CP) number to the Lucent INTUITY system in this case. The Attendant Translation window is used to translate 0 to an INTUITY AUDIX® mailbox number, which is typically an automated attendant mailbox. See "Setting the Attendant Translations" in Chapter 4, "Lucent Intuity Administration for Switch Integration with Digital Station Interface", for information about the Attendant Translation window.

Configuring the Call Redirection Display Strings

The settings for the call redirection display strings on the switch and on the Lucent INTUITY system must be identical for the integration to succeed. By default, the Lucent INTUITY system expects the call redirection display strings to be set as follows:

- Call forward on no answer — CFNA
- Call forward on busy — CFB
- Cover all calls — CFW

Check the strings currently set on the switch and recorded in Table 2-9 in "Determining the Call Redirection Display Strings Currently Set on the Switch" in Chapter 2, "Planning for Switch Integration with Digital Station Interface".

Do the following to ensure that these strings match.

- If the call redirection display strings are not set on the switch to the values that the Lucent INTUITY expects, request that the switch administrator change them by using overlay 95 and entering the commands below:

  LD95
  REQ **CHG**
  TYPE **CPND**
  CUST <***customer_number***>
  HUNT **CFB**
  CFNA **CFNA**
  CFWD **CFW**

  where <*customer_number*> identifies the customer.

- If for any reason the strings cannot be changed on the switch, you must administer them on the Lucent INTUITY system. See "Setting the Call Redirection Display Strings" in Chapter 4, "Lucent Intuity Administration for Switch Integration with Digital Station Interface".

Administering the ACD DNs

ACD DNs are used for forming hunt chains of Tip/Ring ports. Request that the switch administrator use overlay 23 to enter the commands below for *each* ACD DN configured on the system:

LD 23
REQ **NEW**
TYPE **ACD**
ACDN <***ACD_DN***>
MAXP **1**
MWA **YES**
NCFWP **<*night_call_forward_DN_extension*>**

where:

- <*ACD_DN*> is an automatic call distribution directory number (ACD DN) recorded in Table 2-6 in Chapter 2, "Planning for Switch Integration with Digital Station Interface".
- <*night_call_forward_DN_extension*> is the extension number recorded for the ACD DN in Table 2-6 in Chapter 2, "Planning for Switch Integration with Digital Station Interface".

Administering the Tip/Ring Lines

Ensure that *each* extension number corresponding to a Tip/Ring line on the Lucent INTUITY system is administered on the switch by requesting that the switch

administrator use overlay 10 to enter the commands below. In this administration the HUNT field is configured to form a hunt chain.

NOTE:
In the command lines, the ellipsis (three lines of periods) indicates intervening commands.

The NCOS *field determines what types of calls a station on the switch can originate, for example, whether a station can perform a transfer out of the private network. The possibility of toll fraud exists if administration is not performed correctly. Lucent Technologies is not responsible for any consequences due to switch administration.*

LD10
REQ **NEW**
.
.
.
TN <***TN***>
DES **tipring**
DN <***extension_number***>
.
.
.
CLS **LDTA HTA XFA HPR <*MBXA*>**
NCOS <***outcalling_NCOS_number***>
HUNT <***next_extension_number/ACD_DN***>

where:

- <*TN*> is the switch TN associated with the Tip/Ring line. To determine the association, see Table 2-7 in Chapter 2, "Planning for Switch Integration with Digital Station Interface".
- <*extension_number*> is the extension number that is being created. See Table 2-6 for the list of extension numbers to be administered.
- <*MBXA*> is a class of service that is available only if the switch has the multiparty operations (MPO) package 141 and Supp package 131 installed and the release of the switch software is greater than Release 21.

  NOTE:
  Ignore the MBXA class of service if you are integrating the Lucent INTUITY system with a switch lacking the MPO software. The HPR class of service gives high priority to the Tip/Ring lines.

- <*outcalling_NCOS_number*> is the number that allows access for outcalling.
- <*next_extension_number/ACD_DN*> is the extension number of the next Tip/Ring line or the next ACD DN in the hunt chain. See Table 2-6 in Chapter 2, "Planning for Switch Integration with Digital Station Interface".

Administering the Switch Users

Provided below is a template for how an extension on the switch should be administered if the system user needs the following features:

- Call forwarding coverage on no answer to the Lucent INTUITY system
- Call forwarding coverage on busy to the Lucent INTUITY
- Message waiting indicator (MWI) updates

Ensure that the switch administrator uses the appropriate overlay to enter the commands below at the switch administration terminal: for each system user.

NOTE:
In the commands lines, the ellipsis (three lines of periods) indicates intervening commands.

LD <***10*** or ***11***>
REQ **<HG**
TN ***<user's_TN>***
TYPE ***<set_type>***
.
.
.
FDN <***Lucent_INTUITY_number***>
.
.
.
CLS **FNA FBA HTA MWA CFNA SFA CFTA**
.
.
.
EFD <***Lucent_INTUITY_number***>
HUNT <***Lucent_INTUITY_number***>
EHT <***Lucent_INTUITY_number***>
.
.

.

where:

- <*user's_TN*> is the switch terminal number (TN) associated with the user and the user's station set.
- <*10* or *11*> is the appropriate overlay (10 for analog sets, 11 for digital sets.
- <set_*type*> is the user's station set type, for example, 500 (analog set), 2616 (digital set), or 2006 (digital set).
- <*Lucent_INTUITY_number* > is the Lucent INTUITY message retrieval number (see Table 2-4).

NOTE:
CFTA *must* be included in the CLS line for the EFD and EHT parameters to be set.

Do *not* administer INTUITY AUDIX users with DDGD as a class service. This class disables display of the calling number on the destination station. If users with this class dial the INTUITY AUDIX application, they cannot enter just # (pound sign) for their mailbox numbers. Instead, they must enter the number and then #. When a call for such a user is forwarded to the Lucent INTUITY system, the system answers in a nonintegrated mode.

Administering the Ports on the Digital Station Interface Circuit Card

Ensure that *each* switch terminal number (TN) defined for the Lucent INTUITY system plus *each* of its associated keys is administered on the switch by requesting that the switch administrator use overlay 11 to enter the commands below at the switch administration terminal. Be sure that the TN associated with the port dedicated for MWI updates (if used), is administered.

NOTE:
In the command lines, the ellipsis (three lines of periods) indicates intervening commands.

LD11
REQ **NEW/CHG**
TYPE **2616**
TN ***<TN>***
.
.
.
CLS **DDS CNDA HPR**
KEY ***<key>***
.
.

.
KEY**: <*key*>**
KEY**: 12 DSP**
KEY**: 13 MIK**
KEY**: 14 MCK**

where:

- <*TN*> is the switch terminal number.
- <*key*> is the key designation, in the format 0 scr to 11 scr.

See Table 2-7 in Chapter 2, "Planning for Switch Integration with Digital Station Interface", for the list of switch TNs and keys to be administered.

NOTE:
The TYPE must be set to 2616, which is the station set type that the digital station interface circuit card emulates.

Optional Switch Administration

Express Messaging Feature

If the customer is to use the Lucent INTUITY Express Messaging feature, additional administration is required on the switch. See Appendix A, "Administering Express Messaging".

Call Routing to Far-End Switches in the Customer Network

If the customer is to enable call routing to far-end switches in the customer network, additional administration is required on the switch. See Appendix B, "Administering Call Routing for Far-End Switches".

Lucent INTUITY Administration for Switch Integration with Digital Station Interface

4

Overview

Administering the Lucent™ INTUITY™ system for switch integration with Northern Telecom (Nortel) Meridian 1 and Meridian SL-1 switches requires using windows in the user interface to perform the procedures listed below (Table 4-1.) Except as noted, you can complete these procedures in any order.

Table 4-1. Procedure Matrix

Procedure	Window
"Setting the Country and Switch" NOTE: Complete this procedure first, before beginning the remaining procedures.	Switch Selection
"Mapping the Digital Station Interface Circuit Card Ports"	VB-PC Integration Port Assignment
"Setting the VB-PC Switch and Port Assignments"	VB-PC Switch Assignment
"Setting the Call Redirection Display Strings" NOTE: Use this procedure *only* if the call redirection display strings cannot be set on the switch to match the default values expected by the Lucent INTUITY system.	Call Redirection Strings Assignment
"Setting the MWI Device Assignment"	Device Assignment
"Setting MWI Parameters"	MWI Parameters

Continued on next page

Table 4-1. Procedure Matrix — *Continued*

Procedure	Window
"Setting the Dial Plan Translations"	Dial Plan Translation
"Setting the Attendant Translations" NOTE: Administer this window *only* for Meridian 1 and Meridian SL-1 integrations where the customer has Day/Night service using the automated attendant feature of the INTUITY AUDIX® system.	Attendant Translation

In addition, the procedure in "Stopping and Starting the Voice System" is necessary to activate parameters set for switch integration.

Purpose

This chapter explains the procedures needed to use the Lucent INTUITY user interface windows to administer the system for switch integration.

Before You Begin

In this chapter it is assumed you have been directed to this book from Chapter 6, "Initial Administration for Switch Integration," in the system installation book for your platform and that you have completed all the procedures specified there.

Before you begin the procedures in this chapter, you should have already done the following:

- Assigned extension numbers to all voice channels using the PBX Extension to Channel option under the Voice Equipment menu
- Assigned the appropriate service to all channels under the Voice Equipment menu using the Service to Channels option, typically AUDIX or, if multiple applications are to be used, DNIS_SVC

NOTE:
If multiple applications are used (for example, the INTUITY AUDIX application and Lucent INTUITY Lodging application), you should have administered the proper service for the called number.

- Assigned any phantom numbers configured in the system to switch 0 on Page 1 of the Subscriber screen. (See"Planning for Phantom Numbers (If Used)" in Chapter 2, "Planning for Switch Integration with Digital Station Interface".
- Assigned service through the Number Services option under the Voice System Administration menu, by selecting **any** for the calling and called number and specifying the appropriate service (for example, **AUDIX**)
- Assigned the appropriate transfer restrictions using the Transfer Security option from the Voice System Administration menu and the System Parameters window
- Specified the voice equipment state using the State of Voice Equipment option under the Voice Equipment menu:
  - New State: **inserv**
  - Equipment: **channel**
  - Equipment Number: **all**
  - Change Immediately?: **yes**
- Assigned the appropriate channel group to voice channels using the Channels to Group option under the Voice Equipment menu

  NOTE:
  The platform comes with default setting of channel group to 2. This may be sufficient for most applications.

- Administered the Lucent INTUITY extension length (dial plan)
- Selected the country and switch on the Switch Selection window

Permissions for Windows

The sa login can view all the windows used in these procedures but cannot change any values for parameters. The craft and remote maintenance logins can set values for parameters in all windows, except the MWI Parameters window. On the MWI Parameters window, the craft login is restricted from changing all but two fields.

Other Windows Used for Switch Integration

Some windows used for switch integration can be viewed by the sa and craft logins, but require remote maintenance login permissions to change the values for parameters. These windows are used only in troubleshooting scenarios involving the remote support center and are therefore not described here.

When to Stop and Restart the Voice System

If you change or enter parameters on any of the windows used for switch integration, you must stop and then restart the system for the changes to be incorporated into call processing. However, you can administer all the windows and then stop and restart the system just one time. See "Stopping and Starting the Voice System" below.

Lucent INTUITY Main Menu

All procedures in this chapter begin at the Lucent INTUITY main menu (Figure 4-1). For information about accessing the main menu, see "Logging In to the INTUITY AUDIX System" in Appendix B, "Accessing Windows and Screens," in the system installation book for your platform.

NOTE:
Figure 4-1 is a sample window and may not show the options loaded onto the actual system you are installing.

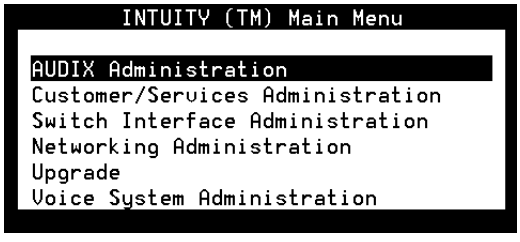


Figure 4-1. Lucent INTUITY Main Menu

Setting the Country and Switch

NOTE:
Although the correct country and switch for the integration should be set at the factory, you must verify that the settings are correct. You should have already verified these settings when you completed the procedures in the installation book for your platform before being directed to this book. If you have not already verified the settings, do so now before continuing with the integration.

Use this procedure to verify the country and switch settings for the integration, to change the settings, or to print the default settings for certain system parameters should they be needed for future troubleshooting. Settings in this window determine the default switch integration parameters for the system. Country-specific and switch-specific defaults are displayed on various windows in the user interface.

NOTE:
This procedure is also used by your remote support organization in certain circumstances when it is necessary to override the system defaults by selecting OTHER as the switch type (see Table 4-2).

1. Start at the Lucent INTUITY main menu and select

```
> Switch Interface Administration
    > Switch Selection
```

The system displays the Switch Selection window (Figure 4-2) with the factory-administered values. Or, if the settings have been previously administered, the system displays the current values instead.

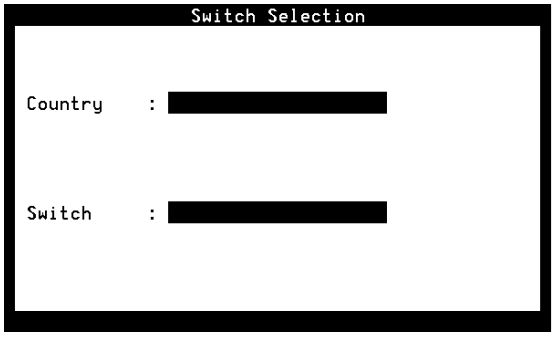


Figure 4-2. Switch Selection Window

2. It is recommended that you make a printout of the system's current parameters in case the support organization needs them in the future for troubleshooting. Do you want a printout at this time?
   - If no, continue with Step 3.
   - If yes, press F7 (Print) and then continue with Step 3.

     The system prints the current settings for the following windows in the telephony interface:

— Interface Parameters

— Frequency Specification

— Switch tones windows, including Busy Tone, Dial Tone, Reorder Tone, Ring Tone, and Stutter Tone

NOTE:
Only the remote maintenance login can change parameters in the Interface Parameters window, though the craft and sa logins can view them.

3. Do you need to change the country or switch setting?
   - If yes, continue with Step 4.
   - If no skip to Step 9.
4. Enter a country name in `Country:` field (see Table 4-2).
5. Enter a switch name in the `Switch:` field (see Table 4-2).
6. Press F3 (Save).

   The system displays the following message:

   ```
   By changing the country name, you will install default
   values for the new country. In this process, the
   current settings will be lost. You may want to keep a
   printout of the settings for your reference. Do you
   wish to continue with this change (y/n)?
   ```
7. If you have:
   - Already printed the current settings or do not want a printout, enter **y**
   - Not yet printed the settings and now decide to, do the following:
     a. Enter **n**
     b. Press F7 (Print).
     c. Press F3 (Save).

   The system displays the following message:

   ```
   Your changes have been saved. You need to stop and start
   the Voice System to make these changes active.
   ```

   NOTE:
   Although the interface windows immediately display default settings for the changes you have made, you must stop and restart the system to activate new interface parameters.
8. Press F1 (Acknowlg Message).
9. Press F6 (Cancel) twice to return to the Lucent INTUITY main menu (Figure 4-1).

Table 4-2. Switch Selection Window — Field Descriptions

Field	Description
`Country:`	Specifies the country for which the system sets country-specific default parameters. The selectable countries depend on the switch integration software package loaded on the system. Normally the country is set at the factory for the integration. ■ If the platform software is loaded but switch integration software is not loaded, this field defaults to OTHER. ■ When a switch integration package is installed, any of the countries configured in that package or OTHER can be selected. Press F2 (Choices) to see a list of choices. ■ Only the remote maintenance login can select OTHER. The system provides this choice so integrations can be done in countries not in the list of choices or in certain unusual circumstances. When OTHER is selected, the system removes certain internal restrictions, but you cannot select a switch in the `Switch` field. If OTHER is selected in this field and should not be, ensure that the appropriate switch integration software is installed on the system. See “Verifying Installed Software” in Chapter 5, “Administering Passwords and Verifying Hardware, Software, and System Status” in the installation book for your platform. For information on installing switch software, see “Installing the Switch Interface Software Packages” in Chapter 8 (for the MAP/5P) or Chapter 9 (for other platforms), “Installing Base Software” in the maintenance book for your platform.
`Switch:`	Specifies the switch for which the system sets default parameters in the call data interface. The selectable switches depend on the switch integration software loaded on the system. Normally the switch type is set at the factory for the integration. ■ If the platform software is loaded but switch integration software is not loaded, this field defaults to NO SWITCH. When NO SWITCH is selected, the system removes certain switch-specific default parameters and substitutes generic defaults. ■ When a switch integration package is installed, you can select any switch approved for the specified country. However, NO SWITCH is not a valid selection. Press F2 (Choices) to see a list of choices. ■ If the remote support organization has set the country to OTHER in the `Country:` field, you cannot select a switch in this field.

Mapping the Digital Station Interface Circuit Card Ports

Use this procedure to specify the number of Tip/Ring lines from the Lucent INTUITY system assigned to each port on the digital station interface circuit card.

NOTE:
Only ports that have Tip/Ring lines assigned to them are specified on this window. It is not used to specify the primary port.

1. Start at the Lucent INTUITY main menu (Figure 4-1) and select

```
> Switch Interface Administration
  > Call Data Interface Administration
    > Switch Link Administration
      >VB-PC Interface
        > Integration Port Assignment
```

The system displays the VB-PC Integration Port Assignment window (Figure 4-3) with default values for the integration. Or, if the settings have been previously administered, the system displays the current values instead.

```
                VB-PC Integration Port Assignment

          MERIDIAN 1    Integration

                          VB-PC Board Serial Number : 1682

VB-PC Port                          Number of T/R
                                    Lines Mapped

1                                   5
2                                   5
3                                   5
8                                   0
```

Figure 4-3. VB-PC Integration Port Assignment Window

2. Enter the serial number of the digital station interface circuit card in the `VB-PC Board Serial Number:` field (see Table 4-3).
3. Enter the number of a port on the digital station interface circuit card to which you want to map Tip/Ring lines in the `VB-PC Port` field (see Table 4-3).
4. Enter the number of Tip/Ring lines to be mapped to that port in the `Number of T/R Lines Mapped` field (see Table 4-3).

   NOTE:
   If MWI updates w ill be performed on the system, configure the number of Tip/Ring lines mapped to the port used for these updates as zero (0). By convention, port 8 is assigned for MWI updates.

   For example, the sample window in Figure 4-3 shows four ports, numbered 1 through 3, onto which a total of 15 Tip/Ring lines are mapped. Port 8, with no Tip/Ring lines mapped to it, is dedicated for MWI updates.

5. Repeat Steps 3 and 4 for the remaining ports, as required.
6. Press F3 (Save).

   The system displays the following message:

   `You need to restart the Voice System to make these changes active.`
7. Press F1 (Acknowlg Message).
8. Press F6 (Cancel) four times to return to the Lucent INTUITY main menu (Figure 4-1).

Table 4-3. VB-PC Integration Port Assignment Window — Fields

Field	Description	Values
<switch> `Integration`	Displays the switch selected on the Switch Selection window (Figure 4-2).	Display only.
`VB-PC Board Serial Number:`	Specifies the number that identifies the digital station interface circuit card. The switch integration software package uses this number when downloading firmware onto the digital station interface circuit card.	A 4-digit number. Use the number from the worksheet in Table 2-10 in Chapter 2, "Planning for Switch Integration with Digital Station Interface".

Continued on next page

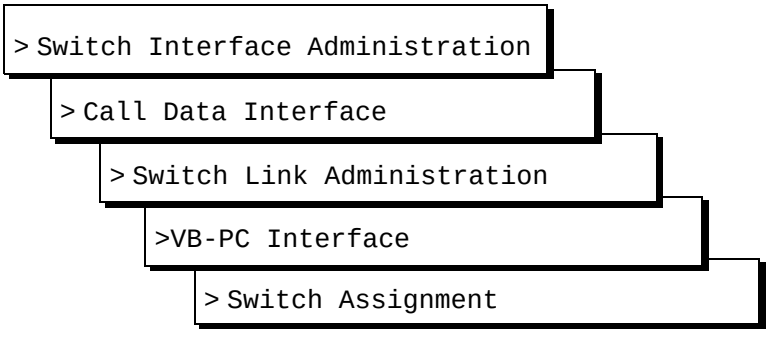
Table 4-3. VB-PC Integration Port Assignment Window — Fields — *Continued*

Field	Description	Values
VB-PC Port	Identifies a port number on the digital station interface circuit card to which Tip/Ring lines are mapped or that is used for MWI updates. Each circuit card has eight ports.	A number, range 1-8, or blank. Leave this field blank for any ports that are not used for switch integration. NOTE: For Meridian 1 and Meridian SL-1 switches, port 8 is, by convention, dedicated for MWI updates. See the Number of T/R Lines Mapped field below.
Number of T/R Lines Mapped	Indicates how many Lucent INTUITY Tip/Ring lines are mapped to the specified port on the digital station interface circuit card. For best system performance, the lines should be divided equally across the ports and the correct number of ports should be used.	A number, range 0-10. For a port that will handle: ■ Call information, determine the number by counting the keys associated with an extension number in Table 2-7 in Chapter 2, "Planning for Switch Integration with Digital Station Interface". ■ MWI updates only (typically port 8), enter 0 (zero). See the VB-PC Port field above.

Setting the VB-PC Switch and Port Assignments

Use this procedure to assign the Lucent INTUITY message retrieval number (the number system users dial to access their voice mail) for each switch.

1. Start at the Lucent INTUITY main menu (Figure 4-1) and select



The system displays the VB-PC Switch Assignment window (Figure 4-4) with default values for the integration. Or, if the settings have been previously administered, the system displays the current values instead.

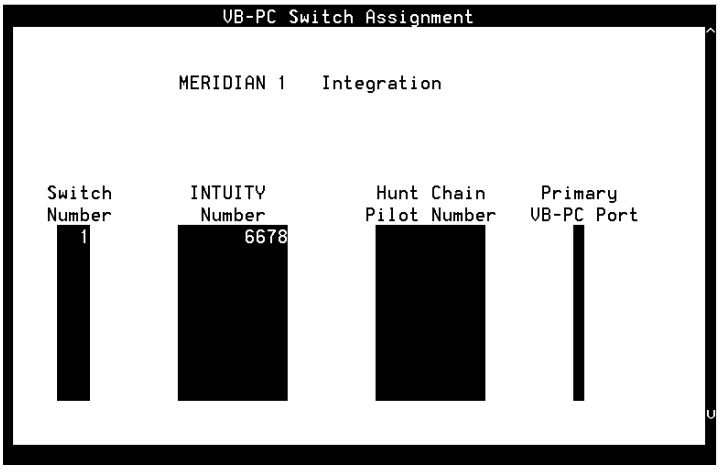


Figure 4-4. VB-PC Switch Assignment Window

NOTE:
Some of the fields on this window are not used for integrations with a digital station interface circuit card.

2. Enter a switch number in the first `Switch Number` field (see Table 4-4).
3. Enter the Lucent INTUITY message retrieval number associated with that switch in the `INTUITY Number` field (see Table 4-4).
4. Complete Steps 2 and 3 for each additional switch in the system.
5. Press F3 (Save).

   The system displays the following message:

   ```
   You need to restart the Voice System to make these
   changes active.
   ```

6. Press F1 (Acknowlg Message).
7. Press F6 (Cancel) four times to return to the Lucent INTUITY main menu (Figure 4-1).

Table 4-4. VB-PC Switch Assignment Window — Fields

Field	Description	Values
<switch> Integration	Displays the switch selected on the Switch Selection window (Figure 4-2).	Display only.
Switch Number	Number that uniquely identifies the switch and is used to address it. The Lucent INTUITY system uses this number to differentiate between system users on different switches.	Maximum of 3 digits, range 1-999. The switch number here must match the switch number assigned on the host (local) switch for INTUITY AUDIX system users.
INTUITY Number	The Lucent INTUITY message retrieval number, that is, the extension that system users dial to retrieve their messages.	3-10 digits. For this value, see Table 2-4 and Table 2-6 in Chapter 2, "Planning for Switch Integration with Digital Station Interface". NOTE: This number is the first Tip/Ring extension number mapped to the Lucent INTUITY analog ports.
Hunt Chain Pilot Number	These fields were required for initial integrations with Meridian switches but are no longer used. NOTE: Leave these fields blank for new integrations using the procedures in this book.	
Primary VB-PC Port		

Setting the Call Redirection Display Strings

NOTE:
Use this procedure *only* if the call redirection display strings cannot be set on the switch to match the strings expected by the Lucent INTUITY system.

Use this procedure to set the call redirection display strings on the Lucent INTUITY system. The system uses these strings sent by the switch to parse call data. The settings for these strings on the switch and on the Lucent INTUITY must match for the integration to succeed. Ideally, the strings should be set on the switch to match the strings expected by the Lucent INTUITY system. However, if for any reason the settings on the switch cannot be altered, then the strings must be set on the Lucent INTUITY system to match the strings set on the switch.

See Table 2-9 in Chapter 2, "Planning for Switch Integration with Digital Station Interface" for information on the strings currently set on the switch. See

"Configuring the Call Redirection Display Strings" in Chapter 3, "Requirements and Administration for Nortel Meridian 1 and Meridian SL-1 Switches" for information on how the strings are administered on the switch.

1. Start at the Lucent INTUITY main menu (Figure 4-1) and select

```
> Switch Interface Administration
    > Call Data Interface Administration
        > Switch Link Administration
            >VB-PC Interface
                >Call Redirection Strings Assignment
```

The system displays the Call Display String Assignment window (Figure 4-5) with default values for the integration. Or, if the settings have been previously administered, the system displays the current values instead.

```
                Call Display String Assignment

                MERIDIAN 1   Integration


Call Forward No Answer String  :  CFNA

Call Forward Busy String       :  CFB

Cover All Calls String         :  CFW
```

Figure 4-5. Call Display String Assignment Window

2. Enter the appropriate call redirection strings in the following fields (see Table 4-5).
   - Call Forward No Answer String:
   - Call Forward Busy String:
   - Cover All Calls String:

3. Press F3 (Save).

   The system displays the following message:

   ```
   You need to restart the Voice System to make these
   changes active.
   ```

4. Press F1 (Acknowlg Message).
5. Press F6 (Cancel) four times to return to the Lucent INTUITY main menu (Figure 4-1).

Table 4-5. Call Redirection Strings Assignment Window — Fields

Field	Description	Values
`Call Forward No Answer String:`	String used to forward unanswered calls to the Lucent INTUITY system.	Use the values from Table 2-9 in Chapter 2, "Planning for Switch Integration with Digital Station Interface".
`Call Forward Busy String:`	String used to forward busy calls to the Lucent INTUITY system.	
`Cover All Calls String:`	String used to forward all calls to the Lucent INTUITY system.	

Setting the MWI Device Assignment

Use this procedure to assign the port number on the digital station interface circuit card on which the system performs MWI (message waiting indicator) updates.

1. Start at the Lucent INTUITY main menu (Figure 4-1) and select

   ```
   > Switch Interface Administration
     > Call Data Interface
       > MWI Administration
         > Device Assignment
   ```

   The system displays the first of two screens of the Device Assignment window (Figure 4-6). If the settings have been previously administered, the system displays the current values.To access the second screen, press F5 (Next Page). To return to the first screen, press F4 (Prev Page).

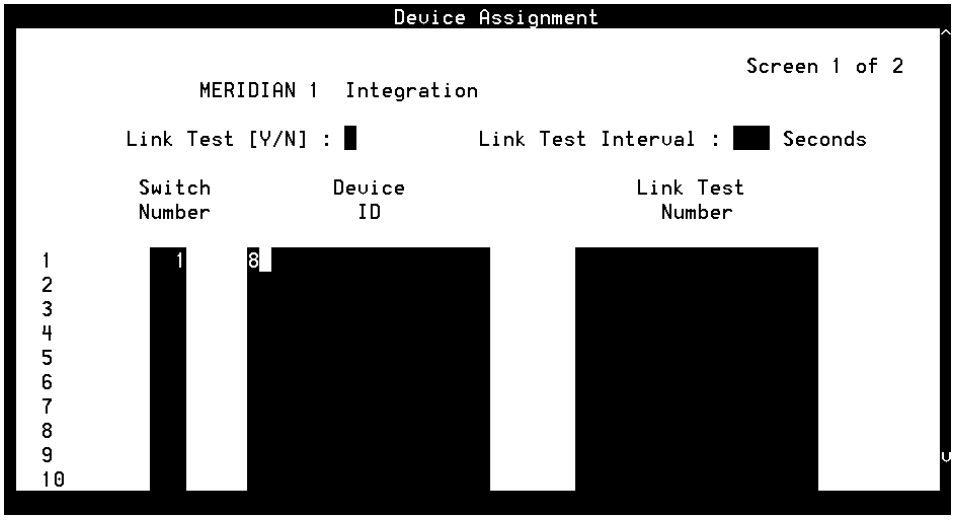


Figure 4-6. Device Assignment Window

NOTE:
Some of the fields on this window are not used for integrations with a digital station interface circuit card.

2. Enter a switch number in the `Switch Number` field (see Table 4-6).
3. In the `Device ID` field, enter the port number on the digital interface circuit card that is to be used for MWI updates (see Table 4-6), if MWI updates are to be performed on the system.

   NOTE:
   By convention, port 8 is dedicated for MWI updates.

4. Repeat Steps 2 and 3 for each switch in the system.
5. Press F3 (Save).

   The system displays the following message:

   ```
   You need to restart the Voice System to make these
   changes active.
   ```

6. Press F1 (Acknowlg Message).
7. Press F6 (Cancel) four times to return to the Lucent INTUITY main menu (Figure 4-1).

Table 4-6. Device Assignment Window — Fields

Field	Description	Values
<switch> Integration	Displays the switch selected on the Switch Selection window (Figure 4-2).	Display only.
Link Test (Y/N)	These fields are not used for integrations with Meridian 1 or Meridian SL-1 switches.	
Link Test Interval		
Switch Number	Number that uniquely identifies the switch and is used to address it. The Lucent INTUITY system uses this number to differentiate between system users on different switches.	Maximum of 3 integers, range 1-999. The switch number here must match the switch number assigned on the host (local) switch for users in the INTUITY AUDIX system.
Device ID	Port number on the digital station interface circuit card being configured for MWI updates. NOTE: Multiple port numbers could be entered for initial integrations with Meridian switches. For new integrations using the procedures in this book, you can specify only one port.	1-8. Port 8 is, by convention, dedicated for MWI updates. However, any port can be used. NOTE: If no port number is specified, the system cannot perform MWI updates.
Link Test No.	This field is not used for integrations Meridian 1 or Meridian SL-1 switches.	

Setting MWI Parameters

Use this procedure to disable MWI updates altogether on the system, or to block them during a specified period of time.

Meridian 1 and Meridian SL-1 switches perform an audit every 24 hours. Since the audit usually runs at night, it is called the night audit or midnight audit. Any MWI activity that occurs while the audit is running can create a conflict that disables the affected digital station interface ports.

WARNING:
With some ports disabled, system performance is adversely affected. If all ports go out of service, no calls can be integrated. Switch personnel must then return the affected ports to service.

Therefore you *must* block MWI updates during the time the switch audit runs.

NOTE:
To determine the status of a port on the digital station interface circuit card (link up or link down), see information on the VB-PC Link Status window in "Digital Station Interface Circuit Card Diagnostics" in Chapter 2, "Diagnostics," in the maintenance book for your platform. The link status displayed on the window is not updated in real time if the status changes.

1. Start at the Lucent INTUITY main menu (Figure 4-2) and select

```
> Switch Interface Administration
    > Call Data Interface
        > MWI Administration
            >MWI Parameters
```

The system displays the MWI Parameters window (Figure 4-7) with default values for the integration. Or, if the settings have been previously administered, the system displays the current values instead.

```
                              MWI Parameters

                    MERIDIAN 1  Integration

MWI On Prefix :
MWI On Suffix :
MWI Off Prefix:
MWI Off Suffix:


MWI Update [Y/N]          :    Y
                                                              HH:MM
Background Refresh [Y/N]:      Y                 Block Start Time : 22:00
Background Interval       :     10   Seconds     Block End   Time : 24:00
Background Updates        :     3    Numbers

Broadcast Interval        :     10   Seconds
Broadcast Updates         :     3    Numbers
```

Figure 4-7. MWI Parameters Window

NOTE:
Some of the fields on this window are closed to all but the remote maintenance login. Other fields are not used for integrations with a digital station interface circuit card.

2. Enter the time for blocking of MWI updates to start in the `Block Start Time:` field and the time for blocking of MWI updates to end in the `Block End Time:` field (see Table 4-7).
3. Press F3 (Save).

   The system displays the following message:

   ```
   You need to restart the Voice System to make these changes active.
   ```
4. Press F1 (Acknowlg Message).
5. Press F6 (Cancel) four times to return to the Lucent INTUITY main menu (Figure 4-2).

Table 4-7. MWI Parameters Window — Fields

Field	Description	Values
<switch> `Integration`	Displays the switch selected on the Switch Selection window (Figure 4-2).	Display only.
`MWL on prefix:`	This field is not currently used for integrations with Meridian 1 and Meridian SL-1 switches.	
`MWL on suffix:`		
`MWL off prefix:`		
`MWL off suffix:`		
`MWI Update [Y/N]:`	Only the remote maintenance login can change the information in these fields.	
`Background Refresh [Y/N]:`		
`Background Interval:`		
`Background Updates:`		
`Broadcast Interval:`		
`Broadcast Updates:`		

Continued on next page

Table 4-7. MWI Parameters Window — Fields — *Continued*

Field	Description	Values
`Block Start Time:`	Sets the time when blocking of MWI updates begins on a daily basis. NOTE: For Meridian 1 and Meridian SL-1 switches, you *must* block MWI updates during the time when the night audit runs on the switch.	Format *HH/MM/SS*, where: ■ *HH* is the hour in the 24-hour system (range 0-23). ■ *MM* is the minute (range 0-59). ■ *SS* is the second (range 0-59). Use the information in Table 2-11 in Chapter 2, "Planning for Switch Integration with Digital Station Interface" to determine the time audits begin and end.
`Block End Time:`	Sets the time when blocking of MWI updates ends on a daily basis.	

Setting the Dial Plan Translations

Use this procedure to:

- Set the Lucent INTUITY extension length (also called the dial plan)
- Set up the translations to be done on the calling party identification (CLI) and called party identification (CP ID) for incoming and outgoing calls when call data passes between the Lucent INTUITY system and the switch.

  The switch sends a string of digits to the Lucent INTUITY system. The system must either strip digits from the string or add digits to accord with the number of digits set for the Lucent INTUITY extension length.

1. Start at the Lucent INTUITY main menu (Figure 4-1) and select

```
> Switch Interface Administration
    > Call Data Interface Administration
        > System Translations Administration
            > Dial Plan Translation
```

The system displays the first of five screens of the Dial Plan Translation window (Figure 4-8) with default values for the integration. Or, if the settings have been previously administered, the system displays the current values instead. To access the next screen, press F5 (Next Page). To return to the previous screen, press F4 (Prev Page).

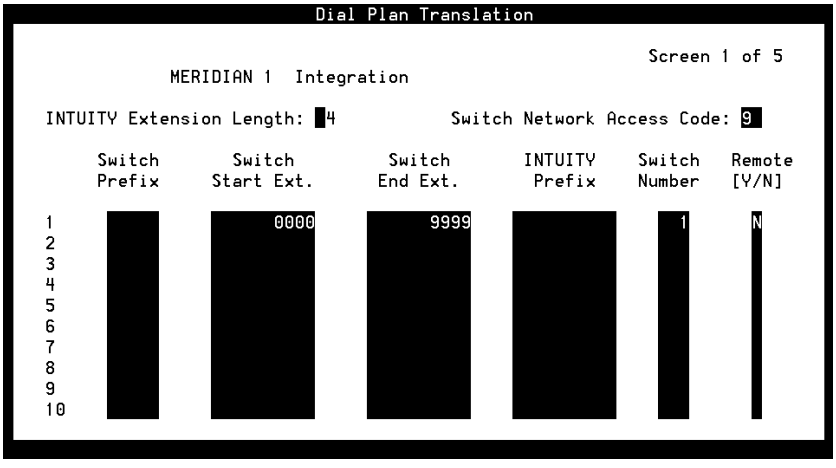


Figure 4-8. Dial Plan Translation Window

NOTE:
Some of the fields on this window are not used for integrations with a digital station interface circuit card.

2. Verify that the Lucent INTUITY extension length in the `INTUITY Extension Length:` field (see Table 4-8) is correct.

NOTE:
You should have already administered the `INTUITY Extension Length:` field as a part of initial administration for switch integration when you performed the procedures in the system installation book for your platform.

3. Enter the Switch network access code in the `Switch Network Access Code:` field (see Table 4-8).
4. Enter the switch prefix in the `Switch Prefix` field (see Table 4-8).
5. Enter the switch start extension in the `Switch Start Ext.` field (see Table 4-8).
6. Enter the switch end extension in the `Switch End Ext.` field (see Table 4-8).
7. Enter the INTUITY prefix in the `INTUITY Prefix` field (see Table 4-8).
8. Enter the switch number in the `Switch Number` field (see Table 4-8).
9. Enter **y** or **n** in the `Remote [Y/N]` field (see Table 4-8).
10. Repeat Steps 4 through 9 for the remaining translations.
11. Press F3 (Save).

The system displays the following message:

```
You need to restart the Voice System to make these
changes active.
```

12. Press F1 (Acknowlg Message).
13. Press F6 (Cancel) four times to return to the Lucent INTUITY main menu (Figure 4-1).

Table 4-8. Dial Plan Translation Window— Fields

Field	Description	Values
<switch> `Integration`	Displays the switch selected on the Switch Selection window (Figure 4-2).	Display only.
`INTUITY Extension Length:`	Specifies the number of digits used for Lucent INTUITY mailboxes.	3 to 10 digits.
`Switch Network Access Code:`	Specifies the code system users dial to reach the private switch network. For example, you might dial 8 first to reach an outside line.	Maximum of 2 digits, range 0-99.
`Switch Prefix`	Specifies the initial part of the code sent by the switch as part of the call information. It can be an NNX code used in the North American Numbering Plan scheme. Or it can be a switch network code for private networks having different extension lengths within a switch or among switches. For example, if the extension length on the INTUITY system is 4 and the call information is 8604000, then 860 is the switch prefix and 4000 is the Lucent INTUITY mailbox number.	The dialing number obtained by combining the switch prefix with any number in the range between start and end extension number must be a unique number. No overlaps are allowed. The final translated number must provide a unique fixed-length Lucent INTUITY extension.

Continued on next page

Table 4-8. Dial Plan Translation Window— Fields — *Continued*

Field	Description	Values
`Switch Start Ext.`	Specifies the first extension number in the range of allowed extension numbers.	The number of digits in the start and end extension numbers must be identical and match the dial plan. For example, to specify the range 200-3999, enter: ■ Start extension: 0200 ■ End extension: 3900 Typically, a range covering all possible numbers for the extension length is entered. For example, if the extension length is 4, then 0000 is entered for the start extension and 9999 for the end extension.
`Switch End Ext.`	Specifies the last extension number in the range of allowed extension numbers.	
`INTUITY Prefix`	Specifies the digits that prefix the Lucent INTUITY mailbox numbers to make the number of digits equal the extension length. For example, if the extension length on the Lucent INTUITY system is 5, the range of numbers under the dial plan is 8604000 to 8605999, and the extension numbers range from 24000 to 26999, then the fields on this window have the following values: `Switch Prefix` = 860 `Switch Start Ext.` = 4000 `Switch End Ext.` = 6999 `INTUITY Prefix` = 2 Use care in assigning this value. For example, if the extension length is 4 and range of numbers under the dial plan is 300-400 and 5000-6000, then 5 cannot be used for the `Intuity Prefix` value. The extension 5300 is included in range 5000-6000. Adding the prefix 5 to the number 300 in the range 300-400 also yields 5300. These numbers are not unique and therefore 5 cannot be used as the prefix. However, 0-4, or 7- 9 could be used.	The dialing number obtained by combining a prefix (value in the `Switch Prefix` or `INTUITY Prefix` field) with any number in the range between start and end extension number must be a unique number. No overlaps are allowed.
`Switch Number`	Number that uniquely identifies the switch and is used to address it. The Lucent INTUITY system uses this number to differentiate between system users on different switches.	Maximum of 3 digits, range 1-999.

Continued on next page

Table 4-8. Dial Plan Translation Window— Fields — *Continued*

Field	Description	Values
`Remote [Y/N]`	Specifies whether the administered switch named in the `Switch Number` field is a remote switch on the network or the host (local) switch.	■ y for remote ■ n for direct

Setting the Attendant Translations

NOTE:
This procedure is required only for integrations with Meridian 1 and Meridian SL-1 switches when the customer has day/night service and uses the automated attendant feature of the Lucent INTUITY system.

For Meridian 1 and Meridian SL-1 switches, when the attendant is in night mode with day/night service, calls get directed to the NITE DN defined for the attendant. If the NITE DN does not answer the call, the call is forwarded to the Lucent INTUITY system with the attendant as the called party. If the attendant number is associated with an automated attendant number in the attendant translation table, then the attendant number is translated to the automated attendant number. Hence the calls covering from the attendant to the Lucent INTUITY system are forwarded to the automated attendant. In a system with one switch, the switch passes the index string 0 (zero) as the called party (CP) to the Lucent INTUITY system. The attendant translation table translates the 0 (zero) to the automated attendant number.

NOTE:
Appropriate administration of the automated attendant extension number on the Lucent Intuity system should be done and the appropriate greetings should be recorded.

Use this procedure to set the translations for the automated attendant number on Meridian 1 and Meridian SL-1 switches.

1. Start at the Lucent INTUITY main menu (Figure 4-1) and select

```
> Switch Interface Administration
    > Call Data Interface Administration
        > System Translations Administration
            > Attendant Translation
```

The system displays the first of two screens of the Attendant Translations window (Figure 4-9). If the settings have been previously administered, the system displays the current values.To access the second screen, press F5 (Next Page). To return to the first screen, press F4 (Prev Page).

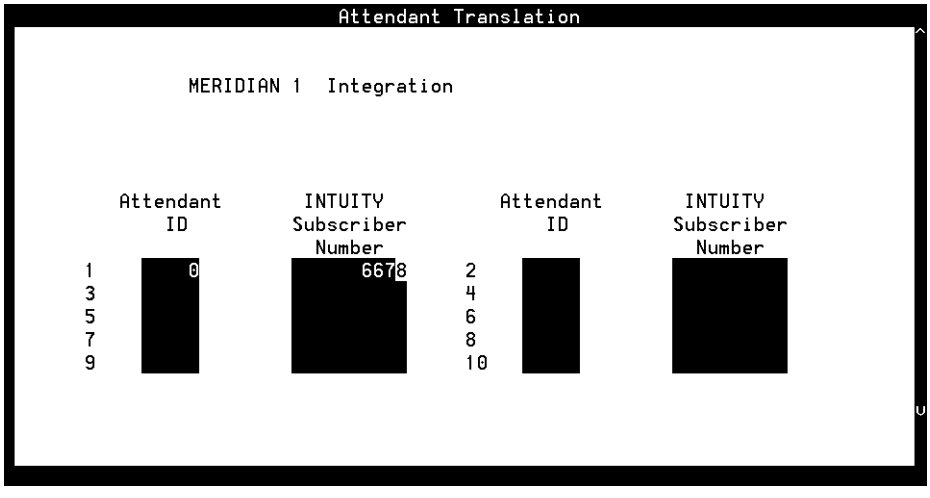


Figure 4-9. Attendant Translation Window

2. Enter a value in the first `Attendant ID` field (see Table 4-9).

   For systems with only one switch, this value is always 0 (zero).

3. In the `INTUITY Subscriber Number` field (see Table 4-9), enter the number administered as the INTUITY AUDIX automated attendant number.

4. Press F3 (Save).

   The system displays the following message:

   `You need to restart the Voice System to make these changes active.`

5. Press F1 (Acknowlg Message).

6. Press F6 (Cancel) four times to return to the Lucent INTUITY main menu (Figure 4-1).

Table 4-9. Attendant Translation Window— Fields

Field	Description	Values
<*switch*> `Integration`	Displays the switch selected on the Switch Selection window (Figure 4-2).	Display only.
`Attendant ID`	Value used as the attendant number when calls to the attendant number are forwarded to the Lucent INTUITY system or when the attendant calls the Lucent INTUITY system.	For Meridian 1 and Meridian SL-1 switches, enter 0 (zero) in the first `Attendant ID` field. The remaining `Attendant ID` fields are used only for systems with networked switches. Each attendant ID can be entered only once. The number of digits allowed is switch-dependent.
`INTUITY Subscriber Number`	The extension number of the Lucent INTUITY mailbox administered as the automated attendant number.	3-10 digits. For a single switch configuration, only one automated attendant number can be entered. For this number, see Table 2-12 in Chapter 2, "Planning for Switch Integration with Digital Station Interface".

Stopping and Starting the Voice System

To execute any changes you have made to the switch integration administration windows in the procedures in this chapter, you must stop and then restart the voice system.

CAUTION:

Only stop the voice system when it is absolutely necessary. All calls in progress will be disconnected. Users calling the Lucent INTUITY system will hear a fast busy signal. Callers sent to INTUITY AUDIX coverage will hear ringing with no answer.

Use this procedure to stop and restart the voice system.

1. Start at the Lucent INTUITY main menu (Figure 4-1) and select

```
> Customer/Services Administration
    > System Management
        > System Control
            > Stop Voice System
```

WARNING:
Be sure to select `Stop Voice System`*. Do not select* `Shutdown Voice System`*.*

The system displays the Wait Time window (Figure 4-10).

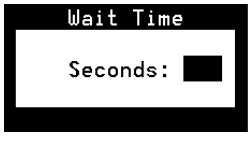


Figure 4-10. Wait Time Window

2. Enter a time between 60 and 600 seconds as the time to wait for calls in progress.
3. Press F3 (Save).

   The system displays the following message:

```
The voice System has stopped
Press ENTER to continue...
```

   NOTE:
   The system waits until all calls in progress disconnect before stopping the voice system.

4. Press ENTER.

   The system displays the System Control menu (Figure 4-11).

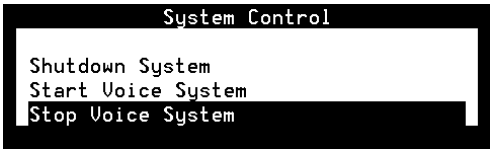


Figure 4-11. System Control Menu

5. Select

   ```
   > Start Voice System
   ```

   The system displays the following message:

   ```
   Startup of the Voice System is complete
   Hit Acknowledge key to continue...
   ```

6. Press F1 (Acknowlg Message).
7. The system displays the System Control window (Figure 4-11).
8. Press F6 (Cancel) three times to return to the Lucent INTUITY main menu (Figure 4-1).

Integration Validation and Troubleshooting

5

Overview

Validating the switch integration requires use of the following procedures:

- "Checking Keys Configured on the Digital Station Interface Circuit Card Ports"
- "Validating the Tip/Ring Mapping"

Troubleshooting the integration (Table 5-6) involves determining the reasons why:

- Calls are not integrated.
- Outcalling fails.
- Fax outcalling fails.
- Disconnects are not recognized.
- Message waiting indicators (MWIs) are not updated.
- Transfers fail.

Integration validation and troubleshooting may both involve use of the following procedure:

- "Vewing the Switch Integration Logs"

Purpose

This chapter contains procedures for validating the switch integration and guidelines for troubleshooting problems with the integration.

Before You Begin

This chapter assumes that:

- The switch has been administered.
- The hardware and software necessary for integration has been installed.
- The Lucent INTUITY system has been administered for switch integration and has been stopped and restarted to activate the changes.

Some of the procedures in this chapter require the use of two customer-supplied model 2616 digital stations.

Integration Validation

Procedures to validate the integration require cooperation of the switch administrator.

Checking Keys Configured on the Digital Station Interface Circuit Card Ports

Use this procedure to check the administration of the ports used for call data on the digital station interface circuit card.

NOTE:
This procedure requires the use of two customer-supplied model 2616 digital stations.

Test 1 — Display Call Data

1. Connect a 2616 digital station (hereafter called the first station) to the termination to which a port of the digital station interface circuit card is to be connected. (The digital station is connected in place of a port.)
2. Using a second 2616 digital station, dial the extension number configured on key 0 of the port to which the first 2616 digital station is connected. (See Table 2-7 in Chapter 2, "Planning for Switch Integration with Digital Station Interface" for the key mapping.)

   The first digital station should ring, but the display should not show any call information, such as the calling party (CLI).
3. Do not establish the call, but press key 12 on the second station.

   NOTE:
   Keys 0 (zero) through 7 are on the right side of the station, Key 8 is at the lower left, and the remainder of the keys (9 through 15) are on the left.

4. Press key 0 on the second station.

   The display should now show the CLI.

5. Do the following,

   - For the port dedicated for MWI updates (if used), continue with "Test 2 — MWI On" below.
   - For each other port that will be used on the system, repeat Steps 1 through 4 above.

Test 2 — MWI On

NOTE:
Use this procedure only for the port dedicated for MWI updates.

6. Press key 13 on the first station.
7. Dial a valid extension number on the switch.
8. Press key 13 on the first station.

   The station corresponding to the extension dialed should have its MWI indicator (lamp or stutter tone) on.

9. Continue with "Test 3 — MWI Off" below.

Test 3 — MWI Off

NOTE:
Use this procedure only for the port dedicated for MWI updates.

10. Press key 14 on the first station.
11. Dial the same extension number you dialed in Step 7 of "Test 2 — MWI On" above.

    The station corresponding to the extension dialed should turn its MWI indicator off.

12. Press key 14 on the first station.

Validating the Tip/Ring Mapping

Use this procedure to verify that the mapping of extensions is correct between the Tip/Ring lines on the Lucent INTUITY system and the ports on the digital station interface circuit card. Before you begin, ensure that all connectivity between the switch and the Lucent INTUITY system is completed.

1. Dial a Tip/Ring extension number.
2. Ensure that:
   - The correct voice port rings.
   - The Lucent Intuity system picks up the call and that you hear the "Welcome to AUDIX®" greeting.
3. Repeat these steps for each extension number in the system.

Vewing the Switch Integration Logs

Use this procedure to view the log entries generated by the various switch integration processes. You can select the entries by date and time or by process. Or, by selecting an event sequence number, you can view only those entries associated with a specified event. Usually, selecting an event by sequence number presupposes that you have first viewed the log to obtain the number of the event of interest. The log records the most recent 2000 events, and its contents are rolled over.

If calls are made to the system and the logs contain:

- The normally expected data, the calls are integrated
- No data, calls are not integrated
- Only part of the normally expected data, most likely the switch is administered incorrectly. Contact your remote support center for assistance, if necessary.

1. Start at the Lucent INTUITY Main Menu (Figure 4-1) and select

```
> Switch Interface Administration
    > Call Data Interface
        > Switch Integration Log
```

The system displays the Switch Integration Log window (Figure 5-1) with the current date and time displayed.

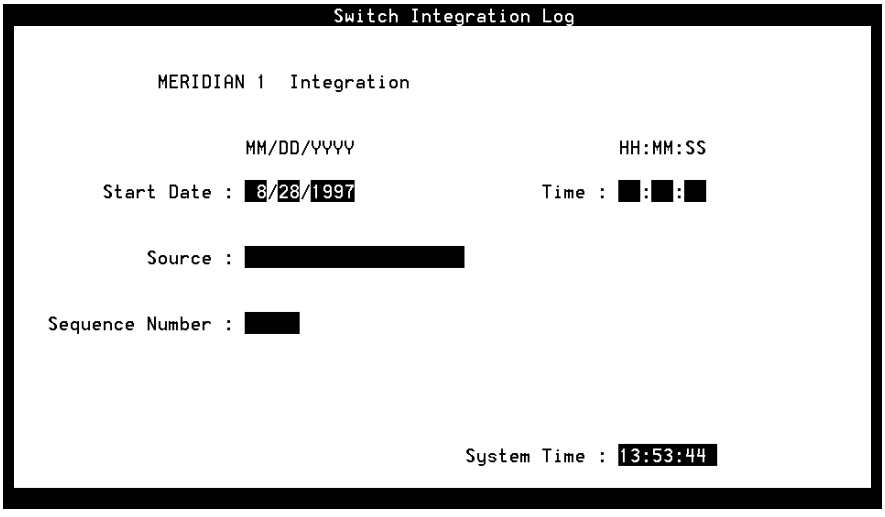


Figure 5-1. Switch Integration Log Window

2. Do you want to view log entries by sequence number?
   - If yes, enter the sequence number in the `Sequence Number:` field (see Table 5-1) and go to Step 6.
   - If no, go to Step 3.
3. Enter the date for the first log entry you want to view in the `Start Date:` field (see Table 5-1).
4. Enter the time for the first log entry you want to view in the `Time:` field (see Table 5-1).

   NOTE:
   The time must be earlier than the time displayed in the `System Time:` field.

5. Do you want to select entries by process type?
   - If yes, enter the name of process for which you want to view entries in the `Source` field (see Table 5-1).
   - If no, enter **ALL** in the Source field.
6. Press F3 (Display).

   The system displays the log data you selected, up to a maximum of 2000 entries (see the examples following Table 5-1).
7. Press F6 (Cancel) three times to return to the Lucent INTUITY Main Menu (Table 5-1).

Table 5-1. Switch Integration Log Window — Field Descriptions

Field	Description	Values
<*switch*> Integration	Displays the switch selected on the Switch Selection window (Figure 4-2).	Display only
Start Date:	Selects events logged in the specified interval up to a maximum of 2000 events. If you use the Sequence Number: field, the system ignores data in these fields and the Source: field.	Format *MM DD YYYY*, where: ■ *MM* is the month (range 1-12) ■ *DD* is the day (range 1-31) ■ *YYYY* is the year
Time:		Format *HH MM SS*, where: ■ *HH* is the hour in the 24-hour system (range 0-23) ■ *MM* is the minute (range 0-59) ■ *SS* is the second (range 0-59)
Source:	Selects the name of a switch integration process to display. The display includes all events logged by this process from the 2000 events currently contained in the log. If you use the Sequence Number: field, the system ignores data in this field, the Start Date: field, and the Time: field.	■ VBPC_RDR <*n*>, where <*n*> is the port number on the digital station interface circuit card ■ VBPC_WTR ■ ALL
Sequence Number:	Specifies a number corresponding to a logged event. If you use this field, the system ignores the other fields. The display includes all data logged with the specified sequence number from the 2000 events currently contained in the log.	A 5-digit number.
System Time:	Displays the system time as a convenience to you when selecting entries.	Display only. The format is the same as in the Time: field.

Switch Integration Log Entries

Log entries for integrations with the digital station interface circuit card are generated by the VBPC_RDR and VBPC_WTR processes (Figure 5-2).

- Each VBPC_RDR entry logs the raw data sent from the switch for one call or for one MWI update request. Each entry is numbered VBPC_RDR<*n*>, where <*n*> is the port number on the digital station interface circuit card that carries the data.
- VBPC_WTR entries log the parsed and translated data corresponding to a VPPC_RDR raw call data entry. No port number is indicated.
- Data fields in the entries are separated by a forward slash (/).

```
7373                    VBPC_RDR1               Thu May  8 12:42:04 1997
Raw: /2018 5000 "CFB"          /
7373                    VBPC_WTR                Thu May  8 12:42:04 1997
Parsed: /DIR_INT/ CHANNEL 4/CHANEXT /CLI 2018/CP 5000/
7373                    VBPC_WTR                Thu May  8 12:42:04 1997
Translated:/DIR_INT/CHANNEL 4/CHANEXT /CLI 2018/CP 5000/
1642                    VBPC_RDR2               Thu May  8 12:42:06 1997
MWI_OFF/AUDIX EXTN 7055/XLAT EXTN 7055
7374                    VBPC_RDR1               Thu May  8 12:42:09 1997
Raw: /2012                   /
7374                    VBPC_WTR                Thu May  8 12:42:09 1997
Parsed: /DIR_INT/ CHANNEL 0/CHANEXT /CLI 2012/CP 5000/
7374                    VBPC_WTR                Thu May  8 12:42:09 1997
Translated:/DIR_INT/CHANNEL 0/CHANEXT /CLI 2012/CP 5000/
7390                    VBPC_RDR1               Thu May  8 14:47:30 1997
Raw: /410-1 5002 "CFNA"         /
7390                    VBPC_WTR                Thu May  8 14:47:30 1997
Parsed: /NA_EXT/ CHANNEL 0/CHANEXT /CLI 410-1/CP 5002/
7390                    VBPC_WTR                Thu May 8 14:47:30 1997
Translated:/NA_EXT/CHANNEL 0/CHANEXT /CLI/CP 5002/
```

Figure 5-2. Examples of Switch Integration Log

Each type of log entry contains two lines. The first line for all types identifies the entry as follows (Table 5-2):

Table 5-2. Switch Integration Log — All Entries — Event ID

Field	Description
<*sequence number*>	Identifies the event. For call data information, the same sequence number refers to a VBPC_RDR entry and its corresponding VBPC_WTR entries. Each VBPC_RDR MWI entry is separately numbered.
<*process name*>	VBPC_RDR<*n*> or VBPC_WTR.
<*date and time*>	The time and date stamp of the event.

VBPC_RDR — Raw Data

VBPC_RDR entries for call data contain the following information (Table 5-3):

Table 5-3. VBPC_RDR (Raw) — Field Description

Field	Description
Raw	Indicates the unparsed, untranslated data stream from the switch.
<*data string*>	The data stream sent by the switch. For internal calls, the data contains the extension of the calling party (CLI), the extension of the called party (CP), and the reason for call redirection in quotation marks. The reason for call redirection is represented by string of characters known as the call redirection display string. The strings normally used in integrations are: ■ CFW — call forward all calls ■ CFB — call forward busy ■ CFNA — call forward no answer For external calls, the CLI is not passed. Instead, the data stream indicates the switch route number and trunk member number. For example, in the following entry the route number is 401 and the trunk member number is 1. `Raw: /410-1 5002 "CFNA"  /` NOTE: The call redirection display strings can be set uniquely on the switch for the integration. See "Configuring the Call Redirection Display Strings" in Chapter 3, "Requirements and Administration for Nortel Meridian 1 and Meridian SL-1 Switches". The strings set on the Lucent INTUITY system must agree with those set on the switch. See "Setting the Call Redirection Display Strings" in Chapter 4, "Lucent Intuity Administration for Switch Integration with Digital Station Interface".

VBPC_WTR — Parsed and Translated Data

VBPC_WTR entries contain the following data (Table 5-4):

Table 5-4. VBPC_WTR (Parsed and Translated) — Field Descriptions

Field	Description	
`Parsed` and `Translated`	Indicates the data sent from the switch after parsing or translation, respectively.	
<*call type*>	Identifies the type of call as: ■ DIR_INT (direct internal) ■ DIR_EXT (direct external) ■ NA_INT (no answer internal) (This category includes call forward all calls.) ■ NA_EXT (no answer external) ■ BUSY_INT (busy internal) ■ BUSY_EXT (busy external) For DIR_INT, NA_INT, and BUSY_INT calls, both the CLI and CP are shown. For DIR_EXT, NA_EXT, and BUSY_EXT calls, only the CP is shown.	
`CHANNEL` <*number*>	The Lucent INTUITY channel number used for the call.	NOTE: Channel-to-extension mapping is done on the Voice Equipment window as part of voice system administration.
`CHANEXT`	This field is not used for integrations with a digital station interface.	
`CLI`	The extension of the calling party, if available (see <*call type*> above). The number of digits in the parsed and translated CLI may differ depending on how the dial plan is administered on the Dial Plan Translation window. See "Setting the Dial Plan Translations" in Chapter 4, "Lucent Intuity Administration for Switch Integration with Digital Station Interface".	
`CP`	The extension of the called party, if available (see <*call type*> above).	

VBPC_RDR — MWI Updates

VBPC_RDR entries for MWI updates contain the following information (Table 5-5):

Table 5-5. VBPC_RDR (MWI) — Field Descriptions

Field	Description
`MWI_ON` or `MWI_OFF`	Indicates whether an MWI was turned on or off.
`AUDIX EXTN`	The INTUITY AUDIX extension number
`XLAT EXTN`	The translated extension number The number of digits may differ from that in the `AUDIX EXTN` depending on how the dial plan is administered on the Dial Plan Translation window. See "Setting the Dial Plan Translations" in Chapter 4, "Lucent Intuity Administration for Switch Integration with Digital Station Interface".

Integration Troubleshooting

Use Table 5-6 to troubleshoot problems with the integration.

Table 5-6. Troubleshooting Scenarios

Trouble	Possible Reason	Possible Solutions
Calls are not integrated. (No call data is displayed in the switch integration logs)	An integration port is busied out at the switch due to conflict with a Nortel maintenance routine or audit.	■ Contact the switch administrator to check the port administration and status on the switch. ■ To determine the status of a port on the digital station interface circuit card (link up or link down), see information on the VB-PC Link Status window in "Digital Station Interface Circuit Card Diagnostics" in Chapter 2, "Diagnostics," in the maintenance book for your platform. The link status displayed on the window is not updated in real time if the status changes.
	Switch settings are incorrect for translations, class or service, or subscriber setup.	Work with the switch administrator to correct the switch settings.
	■ Firmware for the digital station interface circuit card is not downloaded. ■ There is a bad cable connection.	■ Shut down and reboot the Lucent INTUITY system so that the firmware downloads. See "Shutting Down and Rebooting the Lucent INTUITY System" in Chapter 3, Common System Procedures", in the maintenance book for your platform. ■ Check the connections to the digital station interface circuit card. See "Making a Connection from the Lucent INTUITY Digital Station Interface Circuit Card to customer Equipment "in Chapter 3, "Cable connectivity" in the maintenance book for your platform.
	An incorrect serial number administered for the digital station interface circuit card.	Check administration of the serial number on the VB-PC Port Assignment window. See "Setting the VB-PC Switch and Port Assignments" in Chapter 4, "Lucent Intuity Administration for Switch Integration with Digital Station Interface".
	A mismatch exists between the call redirection display strings expected by the Lucent INTUITY system and the string the switch actually sends.	Work with the switch administrator or your remote support center to adjust the call redirection display strings. See "Configuring the Call Redirection Display Strings" in Chapter 3, "Requirements and Administration for Nortel Meridian 1 and Meridian SL-1 Switches" for more information on these strings. Also see "Vewing the Switch Integration Logs" above.

Continued on next page

Table 5-6. Troubleshooting Scenarios — *Continued*

Trouble	Possible Reason	Possible Solutions
Transfers fail.	Transfers are incorrectly administered on the Lucent INTUITY system.	Verify the transfer restrictions administered for the system.
	Inappropriate transfer restrictions are set on the switch.	Work with the switch administrator to: ■ Ensure that all Tip/Ring lines are configured to have the XFA class of service. ■ Check any transfer restrictions set on the switch.
	Switchook flash duration mismatch.	Ensure that the value for the hook flash duration set on the Lucent INTUITY system and the value set on the switch match. ■ For the Lucent INTUITY system setting, see information on the `Hook Flash Duration` field in the Interface Parameters window in Appendix C, "Troubleshooting Procedures", in the system installation book for your platform. ■ For the switch setting, consult with the switch administrator. If the value set on the switch cannot be changed, change the value on the Interface Parameters window in the Lucent INTUITY system, as appropriate.
Fax outcalling fails.	■ The fax cng tone level is too low to be detected. ■ The default fax transmit and receive gains may not be appropriate.	Contact your remote support center for assistance.
Outcalling fails. Disconnects are not recognized.	Dial tone is not detected.	Work with the switch administrator to check the tone parameters on the switch, or use the Tone Capture and Analysis window to check the switch tones. Verify that matching parameters are set on the Lucent INTUITY system. See information on the Dial Tone window and the Tone Capture and Analysis window in Appendix C, "Troubleshooting Procedures", in the system installation book for your platform.

Continued on next page

Table 5-6. Troubleshooting Scenarios — *Continued*

Trouble	Possible Reason	Possible Solutions
MWI updates do not occur.	The switch setup is inappropriate.	Work with the switch administrator to ensure that: ■ The port dedicated for MWI is in service. ■ The MIK and MCK keys for the dedicated MWI port are configured properly (on key 13 and key 14). ■ A system user for whom MWI updates have failed has the MWA class of service administered.
	Incorrect parameters are set or there is a parameter mismatch between the settings on the switch and the Lucent INTUITY system.	■ Ensure that the MWI update flag is set to y (yes) See "Setting MWI Parameters" in Chapter 4, "Lucent Intuity Administration for Switch Integration with Digital Station Interface". If necessary, contact your remote support center to set the flag correctly. ■ Ensure that the dial plan translation parameters are set correctly on the Lucent INTUITY system and on the switch. For information on the Lucent `Intuity` settings, see "Setting the Dial Plan Translations" in Chapter 4, "Lucent Intuity Administration for Switch Integration with Digital Station Interface". For information on the switch settings, check with the switch administrator.

Post-Installation Testing

Post-installation testing of systems integrated with Meridian 1 or Meridian SL-1 switches should include the following scenarios for all system users administered:

- Call forward no answer to the INTUITY AUDIX system
- Call forward busy scenario to the INTUITY AUDIX system
- Call forward all calls scenario to the INTUITY AUDIX system
- Transfers
- Fax
- MWI updates (by leaving a message and retrieving it)
- Outcalling

See the system installation book for your platform for information about post-installation testing.

Administering Express Messaging

A

Overview

The Lucent™ INTUITY™ Express Messaging feature for Northern Telecom (Nortel) Meridian 1 and Meridian SL-1 switches allows a user to leave a message for a mailbox without ringing the extension corresponding to the mailbox. This feature also allows a system user to transfer a call directly to a mailbox. For this feature, administration is required on the switch and on the Lucent INTUITY system.

Purpose

This chapter provides information and procedures to configure the Express Messaging feature on the switch and on the Lucent INTUITY system. Procedures to use the feature to leave a message and transfer a called party are also provided.

Required Switch Administration

The following procedures are required on the switch for the customer to use the Lucent INTUITY Express Messaging feature:

- "Configuring a Phantom Extension for Express Messaging"
- "Forwarding All Calls on the Phantom Extension"

Configuring a Phantom Extension for Express Messaging

Ensure that the switch administrator configures a phantom extension, either analog or digital, as appropriate, with the directory number (DN) set to the Lucent INTUITY Express Messaging number.

Configuring an Analog Phantom Extension

The switch administrator can configure an analog phantom extension by using overlay 10 and entering the commands below at the switch administration terminal.

LD10
REQ **NEW**
TYPE **500**
TN ***<TN_for_phantom_number>***
DESC **exp**
DN ***<Express_Messaging_number>***
CLS **FNA FBA CFNA SFA**
SCPW ***<xxxx>***
FTR **CFW 16**

where:

- <*TN_for_phantom_number*> is the switch terminal number (TN) administered for the phantom number.
- <*Express_Messaging_number*> is the number Lucent INTUITY system users dial to use the Express Messaging feature. See Table 2-13 in Chapter 2, "Planning for Switch Integration with Digital Station Interface", for this number.
- <*xxxx*> is the value for the station control password (SCPW). The SCPW depends on the customer data block (CDB) setup, which sets the length of the SCPW. If necessary to determine this value, have the switch administrator see the Meridian switch documentation.

Configuring a Digital Phantom Extension

The switch administrator can configure a digital phantom extension by using overlay 11 and entering the commands below at the switch administration terminal.

LD11
REQ **NEW**
TYPE **2616**
TN ***<TN_for_phantom_number>***
DESC **exp**
CLS **FNA FBA CFNA SFA**
SCPW ***<xxxx>***
KEY **0 SCR *<Express_Messaging_number>***
KEY **1 CFW 16**

where:

- <*TN_for_phantom_number*> is the switch terminal number (TN) administered for the phantom number.
- <*xxxx*> is the value for the station control password (SCPW). The SCPW depends on the customer data block (CDB) setup, which sets the length of the SCPW. If necessary to determine this value, have the switch administrator see the Meridian switch documentation.
- <*Express_Messaging_number*> is the number Lucent INTUITY system users dial to use the Express Messaging feature. See Table 2-13 in Chapter 2, "Planning for Switch Integration with Digital Station Interface", for this number.

Forwarding All Calls on the Phantom Extension

Ensure that the switch administration uses the Remote Call Forward feature on the Meridian 1 or Meridian SL-1 switch to forward all calls on the phantom extension to the Lucent INTUITY Express Messaging number.

Required Lucent INTUITY Administration

The following procedures are required on the Lucent INTUITY system for the customer to use the Express Messaging feature:

- "Configuring the Express Messaging Number as an Automated Attendant"
- "Recording a Greeting for the Automated Attendant Mailbox"

Configuring the Express Messaging Number as an Automated Attendant

Use this procedure to configure the Express Messaging number as an automated attendant extension number on the Lucent INTUITY system:

1. Create a user on the INTUITY AUDIX system with the extension number set to the Express Messaging mailbox number.
   - For the mailbox number, see the worksheet in Table 2-13 of Chapter 2, "Planning for Switch Integration with Digital Station Interface".
   - For the procedure to create the user, see "Adding, Changing, and Removing Users" in Chapter 4, "User Administration", in *INTUITY Messaging Solutions Release 4 Administration*, 585-310-564.
2. Make the user you created an automated attendant by using the Subscriber Automated Attendant Menu screens.

   For the procedure to use the screens, see "Setting Up an Automated Attendant" in Chapter 10, "Automated Attendants and Bulletin Boards", in *INTUITY Messaging Solutions Release 4 Administration*, 585-310-564. Observe the following guidelines:
   - To make the user an automated attendant, enter **auto-attendant** in the `PERMISSIONS, Type:` field on Page 2 of the screens.
   - Configure the following fields on Page 3 of the screens as shown in Figure A-1:
     - `Allow Call Transfer?`
     - `Button`
     - `Extension`
     - `Treatment`
     - `Comment`
     - `Length Of Time-Out On Initial Entry`

```
AUDIX              Active          Alarms:  mwA                    Logins: 6
add subscriber test                                                 Page 3 of 3
                        SUBSCRIBER AUTOMATED ATTENDANT MENU

   Allow Call Transfer? n

    Button  Extension     Treatment              Comment
      1:    e           call-answer    Mailbox starting with digit 1
      2:    e           call-answer    Mailbox starting with digit 2
      3:    e           call-answer    Mailbox starting with digit 3
      4:    e           call-answer    Mailbox starting with digit 4
      5:    e           call-answer    Mailbox starting with digit 5
      6:    e           call-answer    Mailbox starting with digit 6
      7:    e           call-answer    Mailbox starting with digit 7
      8:    e           call-answer    Mailbox starting with digit 8
      9:    e           call-answer    Mailbox starting with digit 9
      0:    e           call-answer    Mailbox starting with digit 0
Timeout:

  Length Of Time-Out On Initial Entry : 2


Enter A Value In This Field
enter command: add subscriber test
```

Figure A-1. Field Entries for the Automated Attendant Subscriber Screen, Page 3

Recording a Greeting for the Automated Attendant Mailbox

Use this procedure to create a greeting for the automated attendant mailbox for the Express Messaging feature:

1. Record a greeting to be used for all calls to the Express Messaging automated attendant mailbox.

   The greeting must prompt the caller to enter the extension number of a mailbox on the system. A greeting in the format of the following example is recommended:

   > "Welcome to the Lucent INTUITY Express Messaging service. Please enter the extension number of the person you want to reach."

2. Configure this greeting as the greeting for all calls to the call routing automated attendant mailbox.

For the procedure to record the greeting, see "Record an Automated Attendant Menu Greeting (No Multiple Personal Greetings)" in "Setting Up an Automated Attendant" in Chapter 10, "Automated Attendants and Bulletin Boards," in *INTUITY Messaging Solutions Release 4 Administration*, 585-310-564.

Using the Express Messaging Feature

The following procedures explain how to use the Express Messaging feature:

- "Leaving a Message Directly in a Mailbox"
- "Transferring a Call to a Mailbox"

Leaving a Message Directly in a Mailbox

By use of the Express Messaging feature a system user can leave a voice message directly in the mailbox of another system user without having to dial the physical extension associated with that mailbox.

Consider the example of a system user who wants to leave a message for a mailbox extension number. If Expressing Messaging is *not* used, the system user must dial the extension number of the mailbox and wait for a certain number of rings until the call is forwarded to the Lucent INTUITY system. Then, after the system plays the greeting associated with the mailbox, the system user can leave a message. The Express Messaging feature makes the process more efficient.

Use this procedure to leave a message directly to a mailbox with the Express Messaging feature:

1. Dial the Express Messaging number and listen for the greeting.
2. Dial the mailbox number of the party who is to receive the message and press #.
3. Listen to the party's mailbox greeting.
4. Leave the message.

Transferring a Call to a Mailbox

The Express Messaging feature can be used to transfer a system user who has been called *directly* to the mailbox of another system user.

1. The transferring party calls a system user (the called party).
2. The transferring party transfers the call to a destination mailbox number.

   The procedure depends on whether the transferring party's station is analog or digital and has a transfer button or a conference button:

   - "Analog Transfer"
   - "Digital Transfer with Transfer Button"
   - "Digital Transfer with Conference Button"

Analog Transfer

Use this procedure to transfer a party from an analog station using the Express Messaging feature.

1. Call the party.
2. Press SWITCHOOK (flash).
3. Dial the Express Messaging number.

   The Lucent INTUITY system answers the call and plays the greeting.
4. Dial the destination mailbox number.
5. Hang up (go on-hook) and disconnect.

   The called party hears the greeting of the destination mailbox and can leave a message.

Digital Transfer with Transfer Button

Use this procedure to transfer a party from a digital station equipped with a transfer button using the Express Messaging feature.

1. Call the party.
2. Press TRANSFER.
3. Dial the Express Messaging number.

   The Lucent INTUITY system answers the call and plays the greeting.
4. Dial the destination mailbox number and press #.
5. Press TRANSFER.

   The called party hears the greeting of the destination mailbox and can leave a message.

Digital Transfer with Conference Button

Use this procedure to transfer a party from a digital station equipped with a transfer button using the Express Messaging feature.

1. Call the party.
2. Press CONFERENCE.
3. Dial the Express Messaging number.

   The Lucent INTUITY system answers the call and plays the greeting.
4. Dial the destination mailbox number and press #.
5. Hang up (go on-hook) and disconnect.

   The called party hears the greeting of the destination mailbox and can leave a message.

Administering Call Routing for Far-End Switches

B

Overview

A Lucent INTUITY call routing automated attendant number enables routing of calls to far-end switches in a customer network. When a caller dials this number, the call is forwarded to the Lucent INTUITY system. The caller hears an automated attendant greeting that provides a menu of prompts used to select the far-end location by pressing a digit on the telephone keypad. After pressing the appropriate digit and waiting for a certain number of rings, the caller is transferred to the chosen location.

This feature requires:

- An automated attendant mailbox number administered on the Lucent INTUITY system with the appropriate setup to route the calls
- A phantom extension number administered on the switch having the same extension number as the automated attendant mailbox, with call forwarding of all calls to the Lucent INTUITY number
- A phantom extension number administered for *each* choice in the automated attendant menu that routes the call to the telephone number of the designated external location

Purpose

This chapter provides information and procedures necessary on the switch and on the Lucent INTUITY system to configure call routing to far-end switches in a customer network.

Required Switch Administration

The following procedures are required on the switch for the customer to use the call routing feature:

- "Configuring a Phantom Extension for the Call Routing Automated Attendant"
- "Forwarding All Calls on the Phantom Extension"
- "Configuring the Phantom Extensions for Call Routing"

Configuring a Phantom Extension for the Call Routing Automated Attendant

Ensure that the switch administrator configures a phantom extension, either analog or digital, as appropriate, with the directory number (DN) set to the call routing automated attendant number and with call forwarding of all calls enabled to the INTUITY number.

Configuring an Analog Phantom Extension

The switch administrator can configure an analog phantom extension by using overlay 10 and entering the commands below at the switch administration terminal.

LD10
REQ **NEW**
TYPE **500**
TN ***<phantom_number_TN>***
DESC **exp**
DN ***<call_routing_number>***
CLS **FNA FBA CFNA SFA**
SCPW ***<xxxx>***
FTR **CFW 16**

where:

- <*phantom_number_TN*> is the switch terminal number (TN) administered for the phantom number.
- <*call_routing_number*> is the automated attendant number Lucent INTUITY system users dial to access the call routing feature. See the Table 2-14 in Chapter 2, "Planning for Switch Integration with Digital Station Interface", for this number.
- <*xxxx*> is the value for the station control password (SCPW). The SCPW depends on the customer data block (CDB) setup, which sets the length of the SCPW. If necessary to determine this value, have the switch administrator see the Meridian switch documentation.

Configuring a Digital Phantom Extension

The switch administrator can configure a digital phantom extension by using overlay 11 and entering the commands below at the switch administration terminal.

LD11
REQ **NEW**
TYPE **2616**
TN ***<phantom_number_TN>***
DESC **exp**
CLS **FNA FBA CFNA SFA**
SCPW ***<xxxx>***
KEY **0 SCR *<call_routing_number>***
LEU **1 CFW 16**

where:

- <*phantom_number_TN*> is the switch terminal number (TN) administered for the phantom number.
- <*xxxx*> is the value for the station control password (SCPW). The SCPW depends on the customer data block (CDB) setup, which sets the length of the SCPW. If necessary to determine this value, have the switch administrator see the Meridian switch documentation.
- <*call_routing_number*> is the automated attendant number Lucent INTUITY system users dial to access the call routing feature. See the Table 2-14 in Chapter 2, "Planning for Switch Integration with Digital Station Interface", for this number.

Forwarding All Calls on the Phantom Extension

Ensure that the switch administration uses the Remote Call Forward feature on the Meridian 1 or Meridian SL-1 switch to forward all calls on the phantom extension to the Lucent INTUITY call routing number.

Configuring the Phantom Extensions for Call Routing

For every entry in the automated attendant menu that will be used to route calls to an external location, a phantom extension on the switch must be administered.

See Table 2-15 in Chapter 2, "Planning for Switch Integration with Digital Station Interface", for a list of the phantom extensions and the telephone numbers corresponding to the far-end locations.

Configuring Analog Phantom Extensions

The switch administrator can configure the analog phantom extensions for the automated attendant menu by using overlay 10 and entering the commands below at the switch administration terminal.

LD10
REQ **NEW**
TYPE **500**
TN ***<phantom_number_TN>***
DN ***<phantom_extension>***
CLS **FNA FBA CFNA SFA**
FTR **CFW 16 *<external_location_number>***

where:

- <*phantom_number_TN*> is the switch terminal number (TN) administered for the phantom number.
- <*phantom_extension*> is an analog extension number from Table 2-15 in Chapter 2, "Planning for Switch Integration with Digital Station Interface".
- <*external_location_number*> is the telephone number mapped to the phantom extension from Table 2-15 in Chapter 2, "Planning for Switch Integration with Digital Station Interface".

Configuring Digital Phantom Extensions

The switch administrator can configure the digital phantom extensions for the automated attendant menu by using overlay 11 and entering the commands below at the switch administration terminal.

LD11
REQ **NEW**
TYPE **2616**
TN ***<phantom_number_TN>***
CLS **FNA FBA CFNA SFA**
KEY **0 SCR *<phantom extension>***
KEY **1 CFW 16 *<external_location_number>***

where:

- <*phantom_number_TN*> is the switch terminal number (TN) administered for the phantom number.
- <*phantom_extension*> is a digital extension number from Table 2-15 in Chapter 2, "Planning for Switch Integration with Digital Station Interface".
- <*external_location_number*> is the telephone number mapped to the phantom extension from Table 2-15 in Chapter 2, "Planning for Switch Integration with Digital Station Interface".

Required Lucent INTUITY Administration

The following procedures are required on the Lucent INTUITY system for the customer to use call routing to far-end locations on the network:

- "Configuring the Call Routing Number as an Automated Attendant"
- "Recording a Greeting for the Call Routing Automated Attendant Mailbox"

Configuring the Call Routing Number as an Automated Attendant

Use this procedure to configure the call routing number as an automated attendant extension number on the Lucent Intuity system:

1. Create a user on the INTUITY AUDIX system with the extension number set to the call routing automated attendant mailbox number.
   - For the call routingnumber, see Table 2-14 in Chapter 2, "Planning for Switch Integration with Digital Station Interface".
   - For the procedure to create the user, see "Adding, Changing, and Removing Users" in Chapter 4, "User Administration", in *INTUITY Messaging Solutions Release 4 Administration*, 585-310-564.
2. Make the user you created an automated attendant by using the Subscriber Automated Attendant Menu screens.

   For the procedure to use the screens, see "Setting Up an Automated Attendant" in Chapter 10, "Automated Attendants and Bulletin Boards", in *INTUITY Messaging Solutions Release 3 Administration*, 585-310-564. Observe the following guidelines:
   - To make the user an automated attendant, enter **auto-attendant** in the `PERMISSIONS, Type:` field on Page 2 of the screens.
   - Configure the following fields on Page 3 of the screens as shown in the example in Figure B-1 below.
     - `Allow Call Transfer?`
     - `Button`
     - `Extension`
     - `Treatment`
     - `Comment`
     - `Length Of Time-Out On Initial Entry`

     For the `Button` fields, enter the digits in the Digit (Menu Choice) column of Table 2-15 in Chapter 2, "Planning for Switch Integration with Digital Station Interface".

For the `Extension` fields, enter the phantom extensions from Table 2-15 in Chapter 2, "Planning for Switch Integration with Digital Station Interface".

Be sure to match each phantom extension number with the correct digit (button).

NOTE:
The example in Figure B-1 shows extension numbers assigned for six far-end locations.

```
AUDIX              Active          Alarms: MmwA                    Logins: 2
add subscriber newtest                                             Page 3 of 3
                      SUBSCRIBER AUTOMATED ATTENDANT MENU

   Allow Call Transfer? n

    Button  Extension     Treatment              Comment
      1:    0011          transfer
      2:    0012          transfer
      3:    0013          transfer
      4:    0014          transfer
      5:    0015          transfer
      6:    0016          transfer
      7:
      8:
      9:
      0:
Timeout:

  Length Of Time-Out On Initial Entry : 2


Command Successfully Completed
enter command:
```

Figure B-1. Example of Field Entries for the Automated Attendant Subscriber Screen, Page 3

Recording a Greeting for the Call Routing Automated Attendant Mailbox

Use this procedure to create a greeting for the call routing automated attendant mailbox:

1. Record a greeting to be used for all calls to the call routing automated attendant mailbox.

   The greeting must prompt the caller to press telephone keys to access the various far-end locations. The greeting typically is in the format of the following example:

   > "Welcome to call routing. Press 1 to reach Hong Kong. Press 2 to reach New York. Press 3 to reach Milan."

2. Configure this greeting as the greeting for all calls to the call routing automated attendant mailbox.

For the procedure to record the greeting, see “Record an Automated Attendant Menu Greeting (No Multiple Personal Greetings)” in “Setting Up an Automated Attendant” in Chapter 10, Automated Attendants and Bulletin Board,” in *INTUITY Messaging Solutions Release 4 Administration*, 585-310-564.

Glossary

Numerics

5ESS Switch
A central office switch manufactured by Lucent Technologies that can be integrated with the Lucent INTUITY™ system.

A

accessed message
A message that was received and scanned (either the entire message or just the header).

ACA
See *automatic circuit assurance*.

ACD
See *automatic call distribution*.

activity menu
The list of options spoken to users when they first access a messaging system. Selecting an activity is the starting point for all user operations.

ADAP
See *administration and data acquisition package*.

address
INTUITY AUDIX user identification, containing the user's extension and machine, that indicates where the system needs to deliver a message. An address may include several users or mailing lists. Name or number addressing can be selected with the ★ A (Address) command.

adjunct
A separate system closely integrated with a switch, such as a Lucent INTUITY system or a call management system (CMS).

administration
The process of setting up a system (such as a switch or a messaging system) to function as desired. Options and defaults are normally set up (translated) by the system administrator or service personnel.

administration and data acquisition package (ADAP)
A software package that allows the system administrator to transfer system user, maintenance, or traffic data from an INTUITY AUDIX system to a personal computer (PC).

ADU
See *asynchronous data unit*.

alarm log
A list of alarms that represent all of the active or resolved problems on a Lucent INTUITY system. The alarm log is stored in a software file on disk and can be accessed either locally or remotely on a terminal connected to the system.

alarms
Hardware, software, or environmental problems that may affect system operation. Alarms are classified as *major*, *minor*, or *warning*.

alphanumeric
Consisting of alphabetic and numeric symbols or punctuation marks.

ALT
See *assemble, load, and test.*

American wire gauge (AWG)
A standard measuring gauge for nonferrous conductors.

AMIS
See *Audio Messaging Interchange Specification*.

AMIS prefix
A number added to the destination number to indicate that it is an AMIS analog networking number.

analog networking
A method of transferring a message from one messaging system to another whereby the message is played back (voiced) during the transfer.

analog signal
In teleprocessing usage, a communications path that usually refers to a voice-grade telephone line.

announcement
A placeholder within the Lucent INTUITY system for playing fragments. Each event that may occur within AUDIX has one or more announcement numbers permanently assigned to it. Fragment numbers are then assigned to the announcement numbers.

announcement fragment
A numbered piece of spoken information that makes up a system message or prompt.

antistatic
A treatment for material to prevent the build-up of static electricity.

API
See *application programming interface.*

application
A computer software program.

application identifier
A two-letter code used in the administrator's log to identify the application or subsystem for which an alarm is being generated. There are 11 application identifiers as follows: CA (Call Accounting), EL (Enhanced List), LF (Lodging Fax), LG (Lucent INTUITY Lodging), ML (MERLIN LEGEND), MT (Maintenance), NW (Digital Networking), SW (Switch Integration), VM (Voice Messaging), VP (Voice Processing), and VR (Voice Response).

application programming interface (API)
A set of formalized software calls and routines that an application program can reference to access underlying network services.

assemble, load, and test (ALT)
The Lucent factory process that preloads software, installs hardware, and tests the system prior to shipping.

ASP
advanced signal processor

asynchronous communication
A method of data transmission in which bits or characters are sent at irregular intervals and spaced by start and stop bits rather than time. See also *synchronous communication*.

asynchronous data unit (ADU)
An electronic communications device that can extend data transmission over asynchronous lines more than 50 feet in length. Recommended ADUs for use with the Lucent INTUITY system include Z3A1 or Z3A4.

asynchronous transmission
A form of serial communications where each transmitted character is bracketed with a start bit and one or two stop bits. The Lucent INTUITY system provides asynchronous EIA-232 capabilities for INTUITY AUDIX Digital Networking, if required.

attendant console
A special-purpose telephone with numerous lines and features usually located at the front desk of a business or other organization. The front desk attendant uses this telephone to answer and transfer calls.

Audio Messaging Interchange Specification (AMIS)
An analog networking protocol that allows users to exchange messages with any messaging system that also has AMIS Analog Networking capabilities. Messages can be exchanged with users on Lucent INTUITY systems as well as with users on remote messaging systems made by vendors other than Lucent Technologies.

Audio Information Exchange (AUDIX)
A complete messaging system accessed and operated by touch-tone telephones and integrated with a switch.

audit
A software program that resolves filesystem incompatibilities and updates restored filesystems to a workable level of service. Audits are done automatically on a periodic basis, or can be performed on demand.

AUDIX
See *Audio Information Exchange*.

autodelete
An INTUITY AUDIX feature that allows users to designate that faxes be automatically deleted from their mailboxes after they are printed.

automated attendant
A Lucent INTUITY system feature that allows users to set up a main extension number with a menu of options that routes callers to an appropriate department at the touch of a button.

automatic call distribution (ACD)
The System 85, Generic 2, or Generic 3 call-distribution group of analog ports that connects Lucent INTUITY users to the system. See also *call-distribution group*.

automatic circuit assurance (ACA)
A feature of the switch that keeps records of both very long and very short calls and notifies the attendant when these calls exceed a certain parameter. The logic is that many very short calls or one very long one may suggest a trunk that is hung, broken, or out of order. The attendant can then physically dial into the trunk to check it.

automatic message scan
An INTUITY AUDIX feature that allows users to scan all message headers and messages at the touch of two buttons. With Lucent INTUITY FAX Messaging, this feature allows all new faxes to be bundled and transmitted over a single fax call delivery call. Also called *autoscan*.

autoprint
An INTUITY AUDIX feature that allows users to designate that faxes be automatically sent to a specified print destination.

autoscan
See *automatic message scan*.

AWG
See *American wire gauge.*

B

background testing
Testing that runs continuously when the system is not busy doing other tasks.

backplane
A centrally located device within a computer to which individual circuit cards are plugged for communication across an internal bus.

backup
A duplicate copy of files and directories saved on a removable medium such as floppy diskette or tape. The back-up filesystem can be copied back (restored) if the active version is damaged (corrupted) or lost.

basic input/output system (BIOS)
A system that contains the buffers for sending information from a program to the actual hardware device for which the information is intended.

basic call transfer
The switch-hook flash method used to send the INTUITY AUDIX transfer command over analog voice ports.

basic rate access
See *basic rate interface*.

basic rate interface (BRI)
International standard protocol for connecting a station terminal to an integrated systems digital network (ISDN) switch. ISDN BRI supports two 64-Kbps information-bearer channels (B1 and B2), and one 16-Kbps call status and control (D) channel (a 2B + D format). Also called b*asic rate access*.

binary synchronous communications (BSC)
A character-oriented synchronous link protocol.

BIOS
See *basic input/output system*.

body
The part of a Lucent INTUITY voice mail that contains the actual spoken message. For a leave word calling (LWC) message, it is a standard system announcement.

boot
The operation to start a computer system by loading programs from disk to main memory (part of system initialization). Booting is typically accomplished by physically turning on or restarting the system. Also called *reboot*.

boot filesystem
The filesystem from which the system loads its initial programs.

BRI
See *basic rate interface*.

broadcast messaging
An INTUITY AUDIX feature that enables the system administrator and other designated users to send a message to all users automatically.

BSC
See *binary synchronous communications*.

buffer
A temporary storage area used to equalize or balance different operating speeds. A buffer can be used between a slow input device, such as a terminal keyboard, and the main computer, which operates at a very high speed.

bulletin board
An INTUITY AUDIX feature that allows a message to be played to callers who dial the bulletin board extension. Callers cannot leave a message since it is a listen-only service. Also called *information service*.

bundling
Combining several calls and handling them as a single call. See also *automatic message scan*.

bus
An electrical connection/cable allowing two or more wires, lines, or peripherals to be connected together.

busy-out/release
To remove a Lucent INTUITY device from service (make it appear busy or in use), and later restore it to service (release it). The Lucent INTUITY switch data link, voice ports, or networking ports can be busied out if they appear faulty or when maintenance tests are run.

C

CA
Call accounting system application identifier. See *application identifier*.

call accounting system (CAS)
A software device that monitors and records information about a calling system.

call-answer
An INTUITY AUDIX feature that allows the system to answer a call and record a message when the user is unavailable. Callers can be redirected to the system through the call coverage or call forwarding switch features. INTUITY AUDIX users can record a personal greeting for these callers.

call-answer language choice
The capability of user mailboxes to accept messages in different languages. For the INTUITY AUDIX application, this capability exists when the multilingual feature is turned on.

callback number
In AMIS analog networking, the telephone number transmitted to the recipient machine to be used in returning messages that cannot be delivered.

call classification analysis (CCA)
A process that enables application designers to use information available within the system to classify the disposition of originated and transferred calls.

call coverage
A switch feature that defines a preselected path for calls to follow if the first (or second) coverage points are not answered. The Lucent INTUITY system can be placed at the end of a coverage path to handle redirected calls through call coverage, send all calls, go to cover, etc.

call data handler process (CDH)
A software process that accumulates generic call statistics and application events.

call detail recording (CDR)
A switch feature that uses software and hardware to record call data. See also *call detail recording utility*.

call detail recording utility (CDRU)
Applications software that collects, stores, optionally filters, and outputs call detail records for direct or polled output to peripheral devices. See also *call detail recording*.

call delivery
See *message delivery*.

call-distribution group
The set of analog port cards on the switch that connects switch users to the Lucent INTUITY system by distributing new calls to idle ports. This group (or split) is called automatic call distribution (ACD) on System 85, Generic 2, and Generic 3 and uniform call distribution (UCD) on System 75, Generic 1, and Generic 3. See also *automatic call distribution* and *uniform call distribution*.

call management system (CMS)
An inbound call distribution and management reporting package.

called tone (CED tone)
The distinctive tone generated by a fax endpoint when it answers a call (a constant 2100-Hz tone).

called subscriber information (CSI)
The identifier for the answering fax endpoint. This identifier is sent in the T.30 protocol and is generally the telephone number of the fax endpoint.

calling tone (CNG tone)
The distinctive tone generated by a fax endpoint when placing a call (a constant 1100-Hz tone that is on for 1/2 second, off for 3 seconds).

call vectoring
A System 85 R2V4, Generic 2, and Generic 3 feature that uses a vector (switch program) to allow a switch administrator to customize the behavior of calls sent to an automatic call distribution (ACD) group.

card cage
An area within the Lucent INTUITY hardware platform that contains and secures all of the standard and optional circuit cards used in the system.

cartridge tape drive
A high-capacity data storage/retrieval device that can be used to transfer large amounts of information onto high-density magnetic cartridge tape based on a predetermined format. This tape is to be removed from the system and stored as a backup.

CAS
See *call accouting system*.

CCA
See *call classification analysis.*

CDH
See *call data handler process*.

CDR
See *call detail recording*.

CDRU
See *call detail recording utility (CDRU).*

CED tone
See *called tone*.

CELP
See *code excited linear prediction*.

central office (CO)
An office or location in which large telecommunication equipment such as telephone switches and network access facilities are maintained. In a CO, private customer lines are terminated and connected to the public network through common carriers.

central processing unit (CPU)
The component of the computer that manipulates data and processes instructions coming from software.

channel
A telecommunications transmission path for voice and/or data.

channel capacity
A measure of the maximum bit rate through a channel.

class of restriction (COR)
A feature that allows up to 64 classes of call-origination and call-termination restrictions for telephones, telephone groups, data modules, and trunk groups. See also *class of service*.

class of service (COS)
The standard set of INTUITY AUDIX features given to users when they are first administered (set up with a voice mailbox). See also *class of restriction*.

clear to send (CTS)
Located on Pin 5 of the 25-conductor RS-232 interface, CTS is used in the transfer of data between the computer and a serial device.

client
A computer that sends, receives and uses data, but that also shares a larger resource whose function is to do most data storage and processing. For Lucent INTUITY Message Manager, the user's PC running Message Manager is the client. See also *server*.

CMS
See *call management system*.

CNG tone
See *calling tone*.

CO
See *central office*.

COR
See *class of restriction*.

COS
See *class of service*.

code excited linear prediction (CELP)
An analog-to-digital voice coding scheme.

collocated
A Lucent INTUITY system installed in the same physical location as the host switch. See also *local installation*.

collocated adjunct
Two or more adjuncts that are serving the same switch (that is, each has voice port connections to the switch) or that are serving different switches but can be networked through a direct RS-232 connection due to their proximity.

comcode
A numbering system for telecommunications equipment used by Lucent Technologies. Each comcode is a 9-digit number that represents a specific piece of hardware, software, or documentation.

command
An instruction or request given by the user to the software to perform a particular function. An entire command consists of the command name and options. Also, one-key or two-key touch tones that control a mailbox activity or function.

community
A group of telephone users administered with special send and receive messaging capabilities. A community is typically comprised of people who need full access to each other by telephone on a frequent basis. See also *default community*.

compound message
A message that combines a voice message and a fax message into one unit, which INTUITY AUDIX then
handles as a single message.

configuration
The particular combination of hardware and software components selected for a system, including external connections, internal options, and peripheral equipment.

controller circuit card
A circuit card used on a computer system that controls its basic functionality and makes the system operational. These cards are used to control magnetic peripherals, video monitors, and basic system communications.

COS
See *class of service*.

coverage path
The sequence of alternate destinations to which a call to a user on a Lucent INTUITY system is automatically sent when it is not answered by the user. This sequence is set up on the switch, normally with the Lucent INTUITY system as the last or only destination.

CPU
See *central processing unit*.

cross connect
Distribution-system equipment used to terminate and administer communication circuits.

cross connection
The connection of one wire to another, usually by anchoring each wire to a connecting block and then placing a third wire between them so that an electrical connection is made.

CSI
See *called subscriber information*.

CTS
See *clear to send*.

D

DAC
See *dial access code*.

database
A structured set of files, records, or tables. Also, a collection of filesystems and files in disk memory that store the voice and nonvoice (program data) necessary for Lucent INTUITY system operation.

data communications equipment (DCE)
Standard type of data interface normally used to connect to data terminal equipment (DTE) devices. DCE devices include the data service unit (DSU), the isolating data interface (IDI), and the modular processor data module (MPDM).

data communications interface unit (DCIU)
A switch device that allows nonvoice (data) communication between a Lucent INTUITY system and a Lucent switch. The DCIU is a high-speed synchronous data link that communicates with the common control switch processor over a direct memory access (DMA) channel that reads data directly from FP memory.

data link
A term used to describe the communications link used for data transmission from a source to a destination, for example, a telephone line for data transmission.

data service unit (DSU)
A device used to access digital data channels. DATAPHONE II 2500 DSUs are synchronous data communications equipment (DCE) devices used for extended-local Lucent INTUITY system connections. The 2600 or 2700 series may also be used; these support diagnostic testing and the DATAPHONE II Service network system.

data set
Another term for a modem, although a data set usually includes the telephone. See also *modem*.

data terminal equipment (DTE)
Standard type of data interface normally used for the endpoints in a connection. Normally the Lucent INTUITY system, most terminals, and the switch data link are DTE devices.

DBP
See *data base processor*.

DCE
See *data communications equipment*.

DCIU
See *data communications interface unit*.

DCP
See *digital communications protocol*.

DCS
See *distributed communications system*.

debug
See *troubleshooting*.

dedicated line
A communications path that does not go through a switch. A dedicated (hard-wired) path can be formed with directly connected cables. MPDMs, DSUs, or other devices can also be used to extend the distance that signals can travel directly through the building wiring.

default
A value that is automatically supplied by the system if no other value is specified.

default community
A group of telephone users administered with restrictions to prevent them from sending messages to or receiving messages from other communities. If a system is administered to use communities, the default community is comprised of all the AUDIX users defined on that system.

default print number
The user-administered extension to which autoprinted faxes are redirected upon their receipt into the user's mailbox. This default print destination is also provided as a print option when the user is manually retrieving and printing faxes from the mailbox.

delivered message
A message that has been successfully transmitted to a recipient's incoming mailbox.

demand testing
Testing performed on request (usually by service personnel).

diagnostic testing
A program run for testing and determining faults in the system.

dial-ahead/dial-through
The act of interrupting or preceding INTUITY AUDIX system announcements by typing (buffering) touch-tone commands in the order the system would normally prompt for them.

dial string
A series of numbers used to initiate a call to a remote AMIS machine. A dial string tells the switch what type of call is coming (local or long distance) and gives the switch time to obtain an outgoing port, if applicable

dialed number identification service (*DNIS_SVC)
An available channel service assignment on the Lucent INTUITY system. Assigning this service to a channel permits the Lucent INTUITY system to interpret information from the switch and operate the appropriate application for the incoming telephone call.

DID
See *direct inward dialing*.

digital communications protocol (DCP)
A 64-Kbps digital data transmission code with a 160-Kbps bipolar bit stream divided into two information (I) channels and one signaling (S) channel.

digital networking
A method of transferring messages between messaging systems in a digital format. See also *INTUITY AUDIX Digital Networking*.

digital signal processor (DSP)
A specialized digital microprocessor that performs calculations on digitized signals that were originally analog and then sends the results on.

DIP switch
See *dual in-line package switch*.

direct inward dialing (DID)
The ability for an outside caller to call an internal extension without having to pass through an operator or attendant.

direct memory access (DMA)
A quick method of moving data from a storage device directly to RAM, which speeds processing.

directory
1. A Lucent INTUITY AUDIX feature that allows you to hear a user's name and extension after pressing * * N at the activity menu. 2. A group of related files accessed by a common name in software.

display terminal
A data terminal with a screen and keyboard used for displaying Lucent INTUITY screens and performing maintenance or administration activities.

distributed communications system (DCS)
A network of two or more switches that uses logical and physical data links to provide full or partial feature transparency. Voice links are made using tie trunks.

distribution list
See *mailing list*.

DMA
See *direct memory access*.

DNIS
See *dialed number identification service*.

domain
An area where data processing resources are under common control. The INTUITY AUDIX system is one domain and an e-mail system is another domain.

DSP
See *digital signal processor*.

DSU
See *data service unit*.

DTE
See *data terminal equipment*.

DTMF
See *dual tone multifrequency*.

dual in-line package (DIP) switch
A small switch, usually attached to a printed circuit card, in which there are only two settings: on or off (or 0 or 1). DIP switches are used to configure the card in a semipermanent way.

dual language greetings
The capability of INTUITY AUDIX users to create personal greetings in two different languages—one in a primary language and one in a secondary language. This capability exists when the multilingual feature is turned on, and the prompts for user mailboxes can be in either of the two languages.

dual tone multifrequency (DTMF)
A way of signaling consisting of a pushbutton or touch-tone dial that sends out a sound consisting of two discrete tones that can be picked up and interpreted by telephone switches.

E

EIA interface
A set of standards developed by the Electrical Industries Association (EIA) that specifies various electrical and mechanical characteristics for interfaces between electronic devices such as computers, terminals, and modems. Also known as *RS-232*.

ELA
See Enhanced-List Application.

electronic mail
See *e-mail*.

electrostatic discharge (ESD)
The discharge of a static charge on a surface or body through a conductive path to ground, ESD can damage integrated circuits.

e-mail
The transfer of a wide variety of message types across a computer network (LAN or WAN). E-mail messages may be text messages containing only ASCII files or may be complex multimedia messages containing embedded voice messages, software files, and images.

enabled/disabled
The state of a hardware device that indicates whether it is available for use by the Lucent INTUITY system. Devices must be equipped before they can be enabled (made active). See also *equipped/unequipped*.

endpoint
See *fax endpoint*.

enhanced call transfer
An INTUITY AUDIX feature that allows compatible switches to transmit messages digitally over the BX.25 (data) link. This feature is used for quick call transfers and requires a fully integrated digital switch. Callers can only transfer to other extensions in the switch dial plan.

Enhanced-List Application (ELA)
An INTUITY AUDIX option that facilitates message delivery to large numbers of recipients. There can be up to 100 enhanced lists per system, each of which can contain up to 1500 addresses.

enhanced serial data interface (ESDI)
A software-controlled and hardware-controlled method used to store data on magnetic peripherals.

equipped/unequipped
The state of a networking channel that indicates whether Lucent INTUITY software has recognized it. Devices must be equipped before they can be enabled (made active). See also *enabled/disabled*.

error message
A message on the screen indicating that something is wrong within the system and possibly suggesting how to correct it.

errors
Problems detected by the system during operation and recorded in the maintenance log. Errors can produce an alarm if they exceed a threshold.

escape from reply
The ability to quickly return to getting messages for a user who encounters a problem trying to respond to a message. To escape, the user presses #.

escape to attendant
An INTUITY AUDIX feature that allows users with the call answer feature to have a personal attendant or operator administered to pick up their unanswered calls. A system-wide extension could also be used to send callers to a live agent.

ESD
See *electrostatic discharge*.

ESDI
See *enhanced serial data interface*.

event
An informational messages about the system's activities. For example, an event is logged when the system is rebooted. Events may or may not be related to errors and alarms.

F

facilities restriction level (FRL)
A value that determines which types of calls the users of a switch are allowed to make.

facility out-of-service (FOOS)
State of operation during which the current channel is not receiving a dial tone and is not functioning.

facsimile
1. A digitized version of written, typed, or drawn material transmitted over telephone lines and printed out elsewhere. 2. Computer-generated text or graphics transmitted over computer networks. A computer-generated fax is typically printed to a fax machine, but can remain stored electronically.

fax
See *facsimile*.

fax addressing prefix
Uniquely identifies a particular fax nodepoint to the Lucent INTUITY system. Used by the system as a "template" to differentiate all call-delivery machines on the network from each other.

fax endpoint
Any device capable of receiving fax calls. Fax endpoints include fax machines, individual PC fax modems, fax ports on LAN fax servers, and ports on fax-enabled messaging systems.

fax print destination prefix
A dial string that the Lucent INTUITY system adds to the fax telephone number the user enters to print a fax. The system takes the full number (fax print destination prefix + fax telephone extension) and hunts through the machine translation numbers until it finds the specific fax endpoint.

field
An area on a screen, menu, or report where information can be typed or displayed.

FIFO
See *first-in/first-out*.

file
A collection of data treated as a basic unit of storage.

filename
Alphanumeric characters used to identify a particular file.

file redundancy
See *mirroring*.

file system
A collection of related files (programs or data) stored on disk that are required to initialize a Lucent INTUITY system.

first-in/first-out (FIFO)
A method of processing telephone calls or data in which the first call or data to be received is the first call or data to be processed.

F key
See *function key*.

FNPAC
See *foreign numbering-plan area code*.

FOOS
See *facility out-of-service*.

foreign exchange (FX)
A central office (CO) other than the one providing local access to the public telephone network.

foreign numbering-plan area code (FNPAC)
An area code other than the local area code that must be dialed to call outside the local geographical area.

format
To set up a disk, floppy diskette, or tape with a predetermined arrangement of characters so that the system can read the information on it.

FRL
See *facilities restriction level*.

function
Individual steps or procedures within a mailbox activity.

function key (F key)
A key on a computer keyboard programmed to perform a defined function when pressed. The user interface for the Lucent INTUITY system defines keys F1 through F8.

FX
See *foreign exchange*.

G

Generic 1, 2, or 3
Lucent switch system software releases, designed for serving large communities of System 75 and System 85 users.

generic tape
A copy of the standard software and stand-alone tape utilities that is shipped with a new Lucent INTUITY system.

GOS
See *grade of service*.

grade of service (GOS)
A parameter that describes the delays in accessing a port on the Lucent INTUITY system. For example, if the GOS is P05, 95% of the callers hear the system answer and 5% hear ringing until a port becomes available to answer the call.

guaranteed fax
A feature of Lucent INTUITY FAX Messaging that temporarily stores faxes sent to a fax machine. In cases where the fax machine is busy or does not answer a call, the call is sent to an INTUITY AUDIX mailbox.

guest password
A feature that allows callers who are not INTUITY AUDIX users to leave messages on the system by dialing a user's extension and entering a system-wide guest password.

H

hard disk drive
A high-capacity data-storage and data-retrieval device that is located inside a computer. A hard disk drive stores data on nonremovable high-density magnetic media based on a predetermined format for retrieval by the system at a later date.

hardware
The physical components of a computer system. The central processing unit, disks, tape, and floppy drives are all hardware.

header
Information that the system creates to identify a message. A message header includes the originator or recipient, type of message, creation time, and delivery time.

help
A command run by pressing HELP or CTRL ? on a Lucent INTUITY display terminal to show the options available at your current screen position. In the INTUITY AUDIX system, press * H on the telephone keypad to get a list of options. See also *on-line help*.

host switch
The switch directly connected to the Lucent INTUITY system over the data link. Also, the physical link connecting a Lucent INTUITY system to a distributed communications system (DCS) network.

hunt group
A group of analog ports on a switch usually administered to search for available ports in a circular pattern.

I

I/O
Input/output.

IDI
See *isolating data interface*.

IMAPI
See *INTUITY messaging application programming interface*.

INADS
See *initialization and administration system*.

information service
See *bulletin board*.

initialization
The process of bringing a system to a predetermined operational state. The start-up procedure tests hardware; loads the boot filesystem programs; locates, mounts, and opens other required filesystems; and starts normal service.

initialization and administration system (INADS)
A computer-aided maintenance system used by remote technicians to track alarms.

initialize
To start up the system for the first time.

input
A signal fed into a circuit or channel.

integrated services digital network (ISDN)
A network that provides end-to-end digital connectivity to support a wide range of voice and data services.

integrated voice processing CELP (IVC6) card
A computer circuit card that supports both fax processing and voice processing capabilities. It provides two analog ports to support six analog channels. All telephone calls to and from the Lucent INTUITY system are processed through the IVC6 card.

interface
The device or software that forms the boundary between two devices or parts of a system, allowing them to work together. See also *user interface*.

internal e-mail
Software on a PC that provides messaging capability between users on the same AUDIX system, or to administered remote AUDIX systems and users. Users can create, send, and receive a message that contains multiple media types; specifically, voice, fax, text, or file attachments (software files, such as a word processing or spreadsheet file).

interrupt request (IRQ)
Within a PC, a signal sent from a device to the CPU to temporarily suspend normal processing and transfer control to an interrupt handling routine.

INTUITY AUDIX Digital Networking
A Lucent INTUITY feature that allows customers to link together up to 500 remote Lucent INTUITY machines for a total of up to 500,000 remote users. See also *digital networking*.

INTUITY Message Manager
A Windows-based software product that allows INTUITY AUDIX users to receive, store, and send their voice/FAX messages from a PC. The software also enables users to create and send multimedia messages that include voice, fax, file attachments, and text.

INTUITY messaging application programming interface (IMAPI)
A software function-call interface that allows INTUITY AUDIX to interact with Lucent INTUITY Message Manager.

IRQ
See *interrupt request*.

ISDN
See *integrated services digital network*.

isolating data interface (IDI)
A synchronous, full duplex data device used for cable connections between a Lucent INTUITY GPSC-AT/E card and the switch data communications interface unit (DCIU).

IVC6
See *integrated voice processing CELP (IVC6) card.*

J

jumper
Pairs or sets of small prongs or pins on circuit cards and mother boards the placement of which determines the particular operation the computer selects. When two pins are covered, an electrical circuit is completed. When the jumper is uncovered, the connection is not made. The computer interprets these electrical connections as configuration information.

L

label
The name assigned to a disk device (either a removable tape cartridge or permanent drive) through software. Cartridge labels may have a generic name (such as “3.3”) to show the software release, or a descriptive name if for back-up copies (such as “back01”). Disk drive labels usually indicate the disk position (such as “disk00” or “disk02”).

LAN
See *local area network*.

last-in/first-out (LIFO)
A method of processing telephone calls or data in which the last call (or data) received is the first call (or data) to be processed.

LCD
See *liquid crystal display*.

leave word calling (LWC)
A switch feature that allows the calling party to leave a standard (nonvoice) message for the called party using a feature button or dial access code.

LED
See *light emitting diode*.

LIFO
See *last-in/first-out*.

light emitting diode (LED)
A light on the hardware platform that shows the status of operations.

liquid crystal display (LCD)
The 10-character alphanumeric display that shows the status of the system, including alarms.

load
The process of reading software from external storage (such as disk) and placing a copy in system memory.

local area network (LAN)
A network of PCs that communicate with each other and that normally share the resources of one or more servers. Operation of Lucent INTUITY Message Manager requires that the INTUITY AUDIX system and the users’ PCs be on a LAN.

local AUDIX machine
The Lucent INTUITY system where a user's INTUITY AUDIX mailbox is located. All users on this home machine are called *local users*.

local installation
A switch, adjunct, or peripheral device installed physically near the host switch or system. See also *collocated*.

local network
An INTUITY AUDIX Digital Network in which all Lucent INTUITY systems are connected to the same switch.

login
A unique code a user must enter to gain approved access to the Lucent INTUITY system. See also *password*.

login announcement
A feature enabling the system administrator and other designated users to create a mail message that is automatically played to all INTUITY AUDIX users every time they log in to the system.

Lotus Notes
Information management software for work groups that allows individuals to share and manipulate information over a local or wide area network

LWC
See *leave word calling*.

M

magnetic peripherals
Data storage devices that use magnetic media to store information. Such devices include hard disk drives, floppy disk drives, and cartridge tape drives.

mailbox
A portion of disk memory allotted to each Lucent INTUITY system user for creating and storing outgoing and incoming messages.

mailing list
A group of user addresses assigned a list ID# and public or private status. A mailing list may be used to simplify the sending of messages to several users.

maintenance
The process of identifying system errors and correcting them, or taking steps to prevent problems from occurring.

major alarm
An alarm detected by Lucent INTUITY software that affects at least one fourth of the Lucent INTUITY ports in service. Often a major alarm indicates that service is affected.

MANOOS
See *manually out-of-service*.

manually out-of-service
State of operation during which a unit has been intentionally taken out of service.

MAP
See *multi-application platform*.

mean time between failures
The average time a manufacturer estimates will elapse before a failure occurs in a component or system.

media type
The form a message takes. The media types supported by the Lucent INTUITY system are voice, text, file attachments, and fax.

memory
A device that stores logic states such that data can be accessed and retrieved. Memory may be temporary (such as system RAM) or permanent (such as disk).

menu
A list of options displayed on a computer terminal screen or spoken by a voice processing system. Users choose the option that reflects what action they want the system to take.

menu tree
The way in which nested automated attendants are set up.

message categories
Groups of messages in INTUITY AUDIX users' mailboxes. Categories include *new*, *unopened*, and *old* for the incoming mailbox and *delivered*, *accessed*, *undelivered*, *undeliverable* (not deliverable), and *file cabinet* for the outgoing mailbox.

message component
A media type included in a multimedia message. These types include voice, text, file attachments, and fax messages.

message delivery
An optional Lucent INTUITY feature that permits users to send messages to any touch-tone telephone, as long as the telephone number is in the range of allowable numbers. This feature is an extension of the AMIS analog networking feature and is automatically available when the AMIS feature is activated.

Message Manager
See *INTUITY Message Manager*.

message waiting indicator (MWI)
An indicator that alerts Lucent INTUITY users that they have received new mail messages. An MWI can be an LED or neon lamp, or an audio tone (stutter dial tone).

message waiting lamp (MWL)
See *message-waiting indicator*.

migration
An installation that moves data to the Lucent INTUITY system from another type of Lucent messaging system, for example, from AUDIX R1, DEFINITY AUDIX, or AUDIX Voice Power.

minor alarm
An alarm detected by maintenance software that affects less than one fourth of the Lucent INTUITY ports in service, but has exceeded error thresholds or may impact service.

mirroring
A Lucent INTUITY system feature that allows data from crucial filesystems to be continuously copied to back-up (mirror) filesystems while the system is running. If the system has some problem where an original filesystem cannot be used, the backup filesystem is placed in service automatically.

ML
MERLIN LEGEND application identifier. See *application identifier*.

mode code
A string of touch-tones from a MERLIN LEGEND switch. A mode code may send the INTUITY AUDIX system information such as call type, calling party, called party, and on/off signals for message waiting indicators.

modem
A device that converts data from a form that is compatible with data processing equipment (digital) to a form compatible with transmission facilities (analog), and vice-vera.

modular
A term that describes equipment made of plug-in units that can be added together to make the system larger, improve its capabilities, or expand its size.

modular processor data module (MPDM)
A data device that converts RS-232C or RS-449 protocol signals to digital communications protocol (DCP) used by System 75/85, Generic1, and Generic 3 switches. MPDMs can connect the Lucent INTUITY system to a switch DCIU or SCI link or connect terminals to a switch port card.

MPDM
See *modular processor data module*.

MT
Maintenance application identifier. See *application identifier*.

MTBF
See *mean time between failures*.

multi-application platform (MAP)
The computer hardware platform used by the Lucent INTUITY system.

multilingual feature
A feature that allows announcement sets to be active simultaneously in more than one language on the system. Mailboxes can be administered so that users can hear prompts in the language of their choice.

MWI
See *message waiting indicator*.

MWL
See *message waiting lamp*.

N

networking
See *INTUITY AUDIX Digital Networking*.

networking prefix
A set of digits that identifies a Lucent INTUITY machine.

night attendant
The automated attendant created on a MERLIN LEGEND switch that automatically becomes active during off-hours. The night attendant substitutes for one or more daytime attendants.

not deliverable message
A message that could not be delivered after a specified number of attempts. This usually means that the user's mailbox is full.

NPA
See *numbering plan area*.

NT
Networking application identifier. See *application identifier*.

numbering plan area
Formal name for 3-digit telephone area codes in North America. Within an area code, no two telephone lines may have the same 7-digit phone number. The code is often designated as *NXX*, to indicate the three digits.

O

off-hook
See *switch hook*.

on-hook
See *switch hook*.

on-line help
A Lucent INTUITY system feature that provides information about user interface windows, screens, and menus by pressing a predetermined key. See also *help*.

open systems interconnection (OSI)
An internationally accepted framework of standards for communication between systems made by different vendors.

operating system (OS)
The set of software programs that runs the hardware and interprets software commands.

option
A choice selected from a menu, or an argument used in a command line to specify program output by modifying the execution of a command. When you do not specify any options, the command executes according to its default options.

OS
See *operating system*.

OSI
See *open systems interconnection*.

outcalling
A Lucent INTUITY system feature that allows the system to dial users' numbers to inform them they have new messages.

outgoing mailbox
A storage area on the Lucent INTUITY system where users can keep copies of messages for future reference or action.

P

parallel transmission
The transmission of several bits of data at the same time over different wires. Parallel transmission of data is usually faster than serial transmission.

password
1. A word or character string recognized automatically by the Lucent INTUITY system that allows a user access to his/her mailbox or a system administrator access to the system data base. 2. An alphanumeric string assigned to local and remote networked machines to identify the machines or the network. See also *login.*

password aging
An INTUITY AUDIX feature that allows administrators to set a length of time after which a user's AUDIX password or the administrator's system password expires. The user or administrator must then change the password.

PBX
See *private branch exchange*.

PC
See *power converter*.

PDM (processor data module)
See *modular processor data module (MPDM)*.

peripheral device
Equipment such as a printer or terminal that is external to the Lucent INTUITY cabinet, but necessary for full operation and maintenance of the system. Also called a *peripheral*.

personal directory
An INTUITY AUDIX feature that allows each user to create a private list of customized names.

personal fax extension
See *secondary extension*.

PI
See *processor interface*.

PIB
See *processor interface*.

pinouts
The signal description per pin number for a particular connector.

PMS
See *property management system*.

port
A connection or link between two devices that allows information to travel to a desired location. For example, a switch port connects to a Lucent INTUITY voice port to allow a caller to leave a message.

POST
See *power-on self test*.

power on self test (POST)
A set of diagnostics stored in ROM that tests components such as disk drives, keyboard, and memory each time the system is booted. If problems are identified, a message is sent to the screen.

priority call answer
An INTUITY AUDIX feature that allows users to designate a call answer message as a priority message. To make a message a priority message, the caller presses 2 after recording.

priority messaging
An INTUITY AUDIX feature that allows some users to send messages that are specially marked and preferentially presented to recipients. See also *priority outcalling*.

priority outcalling
An INTUITY AUDIX feature that works with the priority messaging feature by allowing the message recipient to elect to be notified by outcalling only when a priority message has been received. See also *priority messaging*.

private branch exchange (PBX)
An analog, digital, or electronic telephone switching system where data and voice transmissions are not confined to fixed communications paths, but are routed among available ports or channels. See also *switch*.

private mailing list
A list of addresses that only the Lucent INTUITY system user who owns it can access.

private messaging
A feature of INTUITY AUDIX that allows a user to send a message that cannot be forwarded by the recipient.

processor data module (PDM)
See *modular processor data module (MPDM)*.

processor interface (PI)
A System 75, Generic 1, Generic 3i, Generic 3s, and Generic 3vs switch data link. Also called *processor interface board (PIB)*.

programmed function key
See *function key*.

property management system (PMS)
A product used by lodging establishments to automate the management of guest records, reservations, room assignments, and billing. In an integrated PMS environment, special software links the PMS to the Lucent INTUITY Lodging system so that both systems share a common set of messages and commands.

protocol
A set of conventions or rules governing the format and timing of message exchanges (signals) to control data movement and the detection and possible correction of errors.

public mailing list
A list of addresses that any INTUITY AUDIX user can use if that user knows the owner's list ID number and extension number. Only the owner can modify a public mailing list.

pulse-to-tone converter
A device connected to the switch that converts signals from a rotary pulses to touch tone signals. This device allows callers to use rotary telephones to access options in a Lucent INTUITY user's mailbox or in an automated attendant.

R

RAM
See *random access memory*.

random access memory (RAM)
The memory used in most computers to store the results of ongoing work and to provide space to store the operating system and applications that are actually running at any given moment.

read-only memory (ROM)
A form of computer memory that allows values to be stored only once; after the data is initially recorded, the computer can only read the contents. ROM is used to supply constant code elements such as bootstrap loaders, network addresses, and other more or less unvarying programs or instructions.

reboot
See *boot*.

remote access
Sending and receiving data to and from a computer or controlling a computer with terminals or PCs connected through communication (that is, telephone) links.

remote installation
A system, site, or piece of peripheral equipment that is installed in a different location from the host switch or system.

remote maintenance
The ability of Lucent personnel to interact with a remote computer through a telephone line or LAN connection to perform diagnostics and some system repairs. See also *remote service center*.

remote network
A network in which the systems are integrated with more than one switch.

remote service center
A Lucent or Lucent-certified organization that provides remote support to Lucent INTUITY customers. Depending upon the terms of the maintenance contract, your remote service center may be notified of all major and minor alarms and have the ability to remotely log in to your system and remedy problems. See also *remote maintenance.*

remote terminal
A terminal connected to a computer over a telephone line.

remote users
INTUITY AUDIX users whose mailboxes reside on a remote INTUITY AUDIX Digital Networking machine.

REN
See *ringer equivalence number*.

reply loop escape
An INTUITY AUDIX feature that allows a user the option of continuing to respond to a message after trying to reply to a nonuser message.

reply to sender
An INTUITY AUDIX feature that allows users to immediately place a call to the originator of an incoming message if that person is in the switch's dial plan.

request to send (RTS)
One of the control signals on an EIA-232 connector that places the modem in the originate mode so that it can begin to send.

restart
1. A Lucent INTUITY feature that allows INTUITY AUDIX users who have reached the system through the call answer feature to access their own mailboxes by entering the * R (Restart) command. This feature is especially useful for long-distance calls or for users who want to access the Lucent INTUITY system when all the ports are busy. 2. The reinitialization of certain software, for example, *restarting* the messaging system.

restore
The process of recovering lost or damaged files by retrieving them from available back-up tapes, floppy diskette, or another disk device.

retention time
The amount of time messages are saved on disk before being automatically deleted from a user's mailbox.

reusable upgrade kit (RUK)
A package shipped to the customer's site prior to an upgrade that contains materials the technician needs to complete the installation. This package includes an A/B switch box, a keyboard, a 25-foot coaxial cable, two T adapters, and terminations to a LAN circuit card. It remains the property of Lucent once the installation is finished.

right-to-use (RTU) fee
A charge to the customer to access certain functions or capacities that are otherwise restricted, for example, additional voice or networking ports or hours of speech storage. Lucent Technologies personnel can update RTU parameters either at the customer's site or remotely via a modem.

ringer equivalence number (REN)
A number required in the United States for registering your telephone equipment with a service provider.

ROM
See *read-only memory*.

RS-232
See *EIA interface.*

RTS
See *request to send*.

RUK
See *reusable upgrade kit*.

S

scan
To automatically play mail messages, headers, or both.

scheduled delivery time
A time and/or date that an INTUITY AUDIX user can assign to a message that tells the system when to deliver it. If a delivery time is omitted, the system sends the message immediately.

screen
That portion of the Lucent INTUITY user interface through which most administrative tasks are performed. Lucent INTUITY screens request user input in the form of a command from the `enter command:` prompt.

SCSI
See *small computer system interface*.

secondary extension
A second, fax-dedicated extension that directs incoming faxes directly into a user's mailbox without ringing the telephone. The secondary extension shares the same mailbox as the voice extension, but acts like a fax machine. Also called *personal fax extension*.

serial transmission
The transmission of one bit at a time over a single wire.

server
A computer that processes and stores data that is used by other smaller computers. For Lucent INTUITY Message Manager, INTUITY AUDIX is the server. See also *client*.

shielded cables
Cables that are protected from interference with metallic braid or foil.

SID
See *switch integration device*.

SIMM
See *single in-line memory module*.

simplified message service interface (SMSI)
Type of data link connection to an integrated 1A ESS or 5ESS switch in the Lucent INTUITY system.

simplified message desk interface (SMDI)
Also known as station message desk interface. Type of data link from the central office that contains information and instructions for the Lucent INTUITY system. With SMDI, the caller need not re-enter the called number once the call terminates to the Lucent INTUITY system. See also *simplified message service interface*.

single in-line memory module (SIMM)
A method of containing random access memory (RAM) chips on narrow strips that attach directly to sockets on the CPU circuit card. Multiple SIMMs are sometimes installed on a single CPU circuit card.

small computer systems interface (SCSI)
An interface standard defining the physical, logical, and electrical connections to computer system peripherals such as tape and disk drives.

SMDI
See *station message desk interface*.

SMDR
See *station message detail recording*.

SMSI
See *simplified message service interface*.

SP
signal processor

SSP
scaleable signal processor

station message desk interface (SMDI)
See *simplified message desk interface*.

station message detail recording
See *call detail recording (CDR)*.

subscriber
A Lucent INTUITY user who has been assigned the ability to access the INTUITY AUDIX Voice Messaging system.

surge
A sudden rise and fall of voltage in an electrical circuit.

surge protector
A device that plugs into the telephone system and the commercial AC power outlet to protect the telephone system from damaging high-voltage surges.

SW
Switch integration application identifier. See *application identifier*.

switch
An automatic telephone exchange that allows the transmission of calls to and from the public telephone network. See also *private branch exchange (PBX)*.

switched access
A connection made from one endpoint to another through switch port cards. This allows the endpoint (such as a terminal) to be used for several applications.

switch hook
The device at the top of most telephones that is depressed when the handset is resting in the cradle (that is, when the telephone is *on hook*). This device is raised when the handset is picked up (that is, when the telephone is *off hook*).

switch-hook flash
A signaling technique in which the signal is originated by momentarily depressing the switch hook.

switch integration
Sharing of information between a messaging system and a switch to provide a seamless interface to callers and system users. A fully integrated INTUITY AUDIX system, for example, answers each incoming telephone call with information taken directly from the switch. Such information includes the number being called and the circumstances under which the call was sent to it, for example, covered from a busy or unanswered extension.

switch integration device (SID)
A combination of hardware and software that passes information from the switch to the Lucent INTUITY system thus allowing it to share information with non-Lucent switches. The operation of a SID is unique to the particular switch with which it interfaces.

switch network
Two or more interconnected switching systems.

synchronized mailbox
A mailbox that is paired with a corresponding mailbox in another domain and linked via software that keeps track of changes to either mailbox. When the contents of one mailbox change, the software replicates that change in the other mailbox.

synchronizer
The name given to the trusted server by the e-mail vendor, Lotus Notes.

synchronous communication
A method of data transmission in which bits or characters are sent at regular time intervals, rather than being spaced by start and stop bits. See also *asynchronous communication*.

synchronous transmission
A type of data transmission where the data characters and bits are exchanged at a fixed rate with the transmitter and receiver synchronized. This allows greater efficiency and supports more powerful protocols.

System 75
An advanced digital switch manufactured by Lucent Technologies that supports up to 800 lines for voice and data communications.

System 85
An advanced digital switch manufactured by Lucent Technologies that supports up to 3000 lines for voice and data communications.

system configuration
See *configuration*.

T

T.30
The standard for Group III fax machines that covers the protocol used to manage a fax session and negotiate the capabilities supported by each fax endpoint.

tape cartridge
One or more spare removable cartridges required to back up system information.

tape drive
The physical unit that holds, reads, and writes to magnetic tape.

TCP/IP
See *transmission control protocol/internet protocol*.

TDD
See *telecommunications device for the deaf*.

TDM
See *time division multiplexing*.

telecommunications device for the deaf (TDD)
A device with a keyboard and display unit that connects to or substitutes for a telephone. The TDD allows a deaf or hearing-impaired person to communicate over the telephone lines with other people who have TDDs. It also allows a deaf person to communicate with the INTUITY AUDIX system.

terminal
See *display terminal*.

terminal type
A number indicating the type of terminal from which a user is logging in to the Lucent INTUITY system. Terminal type is the last required entry before gaining access to the Lucent INTUITY display screens.

terminating resistor
A grounding resistor placed at the end of a bus, line, or cable to prevent signals from being reflected or echoed.

time division multiplexing (TDM)
A method of serving multiple channels simultaneously over a common transmission path by assigning the transmission path sequentially to the channels, with each assignment being for a discrete time interval.

tip/ring
A term used to denote the analog telecommunications interface.

tone generator
A device acoustically coupled to a rotary telephone used to produce touch-tone signals.

traffic
The flow of attempts, calls, and messages across a telecommunications network.

translations
Software assignments that tell a system what to expect on a certain voice port or the data link, or how to handle incoming data. Translations customize the Lucent INTUITY system and switch features for users.

transmission control protocol/internet protocol (TCP/IP)
A suite of protocols that allow disparate hosts to connect over a network. Transmission control protocol (TCP) organizes data on both ends of a connection and ensures that the data that arrives matches that which was sent. Internet protocol (IP) ensures that a message passes through all the necessary routers to the proper destination.

T/R
See *tip/ring*.

troubleshooting
The process of locating and correcting errors in computer programs (also called *debugging)* or systems.

trusted server
A server that uses IMAPI to access an INTUITY AUDIX mailbox on behalf of a user and is empowered to do everything to a user message that INTUITY AUDIX can do.

TTS
Text-to-Speech

U

UCD
See *uniform call distribution*.

Undelete
An INTUITY AUDIX feature that allows users to restore the last message deleted by pressing * U.

undelivered message
A message that has not yet been sent to an INTUITY AUDIX user's incoming mailbox. The message resides in the sender's outgoing mailbox and may be modified or redirected by the sender.

unequipped
See *equipped/unequipped*.

unfinished message
A message that was recorded but not approved or addressed, usually as the result of an interrupted INTUITY AUDIX session. Also called *working message*.

uniform call distribution (UCD)
The type of call-distribution group (or hunt group) of analog port cards on some switches that connects users to the INTUITY AUDIX system. System 75, Generic 1, Generic 3, and some central office switches use UCD groups. See also *call-distribution group*.

uninterruptable power supply (UPS)
An auxiliary power unit that provides continuous power in cases where commercial power is lost.

UNIX operating system
A multi-user, multi-tasking computer operating system.

upgrade
An installation that moves a Lucent INTUITY system to a newer release.

untouched message
An INTUITY AUDIX feature that allows a user to keep a message in its current category by using the ★ ★ H (Hold) command. If the message is in the new category, message-waiting indication remains active (for example, the message-waiting lamp remains lit).

UPS
See *uninterruptable power supply.*

U. S. 123
An alternate announcement set in U. S. English whose prompts use numbers, not letters, to identify telephone keypad presses. For example, a prompt might say, "*Press star three,"* instead of, "*Press star D*."

user interface
The devices by which users access their mailboxes, manage mailing lists, administer personal greetings, and use other messaging capabilities. Types of user interfaces include a touch-tone telephone keypad and a PC equipped with Lucent INTUITY Message Manager.

user population
A combination of different types of users on which Lucent INTUITY configuration guidelines are based.

V

vector
A customized program in the switch for processing incoming calls.

VM
Voice messaging application identifier. See *application identifier*.

voice link
The Lucent INTUITY analog connection(s) to a call-distribution group (or hunt group) of analog ports on the switch.

voice mail
See *voice message*.

voice mailbox
See *mailbox*.

voice message
Digitized information stored by the Lucent INTUITY system on disk memory. Also called *voice mail*.

voice port
The IVC6 port that provides the interface between the Lucent INTUITY system and the analog ports on the switch.

voice terminal
A telephone used for spoken communications with the Lucent INTUITY system. A touch-tone telephone with a message-waiting indicator is recommended for INTUITY AUDIX users.

voicing
1. Speaking a message into the Lucent INTUITY system during recording. 2. Having the system play back a message or prompt to a user.

VP
Voice platform application identifier. See *application identifier*.

VR
Voice response application identifier. See *application identifier*.

W

WAN
See *wide area network*.

wide area network (WAN)
A data network typically extending a local area network (LAN) over telephone lines to link with LANS in other buildings and/or geographic locations.

window
That portion of the Lucent INTUITY user interface through which you can view system information or status.

Index

Numerics

A

B

C

D

E

F

G

H

I

J

L

M

N

O

P

R

S

T

V

W