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Meridian Mail

AMIS Networking Installation and Administration Guide

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Meridian Mail
AMIS Networking Installation and Administration Guide

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Publication history

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The standard 1.0 version of the *AMIS Networking Installation and Administration Guide* for Release 12 of Meridian Mail.

The guide explains how to implement the AMIS Networking feature of Meridian Mail. This issue renders all previous releases of Meridian Mail networking guides obsolete.

November 1996

The standard version of the *AMIS Networking Installation and Administration Guide* for Release 11 of Meridian Mail.

Contents

Preface

In this preface

What this manual is about and who should read it

Introduction

The *AMIS Networking Installation and Administration Guide* provides descriptive information and instructions for implementing networking for Meridian Mail.

Implementing networking

When you implement networking for Meridian Mail, you are providing users with the ability to send messages to and receive messages from users of other voice messaging systems.

Description of this manual

This manual explains how to implement AMIS Networking only. To implement other networking services, see the appropriate NTP.

Note: To identify the NTP you need, see "Related documents" on page xx.

What this manual includes

This manual explains how to get your Meridian Mail network to work. It includes instructions for

- switch configuration

  Note: Detailed instructions are provided for the Meridian 1 only. For the DMS family, SL-100, and non-Nortel switches, only descriptive information is provided.

- Meridian Mail configuration
- testing (to ensure the network is working correctly)
- backing up the system
- maintaining the network
- troubleshooting network errors

What this manual includes (continued)

For your reference, this manual also includes information about how the Meridian 1 processes calls and how Meridian Mail message transfers work. This information can be used when troubleshooting network errors.

Assumptions

This manual assumes that the AMIS Networking feature has been installed on your system. You can verify this by displaying the Configuration Record from the Administration Tools menu.

If AMIS Networking has not been installed, then you will need to install it. For instructions, see the *System Installation and Modification Guide* (NTP 555-7001-215).

Who should read this manual

This manual was written for system administrators who are responsible for configuring and maintaining

- the Meridian Mail system
- the switch to which Meridian Mail is connected

Note: The Meridian Mail system administrator and the switch administrator may be the same person.

What skills you need to have

Introduction

This topic describes the minimum set of skills required for implementing networking for Meridian Mail.

Meridian Mail administration

If you are responsible for administering the Meridian Mail system, you should know how to

- log in and out of Meridian Mail
- navigate through system menus and fields on screens
- use system softkeys
- access a mailbox to send and listen to messages
- perform system backups

You should also have a basic understanding of

- how to work with the channel allocation and VSDN tables

Meridian 1 administration

If you are responsible for administering the Meridian 1, you should know how to

- log in and out of the Meridian 1
- work with Meridian 1 overlays

You should also have a basic understanding of Meridian 1 features and their relationships.

DMS family, SL-100, and non-Nortel switch administration

DMS family, SL-100, and non-Nortel switches are typically configured and maintained by central office (carrier) personnel. These persons should already have a complete understanding of how these switches work, and have the necessary skills to configure and maintain them.

How networking is packaged with Meridian Mail

Networking features versus networking services

Three networking features are available for Meridian Mail. As a whole, they provide five types of networking services. The following table identifies the networking features that are available, and the services they provide.

Available networking features	Services provided
Meridian Mail Networking	• Meridian Networking • Enterprise Networking You have the option of implementing either Meridian Networking or Enterprise Networking, or both.
AMIS Networking	AMIS Networking
Network Message Service	Network Message Service
Meridian Mail Networking and AMIS Networking	Virtual Node AMIS Networking (For more information, see the explanation following this table.)

Virtual Node AMIS Networking

If you have the Meridian Mail Networking feature, you can set up remote sites that use the AMIS protocol. These sites are known as virtual nodes, and the networking service is called Virtual Node AMIS Networking.

To implement Virtual Node AMIS Networking, you must have both the Meridian Mail Networking and AMIS Networking features installed on your system.

Note: Implementation of Virtual Node AMIS Networking involves configuring certain aspects of both features. For instructions, refer to the *Virtual Node AMIS Networking Installation and Administration Guide* (NTP 555-7001-245).

Supported platforms

Introduction

AMIS Networking is supported on all Meridian Mail platforms, including systems that use the VMUIF interface.

AML versus SMDI platforms

Instructions for implementation of AMIS Networking are different according to the type of data link that is used between the switch and Meridian Mail.

The Application Module Link (AML) is used between Meridian Mail and the Meridian 1 switch.

The Simplified Message Desk Interface (SMDI) link is used between Meridian Mail and one of the following switches:

- DMS family (DMS 10, DMS 100, DMS 250, and DMS 500)
- SL-100
- non-Nortel switch (AT&T and Rolm)

Note: In this manual, the DMS family, SL-100, and non-Nortel switches are referred to as "PBX/DMS" switches.

The platforms supported for each type of data link are identified in the following table.

Systems using AML	Systems using SMDI
• Card Option • Modular Option • Modular Option EC • EC11	• Modular Option GP • MSM

Structure of this manual

Introduction

This manual is organized in the sequence of tasks required to successfully implement networking for Meridian Mail. This means that you start at the beginning of the manual and work your way through to the end until all required tasks are completed.

Contents of this manual

This manual contains the following chapters.

Chapter number and title	Description
Chapter 1, Understanding AMIS Networking	This chapter provides an overview of AMIS Networking. It describes what it is, how it works, and how it interacts with other features of Meridian Mail. This chapter also provides a high-level overview of the tasks that are performed during implementation.
Chapter 2, Configuring the Meridian 1 for systems using AML	For systems using AML, this chapter explains how to • define ACD queues for networking • configure the Meridian 1 hardware ***Note:*** If your system uses the SMDI link between the Meridian Mail system and the switch, ignore this chapter.
Chapter 3, Configuring the PBX/DMS for systems using SMDI	For systems using SMDI, this chapter provides descriptive information for • defining ACD queues for networking • configuring the switch hardware ***Note:*** If your system uses the AML link between the Meridian Mail system and the switch, ignore this chapter.
Chapter 4, Configuring Meridian Mail	For all platforms, this chapter explains how to • dedicate ports to networking • modify the VSDN table • define the networking information It also provides requirements information for • dialing translations • AMIS Class of Service

Chapter number and title	Description
Chapter 5, Testing the network	This chapter explains how to verify that the network is working properly. There are two types of tests: • those that are performed at the local system only • those that test both the local and remote systems (if possible) to ensure that messages can be sent and received
Chapter 6, Creating a backup of the system	This chapter explains • why a backup of the networking information is required • how to perform a system backup of both the Meridian Mail system and your switch • how to obtain printouts of all the networking information
Chapter 7, Maintaining the network	This chapter explains how to • view network status • disable message send, receive, or both • modify the networking information • print and review Operational Measurements reports
Chapter 8, Troubleshooting network errors	If you are experiencing problems with your network, this chapter explains how to identify the cause of those problems. Network errors may be caused by networking information errors.
Appendix A, Networking implementation forms	The Appendix contains full-size samples of all the forms used to implement networking.
Index	The index is an alternate way of locating information in this manual.

Typographic conventions

Introduction This topic explains the typographic conventions used in this manual.

System-related text The following table describes how softkeys, system text, and responses that you enter into the system are presented.

Convention for	Description	Example
Meridian Mail softkeys	Softkeys are displayed on administration menus and screens. They indicate which keyboard function keys you press to carry out specific Meridian Mail tasks. A softkey is referred to by its label (as displayed in the menu or screen) enclosed in square brackets. It appears in the same typeface as the accompanying text.	To save your changes, press [Save].
keyboard keys (or hardkeys)	A keyboard key or hardkey is referred to by its label enclosed in angle brackets. When two key names appear together, you press them both at the same time. A keyboard key or hardkey appears in the same typeface as the accompanying text.	Press <Return>. Press <Ctrl> <R>.
text you are required to enter	Text that you type appears in bold print. In a procedure, it appears in the same typeface as the accompanying text. In other text, it appears in a different typeface from the accompanying text.	Type **PRT** and press <Return>. Type **PRT** and press <Return>.

Convention for	Description	Example
names of menu options, screens, or fields	The first letter of a field name is capitalized. The field name appears in the same typeface as the accompanying text. ***Note:*** For clarity, some field names may be enclosed in quotation marks.	*Procedure text:* Move your cursor to the Networking call maximum field. *Other text:* The AMIS Networking Information screen is used to define AMIS Networking scheduling parameters.
values in a field	The first letter of a value in a field is capitalized. The field value appears in the same typeface as the accompanying text.	The default is No.
system responses	System responses appear in the same typeface as the accompanying text. They are often introduced with ***Result:***.	***Result:*** The AMIS Networking Information screen is displayed.

Cross references

The following table describes how cross references to other sources of information are presented.

For a reference to text	the text appears	Example
in the same chapter of this manual	surrounded by double quotation marks, with the name of the topic under which the required text is located.	For information about what this guide contains, see "What this manual is about and who should read it" on page x.
in another chapter of this manual	surrounded by double quotation marks, with the name of the chapter, and, if necessary, the name of the topic where the required text is located.	For instructions on defining the AMIS Networking information, see the "Modifying the AMIS Networking information" section in Chapter 7, "Maintaining the network."
in another manual	as follows: • the NTP title is shown in italics • the NTP number is shown in regular typeface within parentheses	For instructions on how to use AMIS Networking with Meridian Mail Networking, refer to the *Virtual Node AMIS Networking Installation and Administration Guide* (NTP 555-7001-245).

Related documents

Introduction

This topic lists other documents where information related to networking for Meridian Mail can be found.

Networking documents

The following table lists other documents (in addition to this one) that explain how to implement networking for Meridian Mail.

NTP name	NTP number
Networking Planning Guide	555-7001-241
Network Message Service Installation and Administration Guide	555-7001-243
Meridian Networking Installation and Administration Guide	555-7001-244
Virtual Node AMIS Networking Installation and Administration Guide	555-7001-245
Enterprise Networking Installation and Administration Guide	555-7001-246

System administration documents

The following table lists documents that explain how to configure Meridian Mail.

NTP name	NTP number
Maintenance Messages (SEERs)	555-7001-510
System Administration - The Basics (Card Option)	555-7071-300
System Administration Guide (M1)	555-7001-301
System Administration Guide for Multi-Customer Systems (M1)	555-7001-302
System Administration Guide (MSM and Modular Option GP)	557-7001-301
System Administration Guide for Multi-Customer Systems (MSM and Modular Option GP)	557-7001-302

Note: When one of these guides is referenced in this manual, it is simply referred to as "your *System Administration Guide*."

Meridian 1 documents

The *X11 input/output guide* (NTP 553-3001-400) explains how to configure the Meridian 1.

Chapter 1

Understanding AMIS Networking

In this chapter

Overview of this chapter

Introduction

This chapter provides an overview of AMIS Networking on Meridian Mail.

Description

Section A, “What is AMIS Networking?”

- defines a network
- describes AMIS Networking
- explains how it works and how it is configured
- explains how it interacts with other features of Meridian Mail
- identifies the features that are available to end users

Implementing AMIS Networking

Section B, “Implementing AMIS Networking” provides

- a description of your responsibilities (as administrator)
- a brief description of the implementation process
- a recommendation for how the network is set up (if you are the network administrator)
- a sample of an implementation checklist

Section A What is AMIS Networking?

In this section

Overview of this section

Introduction

This section

- defines a network
- describes AMIS Networking
- explains how it works and how it is configured
- explains how it interacts with other features of Meridian Mail
- identifies the features that are available to end users

Network definitions

Network definitions are provided for

- generic network
- switch network
- an AMIS network

Description: AMIS Networking

Audio Messaging Interchange Specification (AMIS) Networking uses an industry standard protocol which allows users of different vendors' voice messaging systems to exchange voice messages.

Meridian Mail users can

- send voice messages to users of other voice messaging systems (as long as the AMIS protocol is supported)
- receive messages from other AMIS sites
- reply to these messages using standard Meridian Mail functionality

The AMIS open access design allows anyone who has access to AMIS to send messages without the need for prearranged passwords, site definitions, or specialized hardware.

How it works

Descriptions are provided in this section for

- how a user addresses a message to a remote system
- when a message transfer session is initiated
- how messages are transferred to remote systems

How it is configured

Configuration of AMIS Networking consists of the following major components:

- switch configuration
- Meridian Mail configuration

AMIS Networking and other Meridian Mail features

The following are described:

- how AMIS Networking interacts with other features of Meridian Mail
- features that are available to users who wish to send messages to and receive messages from users of other voice messaging systems

  Note: The remote system could be using Meridian Mail.

What is a network?

Introduction

This topic defines the following:

- a network (generic definition)
- a switch network
- an AMIS network

Definition: network

A network is two or more computer systems connected by communication lines. Each computer system has software installed that allows it to communicate with the other systems in the network.

Definition: switch network

A switch network is a network of telephone trunks and switches which are normally used for processing telephone calls.

There are two types of switch networks:

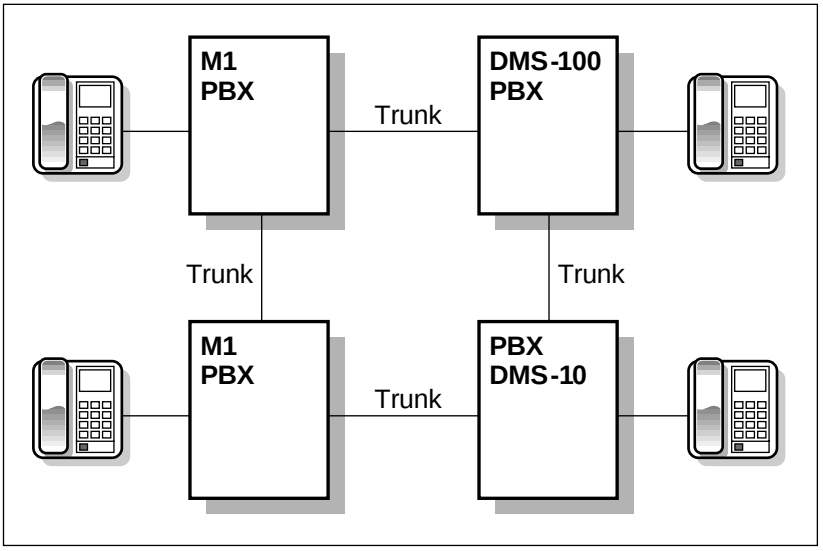
- public network

  This is a network of communication channels that are maintained by a telecommunications service provider and used by more than one customer.
- private network

  This is a network of communication channels that are maintained by the customer and restricted to use by that customer alone.

Example of a switch network

The following diagram shows an example of a switch network.



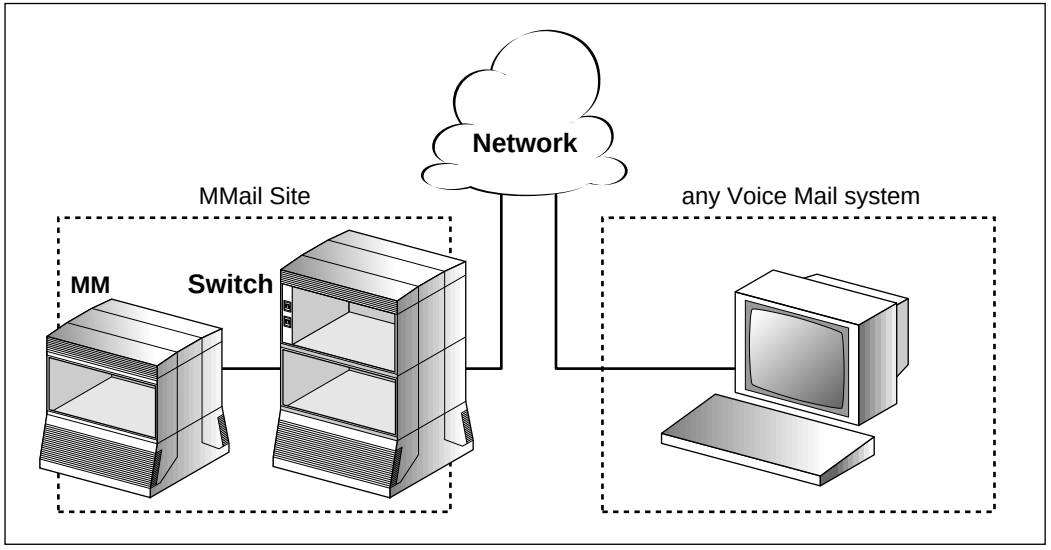
G100467

Definition: AMIS Network

An AMIS network is a network of systems that can communicate with each other using the AMIS-A protocol. Users at one system can send messages to and receive messages from other users whose mailboxes reside on other voice mail systems in the network.

Definition: AMIS Network (continued)

The following diagram shows an example of an AMIS network.



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What is AMIS Networking?

Description

Audio Messaging Interchange Specification (AMIS) Networking uses an industry standard protocol which allows users of different vendors' voice messaging systems to exchange voice messages.

Meridian Mail users can

- send voice messages to users of other voice messaging systems (as long as the AMIS protocol is supported)
- receive messages from other AMIS sites
- reply to these messages using standard Meridian Mail functionality

The AMIS open-access design allows anyone who has access to AMIS Networking to send messages without the need for pre-arranged passwords, site definitions, or specialized hardware.

Multi-customer systems

In multi-customer systems, AMIS Networking can be enabled for all of the customer groups that exist on your system.

Meridian Mail feature support

Because the AMIS protocol supports a wide variety of architectures, from the simplest systems to high-end multi-function systems, only the most basic or commonly used features are supported. Therefore, many of the more advanced and sophisticated Meridian Mail features cannot be used when communicating with other systems using AMIS Networking.

For more information about what features are supported when AMIS Networking is being used, see "AMIS Networking and other Meridian Mail features" on page 1-19.

Components and criteria used to send and receive messages

Introduction

Meridian Mail uses the following networking components and criteria when sending messages to other AMIS systems:

- the Network Message Transfer Agent (NMTA)
- the Open Access Transfer Agent (OTA)
- AMIS compose prefix
- system access number
- dialing translations
- scheduling parameters
- wake-up interval
- initiation and holding times
- batch threshold

NMTA responsibilities

The NMTA is responsible for the following tasks:

- queuing outgoing network messages
- determining when to start an outgoing session to a remote system
- receiving incoming messages for delivery to the local system recipients
- collecting the networking traffic operational measurements

The NMTA reports system event and error reports (SEERs) under SEER class 36.

OTA responsibilities

The OTA is responsible for sending AMIS Networking messages to, or receiving messages from, remote systems. There is one OTA for each active voice port used for an AMIS Networking session.

The OTA reports SEERs under SEER class 42.

AMIS compose prefix

The AMIS compose prefix is used for addressing a message to a user at an AMIS voice messaging system (open network user). The AMIS compose prefix identifies to Meridian Mail that the address about to be entered is to an open network user.

When the compose prefix is entered, Meridian Mail prompts the user to enter the address of the open network user.

System access number

The system access number identifies to the remote system where the AMIS message came from. When users at the remote system reply to an AMIS message, the system access number is used to route the reply to the system from which the original message was received:

- the country code of the local site, up to four digits in length
- the area code of the local system, up to four digits in length
- the DN of the voice service (exchange code and directory number) that will accept AMIS Networking calls

The system access number is sent with the message in IDDD format.

Example: If the country code is 1, the area/city code is 416, and the voice service DN is 5973653, the system access number that is sent with the message is 1#416#5973653#.

Dialing translations

Dialing translations consist of

- network dialing prefixes (for example, 9 for local calls, 91 for long distance calls, within the same country)
- local system access codes (country and area/city codes)
- translation tables

Dialing translations are used to generate a dialable DN from the system access number when a user replies to an AMIS message.

Dialing translations (continued)

Note: The AMIS Networking requirements for dialing translations are described later in this manual. For instructions on defining the dialing translations, refer to your *System Administration Guide* (NTP 55x-7001-30x).

Scheduling parameters

Scheduling parameters are used by Meridian Mail to determine when messages are to be sent to remote systems. They consist of the following:

- wakeup interval
- initiation time
- holding times and batch threshold

Wakeup interval

The wake-up interval defines how often the NMTA

- checks the status of networking
- initiates networking sessions to remote systems

By default, the NMTA wakes up every five minutes. When it wakes up, the NMTA

- initiates calls to remote systems
- checks for stale messages

Initiation time

Economy messages are sent when the economy class initiation time is reached. By default, economy messages are sent at 6:00 p.m.

Set this value to the time when network calls are least costly.

Hint: If you wish to use this feature, you must instruct users to tag messages as economy. Messages should only be tagged as economy if it does not matter if they do not arrive until the next day. (Messages sent today are delivered overnight.)

Note: To tag a message as economy, press <7> <0> <3>.

Holding times and batch threshold

Standard and urgent messages are sent to a site when one of the following conditions are met:

- An urgent message has been queued for at least as long as the urgent class holding time.

  Example: If the urgent class holding time is defined as 30 minutes, and an urgent message has been in the queue for 30 minutes, a message transfer session is initiated.

- A standard message has been queued for at least as long as the standard class holding time.

  Example: If the standard class holding time is defined as 1 hour and 30 minutes, then a message transfer session is initiated when at least one standard message has been in the queue for 1 hour and 30 minutes.

- The total number of urgent and standard messages is equal to or greater than the batch threshold.

  (The batch threshold overrides the standard and urgent class holding times.)

  Example: If the batch threshold is defined as 20 (the default), then a message transfer session is initiated when the queue contains 20 messages (combination of urgent and standard) for one remote site. It does not matter how long the messages have been in the queue.

  Note: The batch threshold *does not apply* to economy messages.

Regardless of which of the previous criteria are met, urgent messages are always sent first.

How AMIS Networking works

Introduction

This topic

- explains how a user addresses a message to a remote system
- explains when a message transfer session is initiated
- provides a high-level overview and diagram of how messages are transferred to remote systems

How a user addresses and sends a message to another site

When a user wants to send a message to a user at a remote system, he or she does the following.

Note: In Meridian Mail prompts, users of remote AMIS systems are referred to as "open network users."

Stage	Description
1	The user logs in to Meridian Mail.
2	The user presses 75 to compose a message.
3	The user enters the AMIS compose prefix. The AMIS compose prefix identifies that a message is about to be composed to an "open network" user.
4	The user enters the system access number (in dialable format) for the system to which the message is to be sent. ***Example:*** 914165973653
5	The user presses #. The # sign signifies the end of the system access number.
6	The user enters the mailbox number of the user at the remote system, followed by the # sign. ***Result:*** Meridian Mail responds with "Open network user <mailbox number> at <system access number>.

<table>
<tr><th>Stage</th><th>Description</th></tr>
<tr><td>7</td><td>The user completes the list of recipients as described in the following table.
<table>
<tr><th>IF</th><th>THEN the user</th></tr>
<tr><td>there are more addresses</td><td>repeats stages 4 and 5.</td></tr>
<tr><td>there are no more addresses</td><td>presses # again.</td></tr>
</table></td></tr>
<tr><td>8</td><td>The user presses 5 (to record a message).</td></tr>
<tr><td>9</td><td>The user records the message, then presses # (to stop recording).</td></tr>
<tr><td>10</td><td>The user presses 79 to send the message.</td></tr>
<tr><td>11</td><td>The user logs out of Meridian Mail and hangs up.</td></tr>
</table>

What each message contains

Each message contains the message header and the recorded message. The message header contains the following:

- the sender’s and the recipient’s mailbox numbers

  Note: Each AMIS message can only contain one recipient. As a result, a message to ten recipients at the same remote system will result in ten separate messages being sent (one for each recipient).

- type of message (regular or NDN)
- the actual voice portion of the message

When a message transfer session is initiated

When a message is queued for transfer, Meridian Mail uses the following to determine when a message transfer session is to be initiated:

- message priority (there are three of them)
  - — economy (messages are sent at a specific time each day)
  - — standard (messages are sent when the holding time for standard messages has been exceeded)

When a message transfer session is initiated (continued)

— urgent (messages are sent when the holding time for urgent messages has been exceeded)

The holding time for urgent messages is usually shorter than for standard messages.

- batch threshold that has been exceeded

  The batch threshold defines the maximum number of standard and urgent messages that can be queued for one site. The batch threshold does not apply to economy messages.

If a message has been queued for longer than the holding time for that message type, *or* the number of AMIS messages queued exceeds the batch threshold, then a session is initiated to the remote system. The session remains active until all messages are delivered, regardless of the holding time.

Urgent messages are always sent first. Economy messages are only sent at the defined time.

How the message transfer works

The following is a brief description of how messages are transferred to remote systems using the AMIS Networking protocol.

The message header is transmitted to the receiving system over the voice port by DTMF tones.

The recorded message is played over the voice port by the sending site and recorded by the receiving site.

Stage	Description
1	Meridian Mail wakes up and checks for messages that need to be sent. If there are messages, Meridian Mail checks the batch threshold.

IF	THEN
the economy class initiation time is reached	the system proceeds to stage 2.

<table>
<tr><th>Stage</th><th>Description</th></tr>
<tr><td>1</td><td>(continued)
<table>
<tr><th>IF</th><th>THEN</th></tr>
<tr><td>the urgent class holding time has been reached for an urgent message</td><td rowspan="3">the system proceeds to stage 2.</td></tr>
<tr><td>the standard class holding time has been reached for a standard message</td></tr>
<tr><td>the total number of urgent and standard messages is equal to or exceeds the batch threshold</td></tr>
<tr><td>there are no messages</td><td>no network sessions are initiated.</td></tr>
</table></td></tr>
<tr><td>2</td><td>AMIS Networking initiates the call to the remote system.</td></tr>
<tr><td>3</td><td>One of the following happens:
<table>
<tr><th>IF the call attempt</th><th>THEN</th></tr>
<tr><td>fails (due to a busy or no answer condition)</td><td>the system waits until the next wake-up interval before attempting the call again.</td></tr>
<tr><td>is successful</td><td>the call terminates at the receiving system.</td></tr>
</table></td></tr>
<tr><td>4</td><td>When the connection is established, the local system identifies itself to the remote system</td></tr>
<tr><td>5</td><td>The remote system accepts the information from the local system.</td></tr>
<tr><td>6</td><td>The local system starts the message transfer to the remote system.</td></tr>
</table>

Stage	Description
7	The local system • transmits the envelope information for each message by DTMF tones • plays each voice message over the voice port
8	The remote system • receives the envelope information for the message by DTMF tones • records each voice message over the voice port
9	Once all messages have been sent (maximum of nine messages per transfer session), the local system terminates the call.

AMIS Networking and other Meridian Mail features

Introduction

This topic describes how AMIS Networking interacts with other features of Meridian Mail. It also lists the features that are available to users who wish to send messages to and receive messages from users of other Meridian Mail systems.

Interactions with other Meridian Mail features

The following table describes how AMIS Networking interacts with other features of Meridian Mail.

Meridian Mail feature	Interaction
Other networking services	If more than one networking service is implemented on the same Meridian Mail system, then the combination of both AMIS Networking and Meridian Mail Networking creates Virtual Node AMIS Networking. Virtual Node AMIS Networking provides the ability to define sites in the Meridian Mail Networking database that use the AMIS-A protocol.
Outcalling	AMIS Networking will compete with Outcalling for the system voice ports. If this is an issue, you may want to consider dedicating ports to networking.
Multi-Customer	On a multi-customer system, AMIS Networking can be used by all customers.
VMUIF	AMIS Networking is supported by Meridian Mail customers using the VMUIF interface.

Features available to end users

The following table lists the features that are available to users who wish to send messages to and receive messages from users of other AMIS systems.

End-user feature	Interaction
Reply To Reply All	The reply feature can be used with all networked messages. It can also be used with call answering messages left by network users provided the calling line identification (CLID) is present on the message. ***Note:*** Since an AMIS message only contains one address, the Reply All feature is functionally equivalent to the Reply To feature.
Personal Distribution Lists	AMIS addresses can be included in a user's personal distribution list. AMIS addresses are subject to the same validation process as other entries in the list. They can become invalid when Class of Service capabilities (such as dialing permissions or the user's ability to use AMIS) are revoked.
Acknowledgment tags	The acknowledgment tag causes the sender to be notified when the message is delivered to the remote system. It does not actually confirm that the user listened to the message.
Message tags	Messages can be tagged as urgent, standard, or economy. Urgent network messages are sent before any standard messages.
Received time announced Sent time announced	The time at which the message was deposited into the mailbox is announced to the recipient. The time at which the message was sent is not provided with the message.
99-minute messages	For AMIS Networking, the message body is limited to eight minutes in length. If a longer message is recorded, the message is divided into and delivered in increments of eight minutes. For more information, see the *Networking Planning Guide* (NTP 555-7001-241).

Features not available to end users

The following Meridian Mail features are not supported by AMIS Networking:

- Private message tags

  Meridian Mail cannot prevent “private” tagged messages that are sent to an AMIS system from being forwarded to another person. Consequently, messages that are tagged as private are not sent to any AMIS address; instead, they are returned to the sender with a nondelivery notification.
- Call Sender
- Name Addressing and Name Dialing
- System Distribution Lists
- Personal Verifications
- Multiple recipients

How AMIS Networking is configured

Introduction

Configuration of AMIS Networking consists of the following major components:

- switch configuration
- Meridian Mail configuration

Switch configuration

AMIS Networking requires configuration of the following on the switch:

- ACD service queue for the networking service DN that is night call forwarded to the primary Meridian Mail DN
- ACD queues and agents if ports will be dedicated to networking

Meridian Mail configuration

Configuration of Meridian Mail for networking consists of the following:

- defining the networking DN in the Voice Services DN table
- modifying the Channel Allocation Table (if ports will be dedicated to networking)
- defining dialing translations
- defining the AMIS compose prefix and system access number
- modifying the networking scheduling parameters

  (Nortel recommends that you work with the default settings until you are comfortable with how your network is operating.)

Multi-customer systems

In multi-customer systems, most AMIS parameters are configured at the system administration level. The only parameters configured at the customer level are

- the AMIS compose prefix
- enable/disable AMIS receive and send
- the local number in the system access number

Multi-customer systems (continued)

These parameters are configured in the View/Modify AMIS Networking Information screen at the customer administration level.

Reference

For a high-level overview of the implementation process and Nortel's recommendation for an easier implementation, see Section B, "Implementing AMIS Networking," on page 1-25.

Section B Implementing AMIS Networking

In this section

Overview of this section

Introduction

This section provides the following:

- a description of your responsibilities (as administrator)
- a brief description of the implementation process
- a sample of an implementation checklist

Administrator's responsibilities

As the administrator, you are responsible for the configuration and specification of the operational characteristics of the AMIS Networking service including

- fulfillment of software requirements
- administration of networking information from your system's point of view

Implementation overview

When implementing AMIS Networking, you will proceed through the following phases:

- configuring the switch
- configuring Meridian Mail
- testing the network
- creating a backup of the system

In this manual, the completion of each phase is explained in a separate chapter. The chapters are sequenced so that you start at the beginning of this manual, and work your way through until all implementation tasks are completed.

Once the tasks are completed, you simply maintain the network on a daily basis.

Implementation checklist

To track your progress during implementation, you can use the NWP-035, "AMIS Networking Implementation Checklist." This checklist can be obtained from Appendix A, "Networking implementation forms", at the back of this manual.

Your responsibilities as the administrator

Introduction

As the administrator, you are responsible for the configuration and specification of the operational characteristics of the AMIS Networking service. This topic explains what your duties as administrator include.

Software aspects

You need to make sure that all software requirements are fulfilled.

For more information, see the following documents:

- the *Site and Installation Planning Guide* for your system (NTP 555-70x1-200, where x represents your Meridian Mail platform)
- *Networking Planning Guide* (NTP 555-7001-241)

Implementation overview

Introduction

This topic provides a summary of the steps required to implement AMIS Networking.

The implementation process consists of the following five phases.

Stage	Description
1	Configure the switch.
2	Configure Meridian Mail.
3	Test the network.
4	Create a backup of the network.
5	Maintain the network, and troubleshoot network errors as required.

Configuring the switch for networking

The next step is to configure the switch for networking. For detailed instructions, see one of the chapters listed in the following table.

IF your switch is	THEN
a Meridian 1	see Chapter 2, “Configuring the Meridian 1 for systems using AML.”
one of the following: • DMS family • SL-100 • non-Nortel switch (AT&T or ROLM)	see Chapter 3, “Configuring the PBX/DMS for systems using SMDI.”

Configuring the switch for networking (continued)

Do the following.

Step	Action
1	Define the ACD/UCD queues.
2	Dedicate ACD/UCD agents to networking.
3	Verify TGAR and NCOS on ACD/UCD agents.
4	Define the trunks.
5	Verify TGAR (access to trunks).

Configuring Meridian Mail

Once you have configured your switch, you can configure Meridian Mail for networking. For detailed instructions, see Chapter 4, "Configuring Meridian Mail".

Step	Action
1	Dedicate ports to AMIS Networking (if required).
2	Define the AMIS Networking DN in the Voice Services DN table. You can do this by doing one of the following: • Define a VSDN for AMIS Networking. • Use a voice menu DN or a thru-dial service DN for AMIS Networking.
3	Define the AMIS Networking dialing prefixes and translation tables.
4	Define the AMIS Networking system access number and compose prefix.

Testing the network

Once both the switch and Meridian Mail have been configured for AMIS Networking, you need to perform some tests to ensure that the network will function properly. For detailed instructions, see Chapter 5, “Testing the network”.

Step	Action
1	Test call routing access. ***Result:*** This test ensures that trunks cannot be accessed directly.
2	Test ACD/UCD agents. ***Result:*** This test ensures that Meridian Mail ports can be accessed.
3	Compose and send a message from the local system to the local system. ***Result:*** This is known as a loop-back test.
4	Send a message from the local system to a remote system (if possible). ***Result:*** This is known as an “end-to-end” test.

Creating a backup of the system

The final step to implementing AMIS Networking is to create a backup of the system. For detailed instructions, see Chapter 6, “Creating a backup of the system”.

Step	Action
1	Back up Meridian Mail.
2	Print AMIS Networking information.
3	Back up the switch.

Maintaining the network

After you have created a backup of the network information, you simply need to maintain the network. Maintaining the network may include the following tasks:

- Modify the networking information.
- Verify network status.
- Print and review Operational Measurement reports.
- Troubleshoot network errors as required.

Implementation checklist

Introduction

To help you track your progress throughout the implementation of AMIS Networking, you can use a checklist.

This checklist is form NWP-035, “AMIS Networking Implementation Checklist.” To obtain a working copy of this checklist, see Appendix A, “Networking implementation forms”, at the back of this manual. The checklist may be photocopied.

A sample is shown on the next page.

Sample of checklist

The following is an example of page 1 of the NWP-035, "AMIS Networking Implementation Checklist."

AMIS Networking Implementation Checklist **NWP-035**
Page 1 of 1

Step	Description	For instructions, see the chapter	Done
1	Define the ACD/UCD queues.	Configuring the Meridian 1 for systems using AML Configuring the PBX/DMS for systems using SMDI	☐
2	Dedicate ACD/UCD agents to networking (if required).		☐
3	Verify TGAR and NCOS on ACD/UCD agents.		☐
4	Define trunks (if additional trunks are required).		☐
5	Verify TGAR (access to trunks).		☐
6	Dedicate ports to networking if required.	Configuring Meridian Mail	☐
7	Define the networking DN in the VSDN table.		☐
8	Define the AMIS Networking dialing prefixes and translation tables.		☐
9	Define the AMIS Networking system access number and compose prefix.		☐
10	Test call routing access.	Testing the network	☐
11	Test ACD/UCD agents.		☐
12	Compose and send a message from the local system tothe local system.		☐
13	Send a message from the local site to a remote system (if possible).		☐
14	Back up Meridian Mail.	Creating a backup of the system	☐
15	Print Meridian Mail network information.		☐
16	Back up the switch.		☐

Chapter 2

Configuring the Meridian 1 for systems using AML

In this chapter

Overview of this chapter

Introduction

This chapter explains how to perform the following tasks for systems using the Application Module Link (AML):

- Define ACD queues.

  AMIS Networking requires an ACD queue without agents (service queue). Agents may need to be defined if Meridian Mail ports are to be dedicated to networking.
- Configure the Meridian 1 hardware.

  Meridian 1 hardware that needs to be configured for networking includes the following:
  - trunks
  - trunk routes

Definition: AML

The Application Module Link (AML) is the link between the Meridian Mail system and the Meridian 1. The AML is the path over which call data is sent to Meridian Mail.

Call data includes the following:

- calling party identification
- called party identification

Systems that use AML

Meridian Mail systems that use AML include the following platforms:

- Card Option
- EC 11
- Modular Option
- Modular Option EC

Configuring for SMDI

For instructions on configuring the switch for systems using the Simplified Message Desk Interface (SMDI) link, refer to Chapter 3, “Configuring the PBX/DMS for systems using SMDI.”

Section A Setting up ACD queues

In this section

Overview of this section

Introduction

This topic explains the following:

- how to define an ACD service queue for AMIS Networking

  The ACD DN is later defined in the Voice Service Directory Number (VSDN) table in Meridian Mail.

  Note: If your Meridian Mail system is a multi-customer system, a separate ACD DN is required for each customer who wants to use AMIS Networking.
- when you might need to add ACD queues and agents

  You may need to add ACD queues and agents if you want to dedicate ports to AMIS Networking.
- how to verify that trunk group access restriction (TGAR) and network class of service (NCOS) on ACD agents are compatible with outgoing trunks used for AMIS Networking

Skills required

Defining ACD DNs on the Meridian 1 requires some basic knowledge about Meridian 1 programming. If you are a Meridian Mail administrator who is implementing AMIS Networking and have received basic training for Meridian 1 programming, then you may proceed. Otherwise, you may want to consult someone who has more Meridian 1 experience.

Where to get more information

For more information, see the *X11 input/output guide* (NTP 553-3001-400).

Defining the ACD DN

Introduction

If ports are not being dedicated to AMIS Networking, then an ACD service queue (that is, an ACD queue without agents) which is night call forwarded to the primary voice messaging queue is required.

If your Meridian Mail system is a multi-customer system, a separate ACD service queue is required for each customer who wants to use AMIS Networking.

ACD service queues are defined in overlay 23.

Note: In Meridian Mail, they are defined in the Voice Services Directory Number (VSDN) table. For instructions on defining the VSDN for AMIS Networking, see Chapter 4, "Configuring Meridian Mail."

DNS can be shared

AMIS Networking can share its ACD DN with Enterprise Networking or with one of the following voice services:

- a voice menu
- a thru-dial service
- a time-of-day controller

When a call to the voice service DN is received by Meridian Mail, either AMIS Networking or the voice service responds, depending on whether a C-tone is received from the calling party.

Meridian Mail consideration for shared DNs

If you are planning to share the AMIS Networking VSDN with a voice service, bear in mind that the peg counts on the Meridian Mail Services Summary report will be affected.

When an AMIS Networking call is received on a voice service DN, the first few seconds of the call are logged as a voice service call.

When AMIS Networking takes over, the call is then logged as an AMIS Networking call.

Meridian Mail consideration for shared DNs (continued)

Note: The number of times the call is logged on reports depends on the number of nested time-of-day controllers, and the number of services accessed by the call.

Procedure

To define the ACD DN in the Meridian 1, do the following.

Starting Point: You are already logged in, and are at the > prompt.

Step	Action
1	Type **LD 23** and press <Return>. ***Result:*** The REQ prompt is displayed.
2	Type **NEW** and press <Return>. ***Result:*** The CUST prompt is displayed.
3	Type the customer number and press <Return>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. ***Result:*** The ACDN prompt is displayed.
4	Type the directory number used to access the networking service and press <Return>. ***Note:*** This same number will be entered in the VSDN table in Meridian Mail. ***Result:*** The MWC prompt is displayed.
5	Type **NO** and press <Return>. ***Result:*** The AST prompt is displayed.
6	Press <Return> at this and the prompts that follow, until the MAXP prompt is displayed. ***Result:*** The MAXP prompt is displayed.
7	Type **1** and press <Return>. ***Result:*** The SDNB prompt is displayed.
8	Press <Return> at this and the prompts that follow, until the NCFW prompt is displayed. ***Result:*** The NCFW prompt is displayed.
9	Type the directory number used to access Meridian Mail. ***Note:*** This is the primary voice messaging queue with agents. ***Result:*** The FORC prompt is displayed.

Step	Action
10	Press <Return> at this and the prompts that follow, until the REQ prompt is displayed. When the REQ prompt is displayed, it means that the ACD queue was created.
11	Type ******** to exit the overlay. ***Result:*** OVL000 is displayed.

Dedicating ACD agents to AMIS Networking

Networking requirement

ACD agents that are defined on the Meridian 1 correspond to ports in Meridian Mail. ACD agents (and the corresponding ports) are usually defined during system installation.

If you want to dedicate ports to AMIS Networking, you will need to add an ACD queue with agents.

Reference

ACD queues are defined in overlay 23. ACD agents are defined in overlay 11.

For a description of the requirements and instructions for adding ACD queues and agents, see your *System Administration Guide* (NTP 555-7001-30x).

Verifying TGAR and NCOS on ACD agents

Introduction

Network class of service (NCOS) groups are used by ACD agents (of either the primary voice messaging ACD queue, or agents that are dedicated to AMIS Networking) to control access to outgoing trunks. The NCOS on trunks must be supported by the trunk group access restriction (TGAR) and NCOS codes of the ACD agents where outbound calls originate.

This topic explains how to identify the TGAR and NCOS on ACD agents. Later, this information is compared with the TGAR and NCOS on trunks.

Skills required

Understanding TGAR and NCOS requires the skills of an experienced Meridian 1 technician. If you are a Meridian Mail administrator who is implementing AMIS Networking, then you may want to consult a Meridian 1 technician for advice.

Printing a listing of ACD agents

ACD agents are defined on overlay 11 and are printed from overlay 20. To verify the TGAR and NCOS codes, do the following.

Starting Point: You are already logged in, and are at the > prompt.

Step	Action
1	Type **LD 20** and press <Return>. ***Result:*** The REQ prompt is displayed.
2	Type **PRT** and press <Return>. ***Result:*** The TYPE prompt is displayed.
3	Type SL1 and press <Return>. ***Result:*** The TN prompt is displayed.

Step	Action
4	Leave this prompt blank and press <Return>. ***Result:*** The CUST prompt is displayed.
5	Leave this prompt blank and press <Return>. ***Result:*** The information for this data block is printed.
6	Type ******** to exit the overlay. ***Result:*** OVL000 is displayed.

Comparing agent and trunk settings

In order to compare agent and trunk settings, you need to print a listing of trunks. For instructions, see “Verifying TGAR (access to trunks)” on page 2-16.

Section B Configuring the hardware

In this section

Overview of this section

Introduction

This section explains the following:

- AMIS Networking requirements for trunks
- how to verify that TGAR and NCOS settings on trunks are compatible with TGAR and NCOS settings on ACD agents

Skills required

This section requires an experienced Meridian 1 technician who has

- skills in trunk definitions
- an understanding of TGAR and NCOS

If you are a Meridian Mail administrator who is implementing AMIS Networking, then consult a Meridian 1 technician for advice.

Where to get more information

For more information, see the *X11 input/output guide* (NTP 553-3001-400).

Defining the trunks

Introduction

Trunks used by AMIS Networking may be attached to a public (central office) or private (tie) network. Trunks are required for processing any type of call (not just AMIS Networking calls).

Trunk definition includes

- defining the actual trunks (done in overlay 14)
- defining the routes used by trunks (done in overlay 16)

Skills required

Trunk definitions on the Meridian 1 require the skills of an experienced Meridian 1 technician. If you are a Meridian Mail administrator who is implementing AMIS Networking, then you may want to consult a Meridian 1 technician for advice.

What this topic covers

This topic discusses only the networking requirements for trunks. For instructions on programming the Meridian 1, see the *X11 input/output guide* (NTP 553-3001-400).

Before you begin

Before trunks can be defined for AMIS Networking, you must define the following:

- ACD DN in the Meridian 1

  For instructions, see “Defining the ACD DN” on page 2-5.
- ACD DN in the Voice Services Directory Number table in Meridian Mail

  For instructions, see “Assigning a voice service DN to AMIS Networking” in Chapter 4.

When to add trunks

Add additional trunks if the anticipated AMIS Networking traffic will increase call blocking to an unacceptable level.

Defining trunks for incoming access

Route incoming calls from remote systems to the ACD DN used by AMIS Networking without attendant intervention. You can also use Direct Inward System Access (DISA) to access the AMIS Networking ACD DN.

If central office trunks are used, they can be auto-terminated on the ACD DN used by AMIS Networking, or they can be terminated on a DISA DN.

Defining trunks for outgoing access

Number of trunks

The number of outgoing trunks required by AMIS Networking is based on the anticipated outbound message traffic. If these trunks are also used for inbound calls, expected inbound traffic must also be considered.

TGAR and NCOS

Outgoing trunks must have Trunk Group Access Restriction (TGAR) and network class of service (NCOS) codes that support the TGAR and NCOS codes of the ACD agents where outbound calls originate.

Public network

AMIS calls are intended to go on the public network. However, if AMIS Networking calls are only used within an ESN network, and the Meridian 1 is a main ESN site, then you can set the NCOS of the ACD agent so that the outgoing trunk call will not be routed off ESN to the public network.

Select an NCOS that will not use a call path with voice compression. This will prevent the call from going over any trunk route that might have voice compression. Voice compression will cause Meridian Mail to fail because AMIS Networking needs at least a 56 Kbyte clear channel to work properly.

If the Meridian 1 is a satellite ESN site (that is, it has access to ESN, but does not run ESN software), define a new trunk route to the main ESN site. If AMIS Networking calls are used only within the ESN network, at the main ESN site, set NCOS so that calls will not be routed off the ESN network to the public network.

Specific settings

The following table identifies the settings required for AMIS Networking.

Parameter	Description	Setting	Where
SUPN	supervision enable	YES	for tie trunks in overlay 14 (trunk data block) ***Note:*** For central office trunks, SUPN is automatically enabled.
NEDC	near-end answer and disconnect supervision	ETH	overlay 16 (route data block)
FEDC	far-end answer and disconnect supervision		

Verifying TGAR (access to trunks)

Introduction

Network class of service (NCOS) groups are used by ACD agents to control access to outgoing trunks. The NCOS on trunks must be supported by the trunk group access restriction (TGAR) and NCOS codes of the ACD agents where outbound calls originate.

This topic explains how to identify the TGAR on trunks. This information is then compared with the TGAR and NCOS on ACD agents.

Skills required

Understanding TGAR and NCOS requires the skills of an experienced Meridian 1 technician. If you are a Meridian Mail administrator who is implementing AMIS Networking, then you may want to consult a Meridian 1 technician for advice.

Before you begin

Before you can verify that TGAR and NCOS on ACD agents and trunks will be compatible, you need to

- print a listing of ACD agents

  For instructions, see "Verifying TGAR and NCOS on ACD agents" on page 2-9.
- identify which trunks are being used by the ACD agents

Printing trunk information

At the Meridian 1 terminal, do the following.

Starting Point: You are already logged in, and are at the > prompt.

Step	Action
1	Type **LD 20** and press <Return>. ***Result:*** The REQ prompt is displayed.
2	Type **PRT** and press <Return>. ***Result:*** The TYPE prompt is displayed.
3	Specify the trunk type and press <Return>. ***Result:*** The TN prompt is displayed.

Step	Action
4	Press <Return>. ***Result:*** The CDEN prompt is displayed.
5	Press <Return>. ***Result:*** The CUST prompt is displayed.
6	Type the customer number and press <Return>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. ***Result:*** The DATE prompt is displayed.
7	Press <Return>. ***Result:*** The PAGE prompt is displayed.
8	Type one of the following and press <Return>: • **YES** if you want to print information for each trunk on a separate page ***Result:*** You are prompted to adjust the paper, then press <Return>. Once you press <Return>, the information for this data block is printed. • **NO** if you do not want to print each trunk on a separate page (This method will use less paper.) ***Result:*** The information for this data block is printed.
9	Type ******** to exit the overlay. ***Result:*** OVL000 is displayed.

Comparing agent and trunk settings

For each ACD agent and trunk that will be used in combination to process AMIS Networking calls, do the following:

- Compare the NCOS and TGAR settings.
- Ensure that they are compatible and will not block calls.
- Ensure that calls attempted by system hackers and abusers will be blocked.

Chapter 3

Configuring the PBX/DMS for systems using SMDI

In this chapter

Overview of this chapter

Introduction

This chapter provides information about the following for systems using the Simplified Message Desk Interface (SMDI):

- how to define UCD queues

  AMIS Networking requires a UCD queue without agents (service queue). Agents may need to be defined if Meridian Mail ports will be dedicated to AMIS Networking.
- descriptive information for configuring the DMS hardware

Definition: SMDI

The Simplified Message Desk Interface (SMDI) is the link between the Meridian Mail system and the PBX/DMS. The SMDI link is the path over which call data is sent to Meridian Mail.

Call data includes the following:

- calling party identification
- called party identification

Systems that use SMDI

SMDI is used between Meridian Mail and one of the following switches:

- DMS family (DMS 10, DMS 100, DMS 250, and DMS 500)
- SL-100
- non-Nortel switch (AT&T and Rolm)

Note: In this manual, the DMS family, SL-100, and non-Nortel switches are referred to as PBX/DMS switches.

Meridian Mail systems that use SMDI include the following platforms (when connected to a DMS):

- Modular Option GP
- Message Services Module (MSM)

Configuring for AML

For instructions on configuring the switch for systems using the Application Module Link (AML), refer to Chapter 2, “Configuring the Meridian 1 for systems using AML.”

Setting up UCD DNs or hunt groups

Introduction

AMIS Networking requires a uniform call delivery (UCD) directory number that is call forwarded to the primary voice messaging DN.

If your Meridian Mail system is a multi-customer system, a separate UCD DN is required for each customer who wants to use AMIS Networking.

Note: In Meridian Mail, the UCD DN is defined in the Voice Services Directory Number (VSDN) table. For instructions on defining the VSDN for AMIS Networking, see Chapter 4, "Configuring Meridian Mail."

DNS can be shared

AMIS Networking can share its UCD DN with Enterprise Networking or with one of the following voice services:

- a voice menu
- a thru-dial service
- a time-of-day controller

When a call to the voice service DN is received by Meridian Mail, either AMIS Networking or the voice service responds, depending on whether a C-tone is received from the calling party.

Meridian Mail consideration for shared DNs

If you are planning to share the AMIS Networking VSDN with a voice service, bear in mind that the peg counts on the Meridian Mail Services Summary report will be affected.

When an AMIS Networking call is received on a voice service DN, the first few seconds of the call are logged as a voice service call.

When AMIS Networking takes over, the call is then logged as an AMIS Networking call.

Note: The number of times the call is logged on reports depends on the number of nested time-of-day controllers, and the number of services accessed by the call.

Description of DMS UCD DN prompts

To define the UCD DN in the DMS using SERVORD, refer to the following table.

Note: The following information applies to release BCS36.

Prompt	Response	Description
SO	NEW	Adds a new UCD DN
DN	xxxxxxx	UCD directory number This DN must be entered in the VSDN table in Meridian Mail.
LCC	IBN	Defines the line class code as IBN (integrated business network)
GROUP	aaaaaaaa	Customer group name as defined in CUSTENG
SUBGRP	x	Subgroup of a customer group to which a station or DN belongs (0–7)
NCOS	x	Defines the network class of service capabilities and restrictions (0–255)
SNPA	xxx	Local numbering plan area code ***Example:*** 416/613
LATANAME	NILLATA	LATA name definition in table LATANAME ***Example:*** NILLATA
LEN	x x xx xx	Line equipment number of line ***Example:*** HOST 04 1 07 01
OPTION	COD	Cut off on disconnect
OPTION	DGT	Digitone service
OPTION	CFDVT 12	Call Forward—do not answer variable timer
OPTION	CFU N	Call Forward—universal
OPTION	CFD N XXXX A	Call Forward—do not answer the Meridian Mail voice service DN ***Example:*** CFD N 2326050 A
OPTION	CFB N XXXX A	Call Forward—busy to Meridian Mail voice service DN ***Example:*** CFB N 2326050 A

Dedicating UCD agents to AMIS Networking

AMIS Networking requirement

UCD agents that are defined on the DMS correspond to ports in Meridian Mail. UCD agents (and the corresponding ports) are usually defined during system installation.

However, in the future, if you need to add ports which will be dedicated to AMIS Networking, you may need to add UCD queues and agents as well.

For a description of the requirements and instructions for adding UCD queues and agents, see your *System Administration Guide* (NTP 55x-7001-30x).

Defining the trunks

Introduction

Trunks used by AMIS Networking may be attached to a public (central office) or to a private (tie) network. Trunks are required for processing any type of call (not just networking calls).

Skills required

Trunk definitions on the DMS require the skills of an experienced switch technician. If you are a Meridian Mail administrator who is implementing AMIS Networking, then you may want to consult a switch technician for advice.

What this topic covers

This topic discusses only the AMIS Networking requirements for trunks. For instructions on programming the PBX/DMS, see the documentation for your particular switch model.

Before you begin

Before trunks can be defined for AMIS Networking, you must define the following:

- UCD DN in the DMS

  For instructions, see "Setting up UCD DNs or hunt groups" on page 3-4.
- UCD DN in the Voice Services Directory Number table in Meridian Mail

  For instructions, see "Assigning a voice service DN to AMIS Networking" in Chapter 4, "Configuring Meridian Mail."

When to add trunks

Add additional trunks if the anticipated AMIS Networking traffic will increase call blocking to an unacceptable level.

Answer and disconnect supervision

Enable answer and disconnect supervision on all trunks.

Note: Central office trunks automatically get supervision enabled.

Defining trunks for incoming access

Route incoming calls from remote sites to the AMIS Networking UCD DN without attendant intervention. You can also use Direct Inward System Access (DISA) to access the AMIS Networking UCD DN.

If central office trunks are used, they can be auto-terminated on the AMIS Networking UCD DN, or they can be terminated on a DISA DN.

Defining trunks for outgoing access

Number of trunks

The number of outgoing trunks required by AMIS Networking is based on the anticipated outbound message traffic. If these trunks are also used for inbound calls, expected inbound traffic must also be considered.

TGAR and NCOS

Outgoing trunks must have Trunk Group Access Restriction (TGAR) and network class of service (NCOS) codes that support the TGAR and NCOS codes of the UCD agents where outbound calls originate.

Public network

AMIS calls are intended to go on the public network. However, if AMIS Networking calls are only used within an ESN network, and the DMS is a main ESN site, then you can set the NCOS of the UCD agent so that the outgoing trunk call will not be routed off ESN to the public network.

Select an NCOS that will not use a call path with voice compression. This will prevent the call from going over any trunk route that might have voice compression. Voice compression will cause Meridian Mail to fail because AMIS Networking needs at least a 56 kbyte clear channel to work properly.

If the DMS is a satellite ESN site (that is, it has access to ESN, but does not run ESN software), define a new trunk route to the main ESN site. If AMIS calls are used only within the ESN network, at the main ESN site, set NCOS so that calls will not be routed off the ESN network to the public network.

Chapter 4

Configuring Meridian Mail

In this chapter

Overview of this chapter

Introduction

This chapter explains how to set up AMIS Networking on Meridian Mail.

It explains how to

- dedicate ports
- assign a voice service DN to AMIS Networking
- define the dialing translations
- define the AMIS compose prefix and system access number

This chapter also

- explains how to access the Customer Administration menu
- describes Class of Service requirements for AMIS Networking

What this chapter contains

This chapter provides detailed explanations and instructions for network maintenance tasks as described in the following table.

Section	Description
Section A: Setting up AMIS Networking	This section • explains how to dedicate ports to AMIS Networking • describes how to ensure that AMIS Networking is available to users through Class of Service
Section B: Assigning a voice service DN to AMIS Networking	This section describes what you must consider when defining DNs for AMIS Networking in the VSDN table. AMIS Networking may use • a special DN • a voice menu DN • a thru-dial DN • Enterprise Networking DN

Section	Description
Section C: Defining the dialing translations	This section describes what is required in order to generate dialable DNs for AMIS Networking. Dialable DNs are generated by using • network dialing prefixes • codes to access the local system • translation tables (if required)
Section D: Defining the networking information	This section explains how to define the following for the AMIS network: • AMIS compose prefix • system access number All other networking information parameters are explained in Chapter 7, “Maintaining the network.”

Multi-customer system users

Introduction

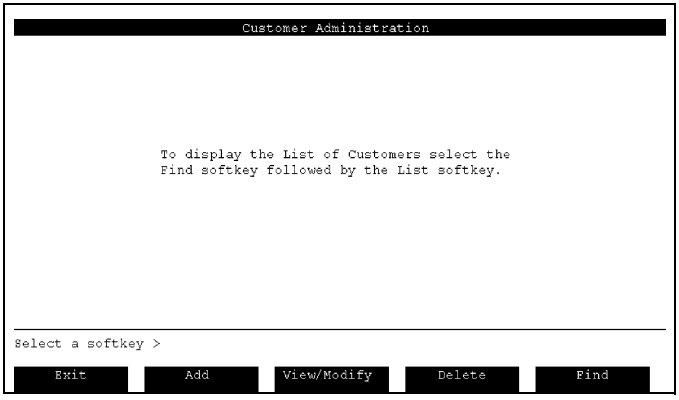
If you are using a multi-customer system and AMIS Networking is used by one or more customers, you will need to access the Customer Administration menu to administer AMIS Networking for a particular customer.

Procedure

To access the Customer Administration menu, follow these steps.

Starting Point: The Main Menu

Step	Action
1	Select Customer Administration. ***Result:*** The following screen appears.



2 Do you know the customer number?

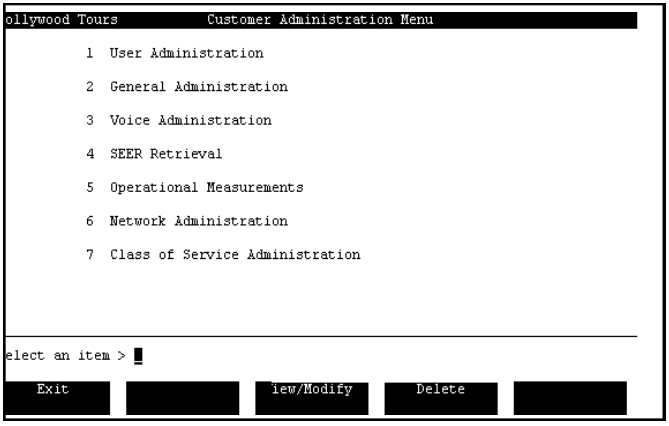
If yes, go to step 3.

If no, do the following.

a. Press [Find].
b. Press [List].
c. Move the cursor to the customer you want and press <Space bar>] to select it.
d. Press [View/Modify].

Result: The Customer Administration menu appears. See the screen example shown in step 4.

Step	Action
3	Press [View/Modify]. ***Result:*** The system asks you for the customer number.
4	Type the customer number and press <Return>. ***Result:*** The Customer Administration menu appears.



Section A Setting up AMIS Networking

In this section

Overview of this section

Introduction

This section explains

- why and when ports should be dedicated to AMIS Networking
- how to dedicate ports to AMIS Networking
- how to make AMIS Networking available to users

Dedicating ports

You may want to dedicate some ports to networking for the following reasons:

- You expect networking to generate a high level of traffic.
- You need to ensure that some ports are always reserved for networking.

Dedicating ports to AMIS Networking is an optional procedure. It is *not* recommended unless AMIS Networking frequently prints SEERs indicating that channels are not available or messages become stale.

AMIS Class of Service requirements

If you want your users to be able to send and receive AMIS network messages, then you must define one or more Classes of Service that will allow users to

- compose and send AMIS open network messages
- receive AMIS open network messages

You must also identify a restriction/permission list on the Class of Service.

Dedicating ports to AMIS Networking

Introduction

This section explains how to dedicate ports to AMIS Networking in the Channel Allocation Table (CAT).

You may want to dedicate some ports to networking for the following reasons:

- You expect networking to generate a high level of traffic.
- You need to ensure that some ports are always reserved for networking.

Note: Dedicating ports to AMIS Networking is an optional procedure. It is *not* recommended unless AMIS Networking frequently prints SEERs indicating that channels are not available or messages become stale.

How dedicating ports affects the system

Ports are dedicated only for outgoing calls. Incoming calls use the first available port.

Dedicating ports reduces the overall efficiency of the system because dedicating ports reduces

- the number of channels that can be used by other Meridian Mail services

  A port that is dedicated to AMIS Networking cannot be used for any other outgoing call. If the port is not required by AMIS Networking for long periods of time, the port will remain inactive which reduces the efficiency of your system.
- the traffic capacity per port of the remaining channels

How dedicating ports affects the system (continued)

The most efficient use of system channel resources is to allow all ports to be shared by all services. If there is a concern that networking may access too many ports during the system busy hour, this may be managed by limiting the number of active networking ports with the Networking call maximum field on the View/Modify AMIS Networking Information screen.

Impact of dedicating ports to networking

When a port is dedicated to AMIS Networking, this feature is restricted to those ports (that is, outgoing AMIS Networking traffic cannot use any other port, including those configured for ALL services). Therefore, most of your ports should be shared by all services.

> **ATTENTION**
>
> Nortel recommends that you do not dedicate ports until you are comfortable with how your system is running.

Port type required

AMIS Networking requires full service ports.

For more information

For more information on dedicating ports, see the "Channel Allocation Table" section in the "System Status and Maintenance" chapter of your *System Administration Guide* (NTP 55x-70x1-30x).

Softkey descriptions

The following table describes the softkeys that are displayed on the Channel Allocation Table (CAT).

Softkey	Description
[Save]	Press this key to save your changes.
[Cancel]	Press this key to cancel your changes.
[Display Choice of Services]	Press this key to view the features installed on your system.

Softkey	Description
[Hide Choice of Services]	Press this key to hide the list of features installed on your system.

Before you begin

> **ATTENTION**
>
> You should dedicate ports only when the system is idle or during low traffic periods.

Before you dedicate any ports, you must disable them first.

Note: Before you disable a port, verify that the Type field is set to Voice, and the Capability field is set to Full.

Enabling and disabling ports

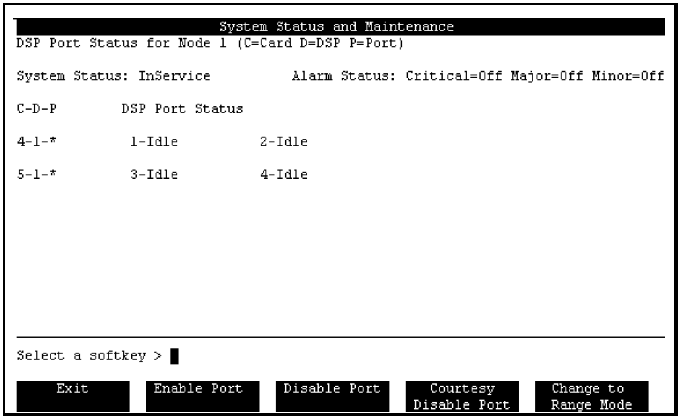
To enable or disable a port, follow these steps.

Starting Point: The Main Menu

Step	Action
1	Select System Status and Maintenance. ***Result:*** The System Status and Maintenance menu appears.
2	Select DSP Port Status. ***Result:*** The System Status and Maintenance screen appears.

Step Action

2 (continued)



3 Do one of the following:

IF you have a	THEN
single-node system	go to step 4.
multi-node system	the system asks you to enter a node number.

4 Enter the node number and press <Return>.

5 Do one of the following:

IF you want to	THEN press the
enable a port	[Enable] softkey.
disable a port	[Disable] softkey.

Result: The system prompts you for the in-service port number.

6 Enter the number(s) of the port(s) you want to enable or disable and press <Return>.

Result: The port is now enabled or disabled.

Note: Enabling is complete when the port status changes to Idle. Disabling is complete when the port status changes to OutOfService.

For more information, see your *System Administration Guide* (NTP 55x-70x1-30x).

Step	Action
7	Press [Exit]. ***Result:*** The System Status and Maintenance menu appears.
8	Go to “Dedicating ports” on page 4-14.

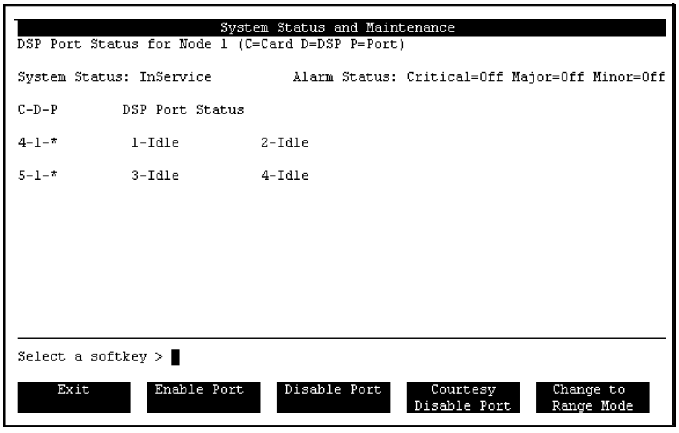
Enabling or disabling multiple ports

Each port on the screen is assigned a number, starting at 1. You can enable or disable multiple ports if the port numbering is sequential.

To enable or disable multiple ports, follow these steps.

Starting Point: The Main Menu

Step	Action
1	Select System Status and Maintenance. ***Result:*** The System Status and Maintenance menu appears.
2	Select DSP Port Status. ***Result:*** The System Status and Maintenance screen appears.



3	If the [Change to Range Node] softkey is displayed, press this key before going to step 4.
4	Press the [Disable] or [Enable] softkey. ***Result:*** The system prompts for the first port to enable or disable and the last port to enable or disable.

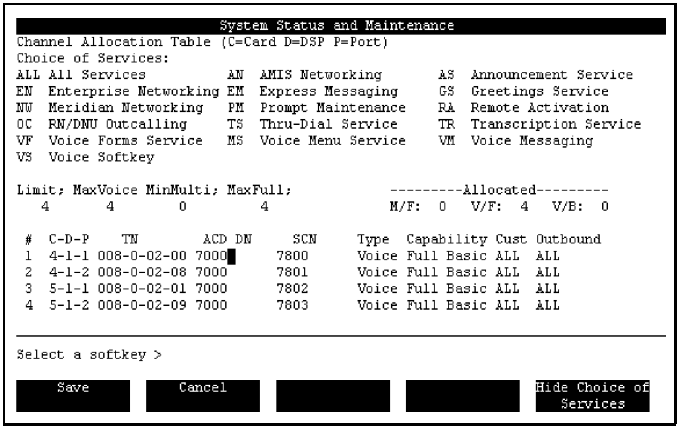
Step	Action
5	Enter the number of the first and last port you want to enable or disable. ***Result:*** The system disables or enables the ports within the range you specify. For more information, see your *System Administration Guide* (NTP 55x-70x1-30x).
6	Press [Exit]. ***Result:*** The System Status and Maintenance menu appears.
7	Go to "Dedicating ports" following this procedure.

Dedicating ports

To dedicate ports, follow these steps.

Starting Point: The System Status and Maintenance menu

Step	Action
1	Select Channel Allocation Table. ***Result:*** The Channel Allocation Table appears if you have a single-node system. ***Note:*** If you have a multi-node system, the system asks you for a node number. Once you enter this number, the Channel Allocation Table appears.



Step	Action
2	Move the cursor to the port you want to dedicate.

Step	Action
3	Ensure that the Type field is set to Voice and the Capability field is set to Full because AMIS Networking requires a full voice port.
4	Move the cursor to the Cust field and set it to ALL.
5	Move the cursor to the Outbound field and enter AN for AMIS Networking.
6	Do you want to save your changes? If yes, press [Save].

IF you have a	THEN the system
single-node system	returns to the System Status and Maintenance menu.
multi-node system	asks you for another node number. Repeat steps 1 to 5 if you have to dedicate ports on another node, or press the [Cancel] softkey to return to the System Status and Maintenance menu.

If you do not want to save your changes, press [Cancel].

IF you have a	THEN the system
single-node system	returns to the System Status and Maintenance menu.
multi-node system	asks you for another node number. Repeat steps 1 to 5 if you have to dedicate ports on another node, or press the [Cancel] softkey to cancel the prompt for another node, and return to the System Status and Maintenance menu.

7	Go to the DSP Port Status screen and enable any ports that you put out of service.

Field descriptions

The following table describes only the fields you set when dedicating ports. For more information on these fields, refer to your *System Administration Guide* (NTP 55x-70x1-30x).

Type	
Description	This field can be either Voice or Multi. AMIS Networking requires a Voice channel.
Capability	
Description	This field indicates the range of services supported on this port. The two ranges are Basic and Full. ***Note:*** AMIS Networking requires a full service port.
Cust (Customer)	
Description	This field allows you to dedicate ports to a specific customer. Set this field to ALL.
Default	None
Outbound	
Description	This is the service to which the DSP port and agent are dedicated. The entry in this field should be ALL, which indicates a shared DSP port, unless you are dedicating that port to AMIS Networking (AN).
Default	None

AMIS Class of Service requirements

What is required

If you want your users to be able to send and receive AMIS network messages, then you must define one or more Classes of Service that will allow users to

- compose and send AMIS open network messages
- receive AMIS open network messages

You must also identify a restriction/permission list on the Class of Service.

Note: A Class of Service can be associated with the entire system or with a particular customer group. Once defined, users are assigned the Class of Service that will fulfill their requirements.

Class of Service fields for AMIS

These are the fields that need to be defined for a particular Class of Service:

- Receive AMIS Open Network Messages

  If the field is set to Yes, then users assigned to the Class of Service may receive messages from other AMIS systems.

  Note: The Receive Composed Messages field must be set to Yes before this field can be defined.
- Compose/Send AMIS Open Network Messages

  If this field is set to Yes, then users assigned to the Class of Service may compose and send messages to other AMIS systems.

  Note: On systems using VMUIF, the Compose Capability field must be set to Yes before this field can be defined.
- AMIS Open Network Restriction/Permission List

  This field is displayed only if the Compose/Send AMIS Open Network Messages field is set to Yes.

How the restriction/ permission list is used

When a user composes a voice message and tries to send it to an AMIS system, Meridian Mail checks the restriction/ permission list that is assigned to AMIS Networking to determine if the call should be allowed or denied. If, while the user is addressing or replying to a message, Meridian Mail determines that the address is restricted, the user receives a message similar to the following:

"That number cannot be reached from this service."

Reference

For instructions on how to enable AMIS Networking in a Class of Service, refer to your *System Administration Guide* (NTP 55x-7001-30x).

Section B Assigning a voice service DN to AMIS Networking

In this section

Overview of this section

Introduction

When you are assigning a voice service DN to AMIS Networking, you must identify which service will accept AMIS Networking calls.

This section explains how to add an AMIS Networking DN and how to use it with other VSDNs.

Note: On a multi-customer system, an AMIS Networking DN must be defined for each customer who wants to use AMIS Networking.

Sharing a VSDN

AMIS Networking can share its VSDN with Voice Menus, Thru-Dial services, Time-of-Day Controllers, and Enterprise Networking. Using one of these VSDNs makes administration easier, especially if it already exists.

You should be aware that when the AMIS Networking DN is shared with another voice service, Operational Measurement (OM) reports are affected.

Effect of shared DNs on OM reports

An AMIS Networking call that is received on a voice service DN is logged for the first 15 to 20 seconds on the reports as a voice service call. When the AMIS service takes over, the remainder of the call is logged as an AMIS call.

If Operational Measurement report statistics are a concern, you should create a specific AMIS Networking VSDN.

ACD/UCD queue

Before you create a DN for AMIS Networking, confirm the ACD/UCD queue on the switch.

If you are configuring the Meridian 1, see Chapter 2, “Configuring the Meridian 1 for AML systems,” in this guide.

If you are configuring a PBX or DMS switch, see Chapter 3, “Configuring the PBX/DMS for SMDI systems,” in this guide.

Adding an AMIS Networking DN

Introduction

A DN is required for AMIS Networking. This topic explains how to add an AMIS Networking DN in the Voice Services Directory Number (VSDN) table.

Note: On a multi-customer system, an AMIS Networking DN must be defined for each customer who wants to use AMIS Networking.

The VSDN table

The VSDN table lists the Directory Numbers (DNs) associated with specific Meridian Mail services. The VSDN table maps this DN to AMIS Networking when Meridian Mail receives an incoming call.

ACD/UCD queue on switch

Each VSDN corresponds to an ACD or UCD queue on the switch. The directory number assigned to the queue is known as the ACD or UCD DN.

The ACD/UCD DN and the VSDN (or Access DN) are the same number. Therefore, for the AMIS Networking DN, you must first ensure that an ACD/UCD queue is available on the switch and then configure the VSDN in Meridian Mail.

For instructions on defining the ACD/UCD queue, see one of the following chapters in this guide:

- Chapter 2, “Configuring the Meridian 1 for systems using AML”
- Chapter 3, “Configuring the PBX/DMS for systems using SMDI”

How the VSDN is used

The VSDN defined for AMIS Networking is also entered, along with the exchange code for your system, into the Local system access number field on the View/Modify AMIS Networking Information screen.

When messages are sent to other AMIS systems, the system access number, along with your systems network dialing prefix and area/city code, are sent with the message.

Softkey descriptions

The following table describes the softkeys in the Add DN Information screen.

Softkey	Description
[Save]	Press this key to save the DN information you add.
[Cancel]	Press this key if you want to cancel the DN information you added.

Sharing the AMIS Networking DN with other services

If you want to share the AMIS Networking DN with another voice service, see "Using AMIS Networking with other VSDNs" on page 4-27.

Procedure

To add an AMIS Networking DN, follow these steps.

Note: This DN can be shared with Enterprise Networking (if Meridian Mail Networking is installed on your system and is available for this customer).

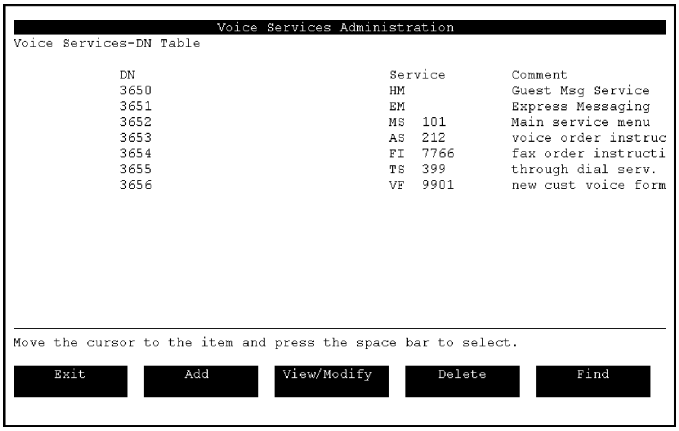
Starting Point: The Main Menu (single customer) or Customer Administration menu (multi-customer)

Step	Action
1	Select Voice Administration. ***Result:*** The Voice Administration menu appears.
2	Select Voice Services Administration. ***Result:*** The Voice Services Administration menu appears.

Step	Action

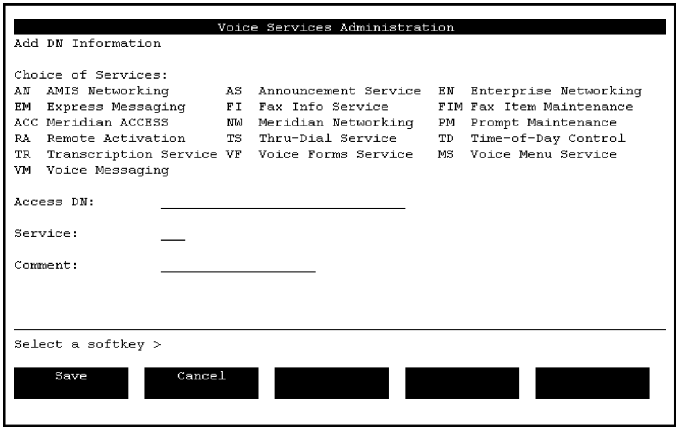
3 Select Voice Services-DN Table.

Result: The Voice Services-DN Table screen appears.



4 Press [Add].

Result: The Add DN Information screen appears.



Note: Some services may not be available on your system.

5 Enter the Access DN.

This is the number that users at remote AMIS systems will use when sending messages to the local system.

6 Enter AN (for AMIS Networking) into the Service field.

7 Enter a descriptive comment.

Step	Action
8	Do you want to keep the Voice Service DN? If yes, press [Save]. ***Result:*** The changes are saved and you are returned to the Voice Services-DN Table screen. If no, press [Cancel]. ***Result:*** Any changes made to this screen are not saved. You are returned to the Voice Services-DN Table screen.

Field descriptions

The following table describes the fields that appear on the Add DN information screen.

Choice of Services	
Description	This field lists the available voice services. The list is sorted horizontally according to the feature description, not the acronym. This can be changed in the Set Display Options screen.

Access DN	
Description	This is the DN that callers dial when accessing the voice service directly. It must be a numeric value without any embedded spaces. This is the ACD/UCD DN of the service queue that has been configured on the switch. If there are no available ACD/UCD DNs, they will have to be programmed into the switch by a technician (or by yourself if you are familiar with the procedure). ***Note:*** Ensure that the DN does not match any switch trunk route access codes. A match may cause calls to be disconnected under certain circumstances.

ATTENTION

Avoid duplication. Ensure that VSDNs do not duplicate mailbox numbers.

Service	
Description	This field defines which service is to be activated when the Access DN is dialed. Enter AN for AMIS Networking.
Default	None

Comment	
Description	This field is optional and can be used for descriptive purposes. In the VSDN table, you can have entries sorted alphabetically according to the comments entered here by making the appropriate selection in the Set Display Options screen.
Maximum length	19 characters
Invalid values	The following characters cannot be used in this field: “?”, “+”, and “_”. These are reserved as wildcard characters (used when specifying search criteria for retrievals).

Using AMIS Networking with other VSDNs

Introduction

This topic explains how to use AMIS Networking with other VSDNs.

VSDNs that can be shared with AMIS Networking

You can use the following VSDNs with AMIS Networking:

- Announcement Service (AS)
- Enterprise Networking (EN)
- Fax Information Service (FI)
- Voice Menu (MS)
- Time-of-Day-Controller (TD)
- Thru-Dial (TS)

Voice service requirements

You can build a voice service so that it will accept AMIS Networking calls.

When you are building voice service applications that will accept AMIS Networking calls, the requirements listed in the following table must be met.

Note: For more information on building voice services, refer to the *Meridian Mail Voice Services Application Guide* (NTP 555-7001-325).

Voice service type	Requirement
All voice services	***Note:*** There are no special requirements when the Enterprise Networking VSDN is also being used for AMIS Networking. • In the Add DN Information screen, set the Service field to Full Voice (not Basic or Full MultiMedia). • In the Voice Services Profile, set the Command Entry field (a time-out) to the maximum value of five seconds. If this field is set to less than five seconds, the AMIS call may be prematurely disconnected. • In the Voice Services Profile, set the Act on AMIS Initiator Tone field to Yes. You must set this field to Yes so that any AMIS calls received by the voice service will be transferred to the AMIS service.

Voice service type	Requirement
Voice menus	In the Voice Menu Definition, set the Initial No Response action as RP (for Repeat Menu Choices) to ensure that a call remains connected to the voice menu for at least ten seconds; otherwise, the call may be prematurely disconnected. It takes about ten seconds for the voice menu to get a signal from AMIS and then transfer the call to the AMIS Networking service. By the time the menu choices are repeated a second time, ten seconds will have passed and the call will have been transferred.
Time-of-Day Controller	If you are using a Time-of-Day-Controller (TD), keep in mind that AMIS Networking does not support Express Messaging. Therefore, night calls transferred to this service will be disconnected.

Note: In multi-customer systems, you can create voice service applications only at the customer administration level since they are associated with a particular customer group.

Section C Defining the dialing translations

In this section

Overview of this section

Introduction

This section describes what is required in order to generate dialable DNs for AMIS Networking. Dialable DNs are generated by using

- network dialing prefixes
- codes to access the local system
- translation tables (if required)

Why dialing translations are required

Network dialing prefixes, local system access codes, and translation tables are used

- when a local user uses the Reply feature to respond to a message that has been received from a user at an AMIS system
- to create the local system access number that is sent with a message

The AMIS Networking DN of the AMIS voice messaging system is contained in the message header. However, to be able to send a reply back to that number, Meridian Mail must translate it into a number that is dialable from the local system.

Network dialing prefixes

Network dialing prefixes are the network access codes that are used by your system for placing

- local calls
- long distance calls
- international calls

Local system access codes

The codes to access the local system are the country and area/city codes for your Meridian Mail system. These codes are used to determine if the country and area/city codes entered by a caller need to be stripped out.

Translation tables

Translation tables are used to handle certain dialing exceptions. For example, in a normal local dialing scenario, the area/city code of the calling system is the same as the called system. An exception to this rule is when the area/city codes are different but the call is still considered local. Translation tables are used to define how the dialing exception is to be processed.

Dialing prefixes

Introduction

The Network Dialing Prefixes screen must be completed if AMIS Networking is installed. The screen contains the following:

- default prefixes for network dialing
- codes to access the local system

Default prefixes for network dialing

Default prefixes for network dialing are the network access codes that are used by your system for placing

- local calls
- long distance calls
- international calls

These prefixes are needed to generate dialable DNs from numbers that are entered by users sending AMIS messages.

If your system is part of a CDP network, users who want to dial another user on the private network enter a CDP number which already includes a steering code. This means that you do not have to enter a network dialing prefix for dialing on the CDP network. You will, however, have to enter a prefix for off-net local dialing. Enter whatever prefix is used to get NARS service for local numbers.

Example: A remote AMIS system sends 1#214#5552131# as its AMIS Networking DN. The country code is the same as that of the Meridian Mail system, but the area/city code is different. This indicates a long distance call.

To send a reply to this system, Meridian Mail looks up the long distance dialing prefix (91) and generates the DN 91-214-555-2131.

Codes to access the local system

Codes to access the local system are the country and area/city codes for your Meridian Mail system. These codes are used to

- determine if the country and area/city codes for the AMIS Networking DN at a remote system need to be stripped out
- create the local system access number sent with each AMIS call

Note: The country and area/city codes you define here are *not* included in the system access number on the View/Modify AMIS Networking Information screen.

Reference

Default dialing prefixes and the codes for accessing the local system must be defined before AMIS Networking can be used.

For instructions on defining the prefixes and access codes, refer to the "Setting up network dialing prefixes and local defaults" section in the "Dialing translations" chapter of your *System Administration Guide* (NTP 55x-7001-30x).

Translation tables

Introduction

Translation tables are intended to handle certain dialing exceptions. For example, in a normal local dialing scenario, the area/city code of the calling system is the same as the called system. Exceptions to this rule are when

- the area/city codes are different but the call is still considered local or
- or the area/city codes are the same but the call is long distance

Deciding if you need translation tables

Translation tables may not be required on your system. If any of the following four exceptions apply to your system, you will have to define a translation table for each area/city code which is an exception:

- local dialing to a different area/city code (area/city code is required in DN)
- local dialing to a different area/city code (area/city code is not required in the DN)
- long distance dialing to the same area/city code (area/city code is required in the DN)
- long distance dialing to the same area/city code (area/city code is not required in the DN)

When network dialing prefixes are used

In all other dialing scenarios, such as long distance dialing to a different area/city code and local dialing to the same area/city code, the network dialing prefixes only are required.

When translation tables are applied

Meridian Mail applies translation tables before checking restriction/permission lists.

For example, a call to a different area/city code (to the local system area/city code) is considered local, and the restriction/permission list applied to an AMIS system only allows local calls.

When translation tables are applied (continued)

If a translation table is not set up for this area/city code, the system will assume that the AMIS number is long distance (because the area/city code is different from the local system), and Meridian Mail will not deliver the message (since the restriction/permission list does not allow delivery to long distance numbers).

Reference

For instructions on defining translation tables, see the "Setting up dialing translation tables" section in the "Dialing translations" chapter of your *System Administration Guide* (NTP 55x-70x1-30x).

Dialing restrictions

Introduction

To prevent AMIS Networking messages from being sent to unauthorized numbers, you will have to ensure that restrictions are set up in both the switch and Meridian Mail.

Network prefixes, access codes, and translation tables are not used for restricting calls to certain area/city codes or numbers.

Meridian 1 restrictions

To restrict agents from dialing certain numbers, you must set up an NCOS and an FCAS table. This is done in LD 87.

Then, in LD 90, you can restrict specific NPAs and special numbers.

Note: If certain prefixes are allowed in Meridian Mail, but not by the Meridian 1, the Meridian 1 setting will override the Meridian Mail setting, thereby blocking the call.

Meridian Mail restrictions

Restriction/permission codes are defined in the Voice Security Options screen. Up to four restriction/permission sets or tables can be created in this screen and then applied to AMIS Networking.

For instructions on defining restriction/permission codes, refer to your *System Administration Guide* (NTP 55x-70x1-30x).

Section D Defining the networking information

In this section

Overview of this section

Introduction

This section explains how to define the following for the AMIS Networking information:

- AMIS compose prefix
- system access number

All other networking configuration parameters are explained in Chapter 7, “Maintaining the network.”

AMIS compose prefix

The AMIS compose prefix is used for addressing a message to a user at an AMIS voice messaging system (open network user). The AMIS compose prefix identifies to Meridian Mail that the address about to be entered is to an open network user.

When the compose prefix is entered, Meridian Mail prompts the user to enter the address of the open network user.

System access number

The system access number identifies your system to other AMIS systems. It is sent with outgoing messages that originate from your system.

The system access number is used by AMIS systems when replying to messages originating from the local system (with an equivalent of the Meridian Mail Reply feature).

The system access number includes the following components:

- the country code of the local system, up to four digits in length from the Network Dialing Prefixes screen
- the area code of the local system, up to four digits in length from the Network Dialing Prefixes screen
- the DN of the voice service (exchange code and directory number) that will accept AMIS Networking calls (voice menu, thru-dial service, or other voice service). This DN is identified on the View/Modify AMIS Networking Information screen

Where these parameters are defined

Fields pertaining to all aspects of networking configuration are located on the View/Modify AMIS Networking Information screen. This screen is accessed from the Network Administration menu.

If you are configuring Meridian Mail for AMIS Networking for the first time, it is recommended that you change only the AMIS compose prefix and the system access number (explained in this chapter). Do not change the remaining networking information fields until you are comfortable with the way your network is functioning.

For instructions on defining the remaining parameters, see Chapter 7, “Maintaining the network.”

Multi-customer systems

On multi-customer systems, the View/Modify AMIS Networking Information screen is accessed from the Network Administration menu at both the system and customer levels of administration.

The screen at the customer level contains only the AMIS compose prefix and system access number.

Defining the AMIS compose prefix and system access number on single-customer systems

Introduction

This topic explains how to define the AMIS compose prefix and the system access number for AMIS Networking.

When to use this procedure

Use this procedure if you are running a single-customer system.

Softkey descriptions

The following table describes the softkeys that are displayed on the View/Modify AMIS Networking Information screen.

Softkey	Description
[Save]	Press this key to save your configuration.
[Cancel]	Press this key if you do not want to save your configuration.

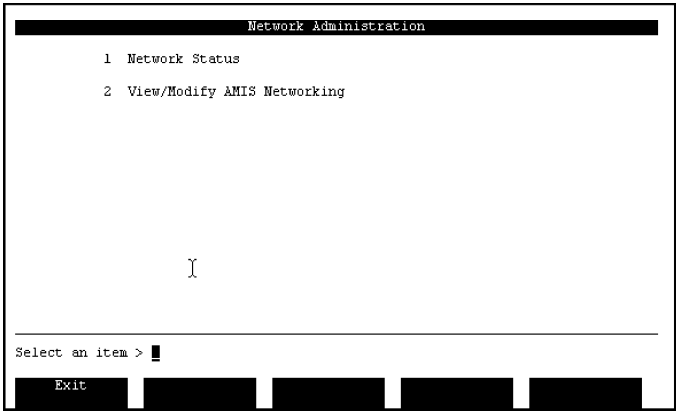
Procedure

To configure AMIS compose prefix and the system access number, follow these steps.

Starting Point: The Main Menu

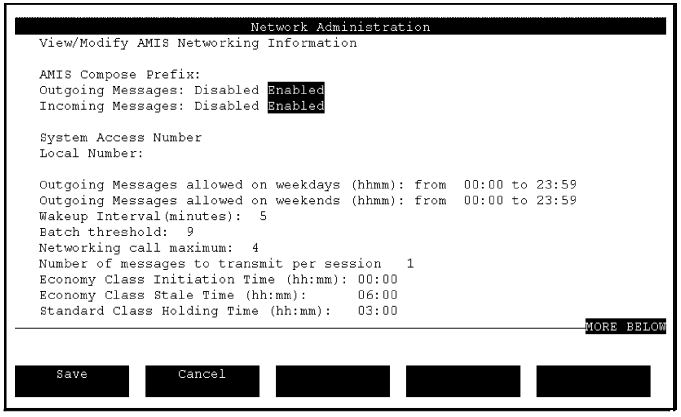
Step	Action
1	Select Network Administration. ***Result:*** The Network Administration menu appears.

Step	Action
1	(continued)



2 Select View/Modify AMIS Networking.

Result: The View/Modify AMIS Networking Information screen appears.



3 Enter the AMIS compose prefix.

4 Enter the local number.

5 Leave all other fields as they are.

Note: These fields should be modified only when you are comfortable with the way your network is running. Instructions for modifying these fields are in Chapter 7, “Maintaining the network.”

Step	Action
6	Do you want to save the AMIS Networking information? If yes, press [Save]. ***Result:*** Your changes are saved and you are returned to the Main Menu. If no, press [Cancel]. ***Result:*** Your changes are discarded and you are returned to the Main Menu.

Field descriptions

The following table describes the AMIS compose prefix and system access number fields. All other fields on this screen are discussed in Chapter 7, "Maintaining the network."

AMIS compose prefix	
Description	The AMIS compose prefix is used for addressing a message to a user at an AMIS voice messaging system (open network user). The AMIS compose prefix identifies to Meridian Mail that the address about to be entered is to an open network user. When the compose prefix is entered, Meridian Mail prompts the user to enter the address of the open network user. If this prefix conflicts with other network data such as ESN or CDP dialing codes, you will receive an error message. ***Note:*** There is a conflict if the first two digits of a DN match this prefix.
Default	None

System access number (local number)	
Description	This number identifies your system to other AMIS systems. During a message transfer session, the information in this field, plus the country code and area/city code defined on the Network Dialing Prefixes screen, are sent with outgoing messages that originate from your system.

Description	(continued) Users at remote systems can then reply to messages that originated from this system (by using an equivalent of the Meridian Mail Reply feature). The system access number includes the following components: • exchange code for your Meridian Mail system • the DN of the voice service that will accept AMIS Networking calls (voice menu, thru-dial service, or AMIS Networking service) ***Example:*** If the exchange code for your Meridian Mail system is 597, and the AMIS Networking VSDN is 3653, enter 5973653. If the country code is 1 and the area/city code is 416, the number that is sent with the message is 1#416#5973653#.
Default	None

Defining the AMIS compose prefix and system access number on multi-customer systems

Introduction

This topic explains how to define the AMIS compose prefix and the system access number for AMIS Networking on systems using the Multi-Customer feature.

When to use this procedure

Use this procedure if you are running a multi-customer system.

Softkey descriptions

The following table describes the softkeys that are displayed on the View/Modify AMIS Networking Information screen.

Softkey	Description
[Save]	Press this key to save your configuration.
[Cancel]	Press this key if you do not want to save your configuration.

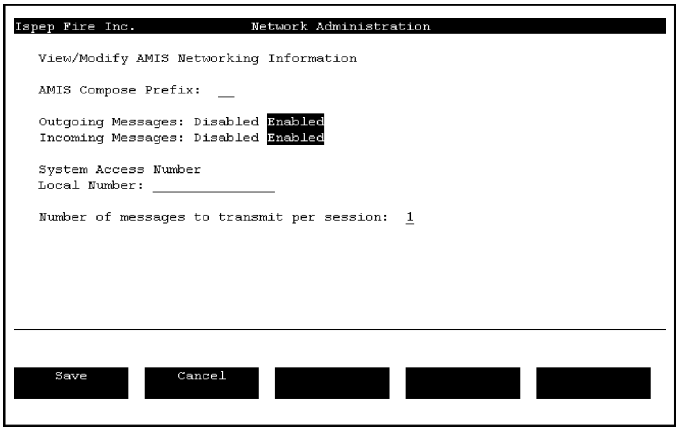
Procedure

To configure AMIS compose prefix and the system access number, follow these steps.

Starting Point: The Main Menu

Step	Action
1	Select Customer Administration.
2	Select the AMIS Networking customer group. If necessary, use the [Find] then [List] softkeys. ***Result:*** The Customer Administration menu appears.

Step	Action
3	Select Network Administration from the Customer Administration menu. ***Result:*** The View/Modify AMIS Networking Information screen appears.



4	Enter the AMIS compose prefix.
5	Enter the local number.
6	Leave all other fields as they are.
7	Do you want to save the configuration? If yes, press [Save]. ***Result:*** The data entered in the screen is saved. The Customer Administration menu is displayed. If no, press [Cancel]. ***Result:*** Any changes you have made are not saved and the Customer Administration menu is displayed.

Field descriptions

The following table describes the AMIS compose prefix and system access number fields. All other fields on this screen are discussed in Chapter 7, "Maintaining the network."

AMIS compose prefix	
Description	The AMIS compose prefix is used for addressing a message to a user at an AMIS voice messaging system (open network user). The AMIS compose prefix identifies to Meridian Mail that the address about to be entered is to an open network user. When the compose prefix is entered, Meridian Mail prompts the user to enter the address of the open network user. If this prefix conflicts with other network data such as ESN or CDP dialing codes, you will receive an error message.
Default	None

System access number (local number)	
Description	This number identifies your system to other AMIS systems. During a message transfer session, the information in this field, plus the country code and area/city code defined on the Network Dialing Prefixes screen, are sent with outgoing messages that originate from your system. Users at remote systems can then reply to messages that originated from this system (by using an equivalent of the Meridian Mail Reply feature). The system access number includes the following components: • exchange code for your Meridian Mail system • the DN of the voice service (for this customer) that will accept AMIS Networking calls (voice menu, thru-dial service, or AMIS Networking service)

Description	(continued) ***Example:*** If the exchange code for your Meridian Mail system is 597, and the AMIS Networking VSDN is 3653, enter 5973653. If the country code is 1 and the area/city code is 416, the number that is sent with the message is 1#416#5973653#.
Default	None

Chapter 5

Testing the network

In this chapter

Overview of this chapter

Introduction

This chapter explains how to verify that the network is working properly. The following tests are performed:

- call routing access test
- ACD/UCD agents test
- AMIS Networking VSDN test
- end-to-end test

Call routing access test

The call routing access verifies that the networking service

- can make outbound calls to other sites in the network
- *cannot* make outbound calls to numbers that should be restricted

Note: ACD agents must not be allowed to access trunks directly. They must use the NARS/BARS database to make outbound calls.

This test is performed when changes to the network class of service (NCOS) and trunk group access restriction (TGAR) settings are made on ACD agents, trunks, or both. Verifying that outbound calls cannot be made to restricted numbers ensures that your system is protected from system abuse by hackers.

This test is performed by doing the following:

- programming a telephone set with the same NCOS and TGAR used by one of the Meridian Mail agents
- using the telephone to dial out to
  - — telephone numbers allowed for Meridian Mail outcalling
  - — telephone numbers *not allowed* for Meridian Mail outcalling

ACD/UCD agents test

The ACD/UCD agents test verifies that the ports on Meridian Mail are working. It confirms that the Channel Allocation Table has been correctly defined.

This test can be performed by using a telephone set to connect to Meridian Mail. Port access is confirmed by one of the following methods:

- watching port status on the Meridian Mail DSP Port Status screen
- watching the digital display of the telephone set you are using

  The digital display shows the Meridian Mail DN and the agent position ID.

To help you complete the test, a checklist form (NWP-030) is available in Appendix A, "Networking implementation forms", at the back of this manual.

Networking VSDN test

When you test the AMIS Networking VSDN, you are actually verifying that the local system can receive messages from remote systems. It simply confirms that the AMIS Networking VSDN is working.

The test is performed by composing and sending a message to a mailbox on your system.

It is done after the networking VSDN have been defined.

End-to-end test

The end-to-end test verifies that a remote system can receive messages from the local system. This test is done by composing and sending a message to a mailbox at the remote system.

For instructions, see "Sending a message to a remote system (end-to-end test)" on page 5-15.

Note: If a remote system is not known, you can skip this test.

Testing call routing access

Introduction

When you test call routing access, you are verifying that the networking service

- can make outbound calls to other sites in the network
- *cannot* make outbound calls to numbers that should be restricted

  (You want to protect your system from hackers.)

Note: ACD/UCD agents must not be allowed to access trunks directly. They must use the NARS/BARS database on the switch to make outbound calls.

When to perform this test

You would perform this test if any changes to the network class of service (NCOS) and trunk group access restriction (TGAR) settings were made on ACD/UCD agents, trunks, or both.

How this test is performed

This test is performed by doing the following:

- programming a telephone set with the same NCOS and TGAR used by one of the Meridian Mail agents
- using the telephone to dial out to
  - — telephone numbers allowed for Meridian Mail outcalling
  - — telephone numbers *not allowed* for Meridian Mail outcalling

Skills required

Understanding call routing requires the skills of an experienced switch technician. If you are a Meridian Mail administrator who is implementing networking, then consult a switch technician for advice.

Procedure

To test call routing access, do the following.

Step	Action
1	Obtain the ACD/UCD agent and trunk printouts you printed in one of the following chapters: • Chapter 2, “Configuring the Meridian 1 for systems using AML” • Chapter 3, “Configuring the PBX/DMS for systems using SMDI”
2	Pick an ACD/UCD agent.
3	Program a telephone set to use the same NCOS and TGAR as the agent.
4	Dial a system access number for a remote system.
5	Did the call go through? • If yes, this test was successful. • If no, see “What to do if the test fails” following this procedure.
6	Dial a number that you know should be restricted. ***Example:*** Attempt to access a trunk directly.
7	Did the call go through? • If yes, this test was not successful. See “What to do if the test fails” following this procedure. • If no, this test was successful.

What to do if the test fails

If the test fails or produces unexpected results, consult a switch technician. The following may not have been defined correctly:

- NARS/BARS database
- NCOS and TGAR settings
- routing controls

Testing the ACD/UCD agents

Introduction

When you test the ACD/UCD agents, you are actually testing the ports on Meridian Mail and ensuring that the Channel Allocation Table has been defined correctly.

You can perform this test by using one of the methods shown in the following table.

Method	For instructions, see
Use the Meridian Mail DSP Port Status screen.	• "Preparing for the test" on page 5-6. • "Verifying port status" on page 5-7. • "Testing the agents with the DSP Port Status screen" on page 5-8.
Use a digital display telephone.	• "Preparing for the test" on page 5-6. • "Verifying port status" on page 5-7. • "Testing the agents with the digital display telephone set" on page 5-9.

When to perform this test

Normally, ACD/UCD agents (ports) are tested immediately after system installation or modification. However, at a later date, if you dedicate ports to networking, you need to perform the test on just those ports.

Preparing for the test

Before you can perform the test, do the following.

Step	Action
1	Obtain a working copy of the NWP-030, "Testing Meridian Mail Ports (ACD/UCD Agents)" form. To obtain a working copy, see Appendix A, "Networking implementation forms," at the back of this manual.
2	Display the Channel Allocation Table screen. For instructions, see your *System Administration Guide* (NTP 55x-70x1-30x).

Step	Action
3	Record on the form, for each port that needs to be tested, the following information: • terminal number (TN) ***Note:*** The terminal number is optional, but is recommended if you need to troubleshoot later. • port number • agent (position) ID Obtain this information from the Channel Allocation Table screen.
4	Exit the Channel Allocation Table screen.
5	Ensure that the ports you want to test are idle. For instructions, see "Verifying port status," following this procedure.

Verifying port status

Before you can actually test the ports, you need to verify that the ports are idle (that is, ready to accept incoming calls). Do the following.

Step	Action
1	Display the DSP Port Status screen. For instructions, see the "DSP Port Status" section in your *System Administration Guide* (NTP 55x-70x1-30x).
2	Ensure that the ports you want to test show Idle or Active as the status. If they do not, enable them.
3	Perform the test. For instructions, see one of the following: • "Testing the agents with the DSP Port Status screen" following this procedure Do not exit the DSP Port Status screen. • "Testing the agents with the digital display telephone set" on page 5-9

Testing the agents with the DSP Port Status screen

To test the ACD/UCD agents (and their corresponding ports) by using the DSP Port Status screen, do the following.

Note: Nortel recommends that you use this procedure only in the following situations:

- *before* the system is made available to users
- after the system has been courtesy disabled

If users are still using the system while you are performing the test, it will be hard for you to determine if *you* accessed the port.

Starting Point: DSP Port Status screen

Step	Action
1	At a telephone set, dial Meridian Mail.
2	Watch the DSP Port Status screen. When Meridian Mail answers, one of the ports shows Active as the port status.
3	Locate the port number on your form and record a check mark beside it. The check mark identifies that the port worked correctly.
4	Disconnect the call.
5	Repeat steps 1 to 4 until you are satisfied that all ports have been tested. ***Note:*** The ports which have been idle the longest are accessed first. This may mean that ports are not accessed in numerical sequence.
6	Are there any ports on the form that do not have a check mark? • If yes, see “What to do if the test fails” on page 5-10. • If no, then all agents worked correctly. The test was successful.

Testing the agents with the digital display telephone set

To test the ACD agents (and their corresponding ports) by using a digital display telephone, do the following.

Step	Action
1	Dial Meridian Mail.
2	Watch the telephone display. When Meridian Mail answers, the display shows the Meridian Mail DN followed by the agent position ID.
3	Locate the agent position ID on your form, and record a check mark beside it. The check mark identifies that the agent worked correctly.
4	Disconnect the call.
5	Repeat steps 1 to 4 until you are satisfied that all ports have been tested. ***Note:*** The ports which have been idle the longest are accessed first. This may mean that ports are not accessed in numerical sequence.
6	Are there any ports on the form that do not have a check mark? • If yes, see “What to do if the test fails” on page 5-10. • If no, then all agents worked correctly. The test was successful.

What to do if the test fails

If the ports did not respond during the test, do the following.

Step	Action
1	Review the information in the Channel Allocation Table and compare it with the ACD/UCD agent information in the Meridian 1. Check the following for each port and ACD/UCD agent: • TN • primary ACD DN and agent position (Key 0 on Meridian 1) If there are any discrepancies, make the necessary corrections.
2	Review the key assignments on the ACD agents in the Meridian 1. They should be defined as follows: • *Key 1:* SCN xxxxxxx (where "xxxxxxx" is the originating DN for outbound calls) • *Key 2:* MSB (make set busy key) • *Key 3:* NRD (not ready key) • *Key 6:* TRN (transfer key) • *Key 7:* AOS (conference key) • *Key 9:* RLS (release key)
3	Ensure that the failure is not the result of a hardware or other configuration problem. For instructions, see your *System Administration Guide* (NTP 55x-70x1-30x).

Testing the AMIS Networking VSDN

Introduction

When you test the AMIS Networking VSDN, you are actually verifying that the local system can receive messages from remote systems. It simply confirms that the AMIS Networking VSDN is working.

How the test is done

The test is performed by composing and sending a message to a mailbox on your system. The message is addressed by using the (Open) AMIS addressing scheme.

Note: The system access number is entered in dialable format. For this test, the system access number consists of the following:

- access code required to dial out of the Meridian Mail system
- your site's local number (exchange code and networking VSDN)

Example: 95983540

When to perform this test

This test is done after the networking VSDN has been defined.

Consideration for shared DNs

If you are planning to use an Enterprise Networking, voice menu, Time-of-day controller, or Thru-dial service VSDN to service AMIS Networking, note that AMIS is then tested by entering that VSDN as the system access number.

You should also consider testing the time-of-day controllers if they are also used on shared service DNs.

Before you begin

Before you can perform this test, do the following:

1. Define the AMIS compose prefix. For instructions, see "Defining the networking information" in Chapter 4, "Configuring Meridian Mail."
2. Define the AMIS Networking VSDN. For instructions, see "Assigning a voice service DN to AMIS Networking" in Chapter 4, "Configuring Meridian Mail."
3. Change the wakeup interval and batch threshold settings on the View/Modify AMIS Networking Information screen to "1." This change will allow messages to be delivered immediately instead of at the default "scheduled" times.

   For instructions, see the "Modifying the networking information" section in Chapter 7, "Maintaining the network."

   Note: Before you make the changes, print the View/ Modify AMIS Networking Information screens so that you have a copy of the original information.

ATTENTION

Once you are satisfied that remote systems can receive messages from your system, ensure that you remember to reset the wakeup interval and batch threshold to their previous settings.

Procedure

To test the AMIS Networking DN, do the following at a telephone set.

Step	Action
1	Log in to Meridian Mail.
2	Press 75 to compose a message. ***Result:*** Meridian Mail responds with “Enter a list of mailboxes ...”
3	Enter the following: • AMIS compose prefix The AMIS compose prefix identifies that a message is about to be composed to an “open network” user. • system access number For more information, see page 5-11. • # sign The # sign signifies the end of the system access number. ***Result:*** You are prompted to enter the mailbox number of the open network user.
4	Enter the number of the mailbox (at your site) which you logged in to, followed by the # sign. ***Result:*** Meridian Mail responds with “Open network user <mailbox number> at <system access number (in this case, the networking VSDN)>.”
5	Press the # sign again. The # sign signifies the end of the list of people to whom the message will be sent. ***Result:*** You are prompted to record a message.
6	Press 5 to record.
7	Record the message, then press # (to stop recording).
8	Press 79 to send the message. ***Result:*** Meridian Mail responds with “Message sent.”
9	Log out from Meridian Mail. ***Result:*** Meridian Mail responds with “Good-bye.”

What happens next

The message is sent according to the scheduling parameters defined in the networking information.

If the test	THEN you receive
was successful	the message you recorded.
failed	a nondelivery notification message.

What to do if the test fails

If the test failed, do the following.

1. Ensure that the networking VSDN and the mailbox number you used are both valid and that the system access number was entered in dialable format.
2. Ensure that AMIS is not disabled for outgoing messages.

   Display the View/Modify AMIS Networking Information screen at both the customer and system levels of administration, if necessary.
3. Check the mailbox's Class of Service and ensure that the Compose/Send AMIS Open Network Messages and Receive Open AMIS Network Messages fields are set to Yes.

   For instructions, refer to your *System Administration Guide* (NTP 55x-7001-30x).

Sending a message to a remote system (end-to-end test)

Introduction

When you send a message to a remote system, you are verifying that users at the remote system can receive messages from the local system.

This test (known as an end-to-end test) is done by composing and sending a message to a mailbox at the remote system.

Note: If you do not know any remote systems, you can skip this test.

Before you begin

Before you perform this test, you should change the wakeup interval and batch threshold settings on the View/Modify AMIS Networking Information screen to 1. For instructions, see Chapter 7, "Maintaining the network."

This change will allow messages to be delivered immediately instead of at the default "scheduled" times.

Note: Before you make the changes, print the View/Modify AMIS Networking Information screens so that you have a copy of the original configuration.

ATTENTION

Once you are satisfied that remote systems can receive messages from your system, ensure that you remember to reset the wakeup interval and batch threshold to their previous settings.

Sending the message

To perform the end-to-end test, do the following at a telephone set.

Step	Action
1	Log in to a mailbox.
2	Enter the following: • AMIS compose prefix The AMIS compose prefix identifies that a message is about to be composed to an “open network” user. • system access number for the remote system in dialable format For more information, see page 5-11. • # sign The # sign signifies the end of the system access number. ***Result:*** You are prompted to enter the mailbox number of the open network user.
3	Enter the number of a mailbox at the remote system, followed by the # sign. ***Result:*** Meridian Mail responds with “Open network user <mailbox number> at <system access number.”
4	Press # again.
5	Press 5 (to record a message).
6	Record the message, then press # (to stop recording).
7	Press 79 to send the message.
8	Log out of Meridian Mail and hang up.
9	Watch the AMIS Networking Status screen (and occasionally press the Update softkey) until the message is sent. You will know the message has been sent when there are “0” messages waiting and the status is “Idle.”
10	Contact the administrator at the remote system and ask him or her to listen to the message.

What happens

The message is sent according to the scheduling parameters defined in the networking configuration.

If the test	THEN
was successful	the message was successfully delivered to the remote system.
failed	you receive a nondelivery notification indicating that the message could not be delivered. Listen to the nondelivery notification (NDN) message to determine why it was not delivered.

What to do if the test fails

If the end-to-end test did not work, do the following.

Step	Action
1	Ensure that you addressed the message correctly.
2	Ensure that the mailbox at the remote system does exist.
3	Ensure that the remote system supports the AMIS protocol.
4	Ensure that AMIS is not disabled for outgoing messages. Display the View/Modify AMIS Networking Information screen at both the customer and system levels of administration if necessary.
5	Check your mailbox's Class of Service and ensure that the Compose/Send AMIS Open Network Messages field is set to Yes. For instructions, refer to your *System Administration Guide* (NTP 55x-7001-30x).
6	What did the nondelivery notification message say?
7	Consult the SEERs for descriptions of nondelivery reasons. The following are examples: • Channels were not available. • Addresses were incorrect. • The system access number for the remote system does not terminate on the networking DN.

Chapter 6

Creating a backup of the system

In this chapter

Overview of this chapter

Introduction

This chapter explains how to create a backup set of networking records for Meridian Mail. There are three types of backup records. They are

- Meridian Mail system backup
- Meridian Mail printouts
- switch backup

System backups

A system backup is a copy of the Meridian Mail system or switch as of a specific date. The backup is used to restore your system or switch if system problems are experienced.

A backup should be done on a regular basis.

Meridian Mail printouts

Meridian Mail printouts for AMIS Networking are obtained by doing print screens of the View/Modify AMIS Networking Information screen. If your system is a multi-customer system, you will need to do print screens at both the system and customer levels of administration.

You should print the information for networking even though you may have performed a backup of your Meridian Mail system. If, for some reason, the backup copy of the system is damaged, the printouts will provide the information necessary to get the network running again.

Why a backup is required

If you do not create a backup of your system, and your system experiences disk failure, then you will have to reenter all the information required for networking.

When the backup should be done

A backup should be done

- immediately after the network has been configured and is working correctly
- each time any information is changed or deleted from Meridian Mail

Backing up Meridian Mail

Introduction

After you have configured your Meridian Mail system for networking, you should create a backup of the system.

What the backup should include

For networking, the backup should include volume 1 (this is where the networking information is located).

Reference

For instructions on performing the backup, see the "Backups" section in the "Back up and restore Meridian Mail data" chapter of your *System Administration Guide* (NTP 55x-70x1-30x).

CAUTION

Risk of data loss

You should perform a manual backup even if your Meridian Mail system has been configured to perform a backup automatically each night.

If your system experiences disk failure before the automatic backup can take place, then all your networking information may be lost.

Printing Meridian Mail network information

Introduction

Nortel recommends that you print the information for networking even though you may have performed a backup of your Meridian Mail system.

If, for some reason, the backup copy of the system is damaged, the printouts will provide the information necessary to get the network running again.

What should be printed

The networking configuration information that should be printed is located on the View/Modify AMIS Networking Information screen. On multicustomer systems, the View/Modify AMIS Networking Information screen is located at both the system and customer levels of administration.

When the printouts should be obtained

The networking information should be printed

- immediately after the network has been configured and is working correctly
- each time any information is changed or deleted from Meridian Mail

Procedures in this topic

This topic contains five procedures as indicated in the following table.

For instructions on	see
how to obtain the AMIS networking information printout(s)	• "Single-customer systems" on page 6-5. • "Multicustomer systems—system-wide parameters" on page 6-7 (for system-wide parameters). • "Multicustomer systems—customer-specific parameters" on page 6-8.

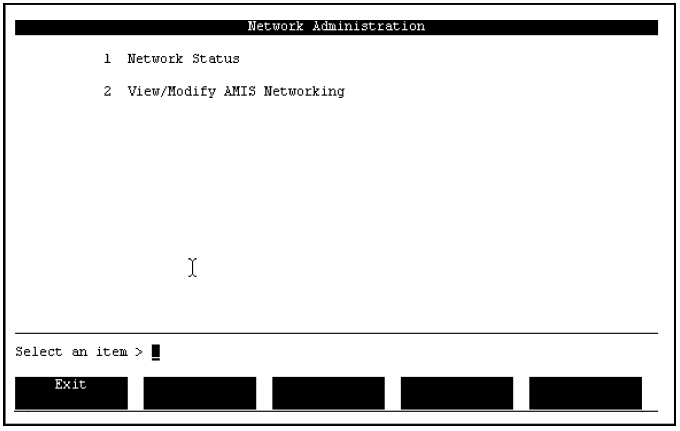
For instructions on	see
what to do with the printouts	"What to do with the printouts" on page 6-9.
how to restore Meridian Mail with information from the printouts	"Restoring the networking information from the printouts" on page 6-9.

Single-customer systems

To print AMIS Networking information for single-customer systems, do the following.

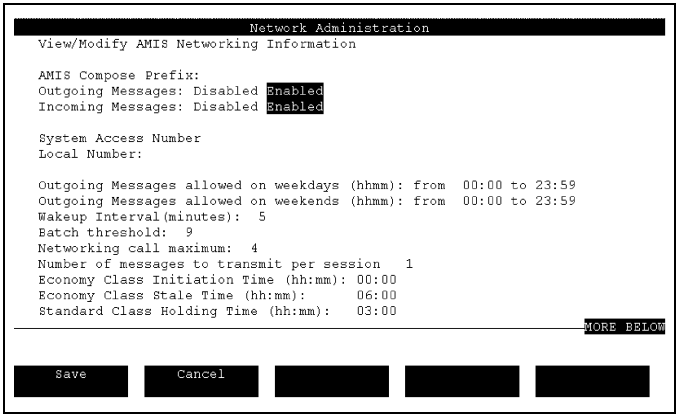
Starting Point: Main Menu

Step	Action
1	Select Network Administration. ***Result:*** The Network Administration menu is displayed.



2	Select View/Modify AMIS Networking. ***Result:*** The View/Modify AMIS Networking Information screen appears.

Step	Action
2	(continued)



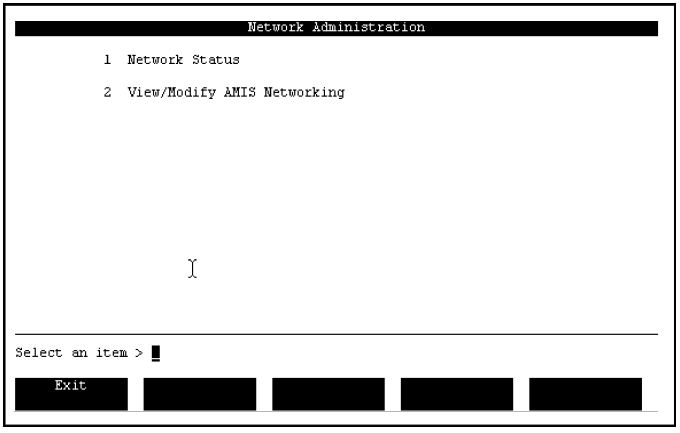
3	Press the <print screen> key on your keyboard. ***Result:*** The screen is printed on your printer.
4	Tab through the fields until the rest of the fields are displayed.
5	Press the <print screen> key on your keyboard. ***Result:*** The screen is printed on your printer.
6	Press [Cancel] to return to the menu.

Multicustomer systems—system-wide parameters

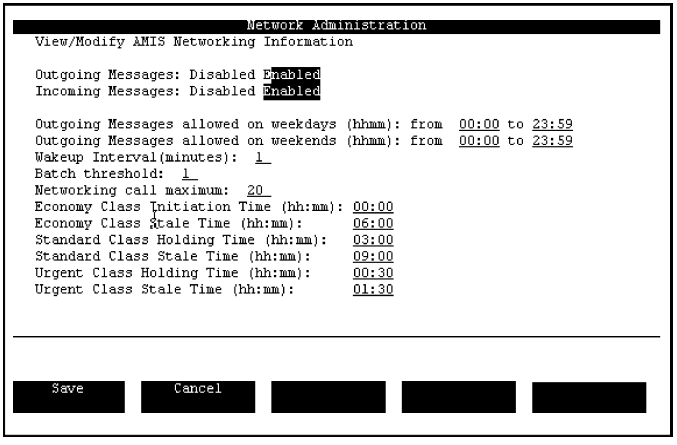
To print AMIS Networking system-wide parameters information for multicustomer systems, do the following.

Starting Point: Main Menu

Step	Action
1	Select Network Administration. ***Result:*** The Network Administration menu is displayed.



2	Select AMIS Networking Administration. ***Result:*** The View/Modify AMIS Networking Information screen appears.



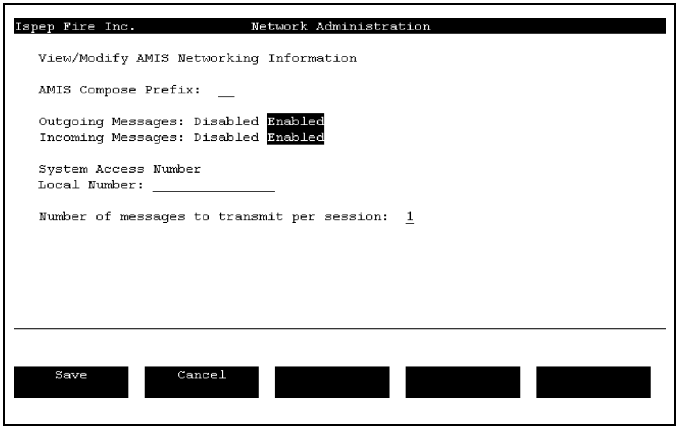
Step	Action
3	Press the <print screen> key on your keyboard. ***Result:*** The screen is printed on your printer.
4	Press [Cancel] to return to the menu.

Multicustomer systems—customer-specific parameters

To print AMIS Networking customer-specific parameters information for multicustomer systems, do the following.

Starting Point: Customer Administration menu

Step	Action
1	Select Network Administration from the Customer Administration menu. ***Result:*** The View/Modify AMIS Networking Information screen appears.



2	Press the <print screen> key on your keyboard. ***Result:*** The screen is printed on your printer.
3	Press [Cancel] to return to the menu.

What to do with the printouts

After you have printed the networking information, do the following.

Step	Action
1	Record today's date on each of the printouts.
2	Create a file folder for each type of print screen you obtain.
3	Put the printouts into the labeled file folders.
4	Store the file folders in a secure location.

Restoring the networking information from the printouts

To restore your system from the printouts, do the following.

Step	Action
1	Obtain the AMIS Networking Information print screens from your files.
2	Reenter the information into Meridian Mail. For instructions, see one of the following chapters: • Chapter 4, "Configuring Meridian Mail" • Chapter 7, "Maintaining the network"

Backing up the switch

Introduction

After you have configured your switch with the information required for networking, you should

- create a backup (Meridian 1 and non-Nortel switches)
- take an image of the switch (DMS family and SL-100 switches)

  (For simplicity, this is referred to as creating a backup.)

When to perform the backup

You should perform the backup

- immediately after the switch has been configured
- whenever changes or deletions are made

> **ATTENTION**
>
> You should perform the backup even if your switch has been configured to perform a backup automatically each night.
>
> If your system experiences disk failure before the automatic backup can take place, then all your information may be lost.

Backing up the switch

For instructions on how to create a backup of your switch, see the following table.

For	Refer to
Meridian 1	LD 43 in the *X11 input/output guide* (NTP 553-3001-400).
non-Nortel switches (AT&T and ROLM)	your vendor's documentation.
DMS family and SL-100 switches	Not applicable. Your service provider will do the backup.

Chapter 7

Maintaining the network

In this chapter

Overview of this chapter

Introduction

Now that your network is running, the hard work is done. From here on, you simply have to maintain the network. Normally, very little work is required to maintain the network.

Network maintenance can be done on a weekly basis for some tasks, or as required for others.

Weekly tasks

Weekly tasks include

- viewing network status
- reviewing Operational Measurement reports

"As required" tasks

The tasks you perform on an "as required" basis include modifying networking information (scheduling parameters).

What this chapter contains

This chapter provides detailed explanations and instructions for network maintenance tasks as described in the following table.

Section/Topic	Description
Viewing the network status	This section explains how to view the network status to identify how many AMIS messages are waiting to be sent.
Section A: Modifying the AMIS Networking information	This section explains how to define and enter the following into Meridian Mail: • AMIS compose prefix • system access number • maximum number of AMIS Networking sessions that can be active at one time (Networking call maximum) • maximum number of messages that can be transmitted during an AMIS Networking session • scheduling parameters

Section/Topic	Description
Section B: Printing and reviewing Operational Measurement reports	This section explains how to print and interpret the following reports related to networking: • Services Summary Traffic report • AMIS Networking Detail Traffic report • User Usage report

Multi-customer system users

Introduction

If you are using a multi-customer system, and one or more customers are using AMIS Networking, you will need to access the Customer Administration Menu of the networking customer to administer some of the AMIS Networking information for the customer.

Procedure

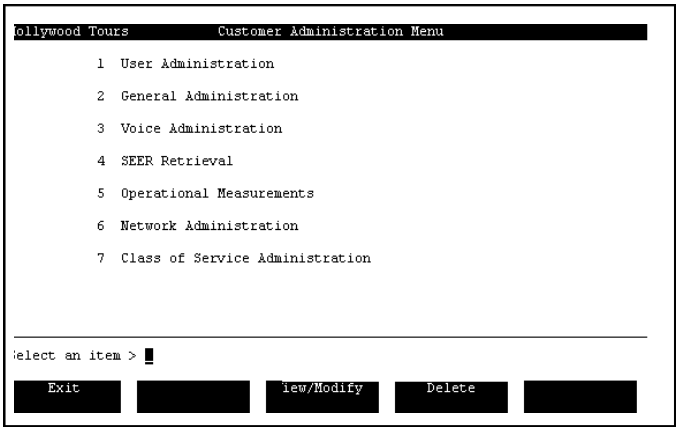
To access the Customer Administration Menu, follow these steps.

Starting Point: The Main Menu

Step	Action
1	Select Customer Administration. ***Result:*** The following screen appears.

2	Do you know the customer number? If yes, go to step 3. If no, do the following. a. Press [Find]. b. Press [List]. c. Move the cursor to the customer you want and press <Space bar> to select it. d. Press [View/Modify]. ***Result:*** The Customer Administration menu appears. See the screen example shown in step 4.

Step	Action
3	Press [View/Modify]. ***Result:*** The system asks you for the customer number.
4	Type the customer number and press <Return>. ***Result:*** The Customer Administration Menu appears.



Viewing the network status

Introduction

The AMIS Networking Status screen allows you to view the number of economy, standard, and urgent messages that are queued for transmission to remote systems.

This screen is not dynamic (that is, it does not automatically update while it is displayed). You can, however, use the [Update] softkey to refresh the screen and update the status while you are viewing it.

This topic explains how to view the network status.

Multi-customer systems

On multi-customer systems, the network status can be viewed only at the system level of administration. It displays the status of AMIS messages for all customer groups.

Softkey descriptions

This table describes the softkeys that are displayed on the Network Status screen.

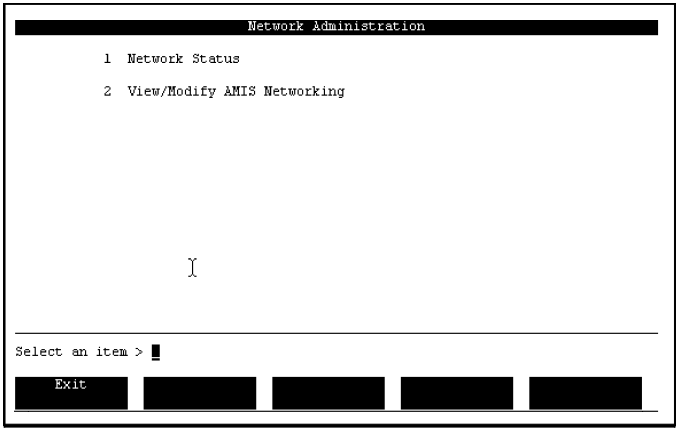
Softkey	Description
[Exit]	Press this key to exit the Network Status screen.
[Update]	Press this softkey to refresh and update the status of the Network Status screen.

Procedure

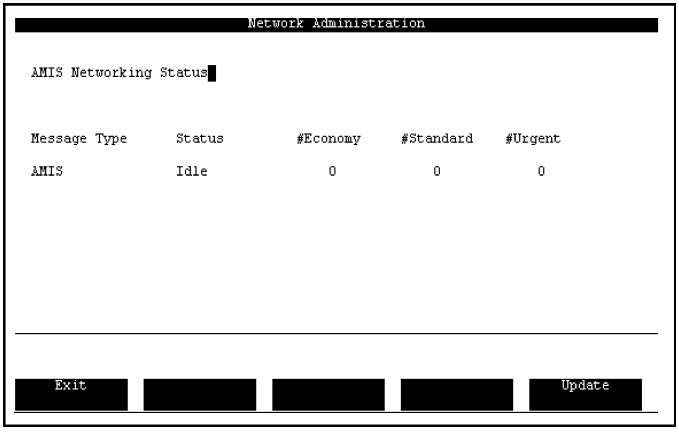
To view the network status, follow these steps.

Starting Point: The Main Menu

Step	Action
1	Select Network Administration. ***Result:*** The Network Administration menu appears.



2	Select Network Status. ***Result:*** The AMIS Networking Status screen appears.



To periodically update the screen with a new status, press [Update].

Field descriptions

The following table describes the fields in the AMIS Networking Status screen.

Note: These fields are read-only.

Message Type	
Description	Indicates that the AMIS protocol is being used.
Status	
Description	The current status of the AMIS Networking. The status can be one of the following: • *Active* indicates that the transfer of AMIS messages is in progress. The system is in this state once the holding time or batch threshold has been reached and it begins to send messages. • *Idle* indicates that there are no messages in the send queue. The system is in this state before it wakes up to check for AMIS messages. If the system is idle and many messages are waiting to be sent, the system is having problems sending messages due to either a local or remote problem. • *Ready* indicates that there are messages in the send queue that are waiting to be transferred. The system is in this state after it has woken up and discovered that there are AMIS messages to be sent. These messages are placed in the send queue until the holding time or batch threshold are reached.
#Economy	
Description	The number of economy messages that are queued to be transmitted to remote systems. ***Note:*** If the status is idle, this field displays 0 (zero) since no messages are in the queue.

#Standard	
Description	The number of standard messages that are queued to be transmitted to remote systems. ***Note:*** If the status is idle, this field displays 0 (zero) since no messages are in the queue.
#Urgent	
Description	The number of urgent messages that are queued to be transmitted to remote systems. ***Note:*** If the status is idle, this field displays 0 (zero) since no messages are in the queue.

Section A Modifying the AMIS Networking information

In this section

Overview of this section

Introduction

This section explains how to modify

- whether the system can send or receive AMIS messages (AMIS Networking can be temporarily disabled)
- time periods in which outgoing messages are allowed to be sent during weekdays and weekends
- how many ports can be used by AMIS Networking at any one time
- how many messages to transmit in each AMIS Networking session
- scheduling parameters

Definition: scheduling parameters

Scheduling parameters include the following:

- wake-up interval

  This is how often AMIS Networking checks for the status of messages that are waiting to be sent and initiates a connection to a remote system.
- when economy messages are to be sent
- holding times

  Holding times are the maximum length of time that either standard or urgent messages can be queued before an attempt is made to send them.
- stale times for economy, standard, and urgent messages

  Messages become stale if they are not delivered within a specified period of time. When a message becomes stale, a nondelivery notification is returned to the sender.
- batch thresholds

  Batch thresholds define the maximum number of messages that can be queued to a remote system before a session is initiated to that system.

Data entry form

Before you change the networking information, you may want to complete form NWP-033, "AMIS Networking Information." See Appendix A, "Networking implementation forms", at the back of this manual for a sample of this form for copying.

Single customer systems

For single customer systems, the View/Modify AMIS Networking Information screen is accessed from the Network Administration menu.

Multi-customer systems

On multi-customer systems, the View/Modify AMIS Networking Information screen is accessed from the Network Administration menu at both the system and customer administration levels.

Relationship between the batch threshold and holding times

Introduction

This topic provides an overview of how the batch threshold and standard and urgent message holding times are used to determine when a networking session is initiated.

Definition: holding time

A holding time is the maximum length of time that a message is retained before the system attempts to send it. There are holding times for both standard and urgent messages.

Definition: batch threshold

The batch threshold defines the maximum number of messages that can be queued before Meridian Mail starts sending messages.

The batch threshold overrides the holding time.

Why batch threshold and holding times are needed

It takes time to set up each networking session. Less network time is used if larger numbers of messages are transmitted per session.

Meridian Mail uses the holding times and batch threshold to determine when to start sending standard and urgent messages to a remote system. The system will begin attempting to send messages to a remote system if at least one standard or urgent message has been waiting in the queue for longer than the associated holding time.

Regardless of when the holding time or batch threshold are used to trigger the transfer of messages, the session will remain active until all standard and urgent messages are sent. Urgent messages are always sent first.

Example

For example, by default

- urgent messages are held for 30 minutes
- standard messages are held for 3 hours
- the batch threshold is 20 (messages)

The system will begin to transmit messages to a remote system as soon as any of the preceding limitations have been exceeded.

Identifying the AMIS Networking information changes required

Introduction

This topic explains how to identify changes you need to make for AMIS Networking.

Disabling AMIS

You can temporarily restrict users from accessing the AMIS Networking service. This may be necessary to prevent system abuse or to clear the system of messages that cannot be delivered and are tying up resources.

Disabling AMIS on multi-customer systems

On multi-customer systems, AMIS can be disabled at both the system administration level and at the customer administration level. If AMIS is enabled for a particular customer but is disabled at the system level, the system setting overrides the customer setting.

Recommendation

Nortel recommends that you do not change the networking scheduling parameters until you are comfortable with how your network is functioning.

Data entry form

Before you make any changes to the networking information, you should complete form NWP-033,"AMIS Networking Information."

Form sample: NWP-033

The following is a sample of form NWP-033.

AMIS Networking Information **NWP-033**

Customer-specific parameters

AMIS compose prefix:	Outgoing messages ☐ Enabled ☐ Disabled	Incoming messages ☐ Enabled ☐ Disabled
Local system access number:	Number of messages to transmit per session:	

System-wide parameters

Note: If you are working with a single-customer system, complete the Customer-specific parameters as well.

Outgoing messages allowed on weekends (hh:mm)	From: To:
Outgoing messages allowed on week days (hh:mm)	From: To:
Wakeup interval (minutes)	Batch threshold:
Networking call maximum:	
Economy class initiation time (hh:mm):	Economy class stale time (hh:mm):
Standard class holding time (hh:mm):	Standard class stale time (hh:mm):
Urgent class holding time (hh:mm:)	Urgent class stale time (hh:mm):

Completed by

Administrator:	Date:

Completing this form for single-customer and multi-customer systems

This form is used for both single-customer and multi-customer systems. If you are using a single-customer system, complete both sections. The fields in both these sections are located on one screen.

For multi-customer systems, the fields in each section are located on two different screens:

- View/Modify AMIS Networking Information screen at the customer level of administration
- View/Modify AMIS Networking Information screen at the system level of administration

Procedure

To complete the data entry form, follow these steps.

Step	Action
1	Obtain a working copy of the NWP-033 “AMIS Networking Information” form. See Appendix A, “Networking implementation forms”, at the back of this manual for a sample of the form for copying.
2	Complete the fields as required. For instructions, see the field descriptions following this procedure.
3	Enter the changes into Meridian Mail. For instructions, see “Modifying the AMIS Networking information” on page 7-11.

Field descriptions

The following table describes the fields on the View/Modify AMIS Networking Information screen.

Note: If you are using a multi-customer system, these fields are displayed on two screens. On single-customer systems, all fields are located on one screen.

AMIS compose prefix	
Description	The AMIS compose prefix is used for addressing a message to a user at an AMIS voice messaging system (open network user). The AMIS compose prefix identifies to Meridian Mail that the address about to be entered is to an open network user.

Description	(continued) When the compose prefix is entered, Meridian Mail prompts the user to enter the address of the open network user. If this prefix conflicts with other network data such as ESN or CDP dialing codes, you will receive an error message. ***Note:*** There is a conflict if the first two digits of a DN match this prefix.
Default	None

System access number (local number)

Description	This number is the DN that remote systems call to send AMIS messages to the local system. During a message transfer session, the information in this field, plus the country code and area/city code defined on the Network Dialing Prefixes screen, are sent with outgoing messages that originate from your system. Users at remote systems can then reply to messages that originated from this system (by using an equivalent of the Meridian Mail Reply feature). The system access number includes the following components: • exchange code for your Meridian Mail system • the DN of the voice service that will accept AMIS Networking calls (voice menu, thru-dial service, or AMIS Networking service) ***Example:*** If the exchange code for your Meridian Mail system is 597, and the AMIS Networking VSDN is 3653, enter 5973653.
Default	None

Outgoing messages	
Description	"Enabled" allows the system to send messages to other AMIS systems. "Disabled" prevents the system from sending messages to other AMIS systems. Messages wait in the queue until this field is enabled or the messages are stale-dated. Users who originate AMIS messages will receive nondelivery notifications.
Default	Enabled

Incoming messages	
Description	"Enabled" allows the system to receive messages from other AMIS systems. "Disabled" prevents messages from being received from other AMIS systems.
Default	Enabled

Networking call maximum	
Description	You can control the maximum number of Meridian Mail ports that are used at any one time for all outgoing AMIS Networking calls. For example, if you set this field to 4, the total number of outgoing AMIS Networking sessions that can be active at one time is four.
Valid range	1 to 20
Default	4

Number of messages to transmit per session	
Description	This is the maximum number of messages that will be sent during each AMIS Networking session. If the Billing DN field on the Voice Services Profile screen is blank, Meridian Mail will send only one message per AMIS Networking session regardless of how this field is defined.

Description	(continued) If there are no plans to use the Billing DN field, then enter any number in the Billing DN field. (The number does not need to be a valid DN.) This will allow Meridian Mail to send multiple messages per AMIS session. For more information about the Billing DN field, refer to your *System Administration Guide* (NTP 55x-70x1-30x).
Maximum	Up to nine messages may be sent per AMIS Networking session.
Valid range	1 to 9
Default	9

Outgoing messages allowed on weekends

Description	This is the time period in which outgoing AMIS messages may be sent on weekends. AMIS messages cannot be sent during periods which are outside this time period. If a message becomes stale before this period begins, a nondelivery notification is returned to the user. Users should be informed about the time restriction.
Value range	Enter the time in hours and minutes in the range 00:00 to 23:59. Make sure the start and end times are different; otherwise, messages will never be sent.

Outgoing messages allowed on weekdays

Description	This is the time period in which outgoing AMIS messages may be sent on weekdays. AMIS messages cannot be sent during periods which are outside this time period.

Description	(continued) If a message becomes stale before this period begins, a nondelivery notification is returned to the user. Users should be informed about the time restriction.
Value range	Enter the time in hours and minutes in the range 00:00 to 23:59. Make sure the start and end times are different; otherwise, messages will never be sent.

Wakeup interval (mins)

Description	This is the periodic interval at which the networking software • checks for messages that are waiting to be sent • sets up the connections required to send those messages ***Hint:*** If you lower the batch threshold value, or if you find the system is frequently inactive when the batch threshold or holding times are reached (or both), you should consider decreasing this value. ***Note:*** For more information about the wakeup interval, see "Components and criteria used to send messages" in Chapter 1, "Understanding AMIS Networking."
Value range	1 to 99
Default	3

Batch threshold

Description	The batch threshold specifies the maximum number of urgent and standard messages that can be in the queue before a connection to a remote system is attempted.

Description	(continued) This threshold is designed to handle burst conditions that may arise during busy hours. If a large number of standard or urgent messages, or both are submitted to the networking service in a period shorter than the holding time, delivery connections are established to process the overload. Economy messages are not subject to this threshold.
Minimum value	1
Maximum value	99
Default	20

Economy class initiation time

Description	This is the time at which delivery of economy messages begins. Economy messages, unlike urgent and standard messages, are delivered only once a day at a particular time. Set this field to a time when costs for making calls are cheaper, or when there is less traffic on the network. ***Hint:*** If you wish to use this feature, you must instruct users to tag messages as economy when it does not matter if the messages do not arrive until the next day. (Messages sent today are delivered overnight.) ***Note:*** To tag a message as economy, press <7> <0> <3>.
Valid format	Enter the time in hours and minutes in the range 00:00 to 23:59.
Default	18:00

Economy class stale time	
Description	The value entered in this field determines the maximum retention time for messages tagged as economy. When this threshold is reached, a nondelivery notification is sent to the originator and the message has to be composed and sent again. ***Example:*** By default, economy messages are sent at 6:00 p.m. and become stale six hours later. Any economy messages still on the system at midnight will become stale.
Valid format	Enter the time in hours and minutes in the range 03:00 to 99:59.
Default	06:00

Standard class holding time	
Description	The value entered in this field determines the length of time that a standard priority message is retained before the system attempts to send it. A standard message may be transferred before this holding time expires if a connection is established for delivering urgent messages, or if the batch threshold has been reached.
Valid format	Enter the time in hours and minutes in the range 00:00 to 33:20.
Default	03:00

Standard class stale time	
Description	The value entered in this field specifies the maximum retention time for messages tagged as standard. If a message is not delivered before this time, a nondelivery notification is sent to the originator. These messages have to be composed and sent again. ***Note:*** The standard stale time must be at least three times greater than the holding time. (Enter the holding time first.) The holding time you enter affects the range of stale times that you can enter. ***Example 1:*** If you entered a standard holding time of 00:20, your standard stale time would have to be in the range 01:00 to 99:59. ***Example 2:*** If you entered a standard holding time of 05:00, your stale time would have to be in the range 15:00 to 99:59.
Valid format	Enter the time in hours and minutes.
Maximum value	99:59
Default	09:00

Urgent class holding time	
Description	The value entered in this field determines the length of time that an urgent priority message is retained before the system attempts to send it. A message may be transferred before this holding time expires if a connection is established for delivering standard messages, or because the batch threshold has been reached.
Valid format	Enter the time in hours and minutes in the range 00:00 to 33:20.
Default	00:30

Urgent class stale time	
Description	The value entered in this field is the maximum retention time for messages tagged as urgent. If a message is not delivered before this time, a nondelivery notification is sent to the originator. These messages have to be composed and sent again. ***Note:*** The urgent stale time must be at least three times greater than the holding time. (Enter the holding time first.) The holding time you enter affects the range of stale times that you can enter. ***Example 1:*** If you entered an urgent holding time of 00:20, your urgent stale time would have to be in the range 01:00 to 99:59. ***Example 2:*** If you entered an urgent holding time of 05:00, your urgent stale time would have to be in the range 15:00 to 99:59.
Valid format	Enter the time in hours and minutes.
Maximum value	99:59
Default	00:90

Entering the system-wide parameters changes into Meridian Mail

Introduction

This topic explains how to enter changes to the AMIS Networking information at the system administration level.

When to use this procedure

Use this procedure if you are using either a single-customer or a multi-customer system.

Impact of changes on system administration

If you change your AMIS Networking information, this may adversely affect the delivery of messages to remote systems.

Recommendation

Nortel recommends that you do not change the AMIS Networking information until you are comfortable with how your network is functioning.

Softkey descriptions

The following table describes the softkeys that are displayed on the View/Modify AMIS Networking Information screen.

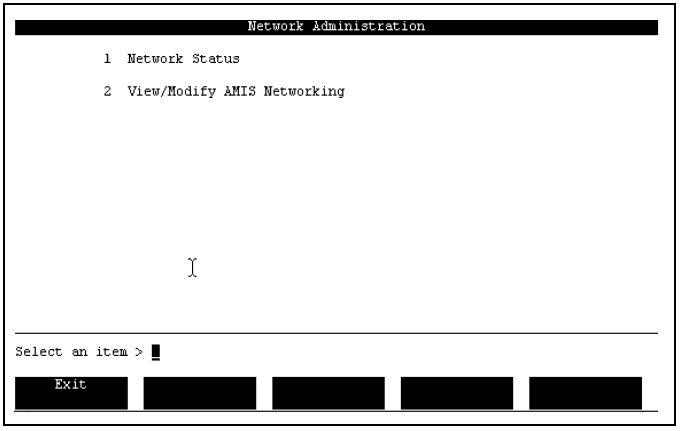
Softkey	Description
[Save]	Press this key to save the new information.
[Cancel]	Press this key if you do not want to save the new information.

Procedure

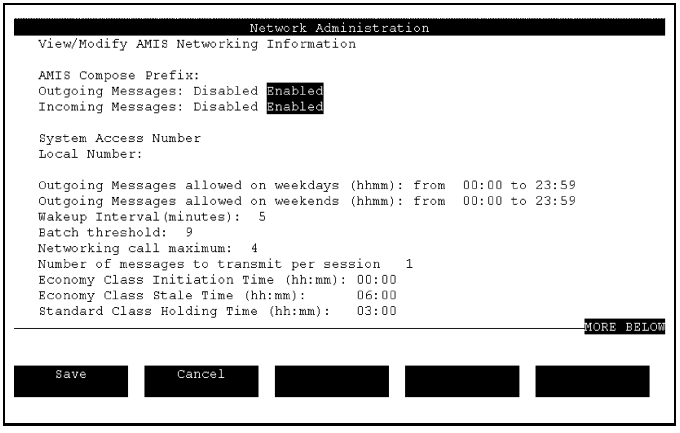
To modify the AMIS Networking information, follow these steps.

Starting Point: The Main Menu

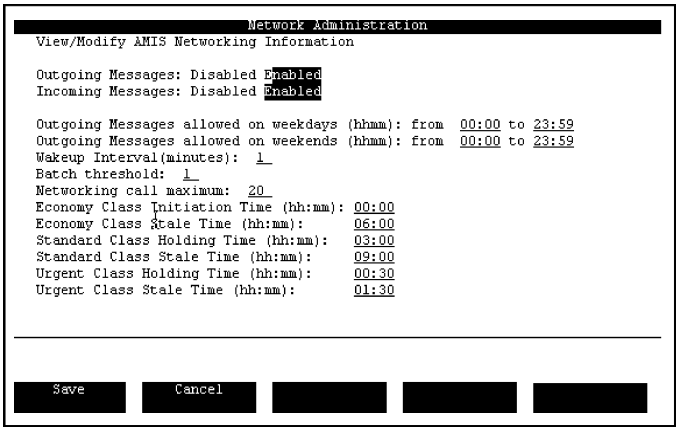
Step	Action
1	Select Network Administration. ***Result:*** The Network Administration menu is displayed.



2	Select View/Modify AMIS Networking Information. ***Result:*** The View/Modify AMIS Networking Information screen appears. For a single-customer system:



Step	Action
2	(continued) For a multi-customer system:



3 Complete the fields as follows.

IF your system is	THEN
single-customer	copy information from both the Customer-specific parameters and the System-wide parameters of form NWP-033.
multi-customer	copy information from only the System-wide parameters section of form NWP-033.

4 Do you want to save the AMIS Networking information?

If yes, press [Save].

Result: Your changes are saved and you are returned to the Network Administration menu.

If no, press [Cancel].

Result: Your changes are discarded and you are returned to the Network Administration menu.

Entering the customer-specific parameters into Meridian Mail

Introduction

This topic explains how to enter changes to the AMIS Networking information at the customer administration level.

When to use this procedure

Use this procedure if you are running a multi-customer system.

Softkey description table

The following table describes the softkeys that are displayed on the View/Modify AMIS Networking Information screen.

Softkey	Description
[Save]	Press this key to save your information.
[Cancel]	Press this key if you do not want to save your information.

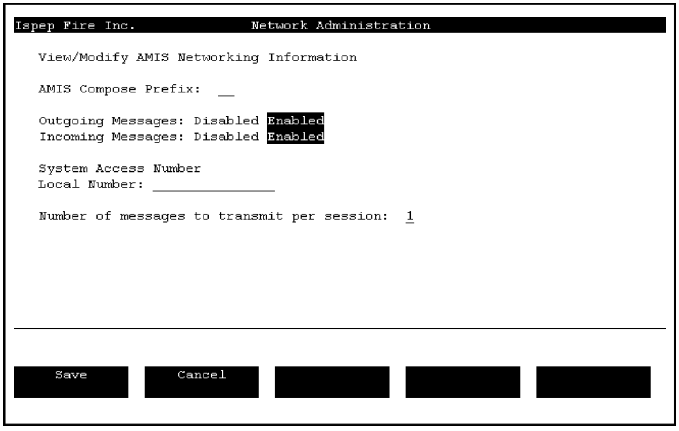
Procedure

To modify the AMIS Networking information, follow these steps.

Starting Point: The Main Menu

Step	Action
1	Select Customer Administration.
2	Select the AMIS Networking customer group. If necessary, use the [Find] then [List] softkeys. ***Result:*** The Customer Administration menu appears.

Step	Action
3	Select Network Administration from the Customer Administration menu. ***Result:*** The View/Modify AMIS Networking Information screen appears.



4	Copy information from the Customer-specific parameters section of form NWP-033.
5	Do you want to save the information? If yes, press [Save]. ***Result:*** The data entered in the screen is saved. The Customer Administration menu is displayed. If no, press [Cancel]. ***Result:*** Any changes you have made are not saved and the Customer Administration Menu is displayed.

Enabling or disabling AMIS Networking

Introduction

This topic explains how to

- prevent users from composing and sending, or receiving AMIS messages
- allow users to compose and send, or receive AMIS messages

Why you would want to disable AMIS

You can temporarily prevent the system from sending messages to or receiving messages from other AMIS systems. This may be necessary to prevent system abuse or to clear the system of messages that cannot be delivered and are tying up resources.

Disabling AMIS on multi-customer systems

On multi-customer systems, AMIS can be disabled at both the system administration level and at the customer administration level. If AMIS is enabled for a particular customer but is disabled at the system level, the system setting overrides the customer setting.

Softkey description table

The following table describes the softkeys that are displayed on the View/Modify AMIS Networking Information screen.

Softkey	Description
[Save]	Press this key to save your information.
[Cancel]	Press this key if you do not want to save your information.

Procedure

To disable (and enable) AMIS Networking, follow these steps.

Starting Point: The Main Menu

Step	Action
1	Display the View/Modify AMIS Networking Information screen as described in one of the following topics: • "Entering the system-wide parameters changes into Meridian Mail" on page 7-27 • "Entering the customer-specific parameters into Meridian Mail" on page 7-30 ***Result:*** The View/Modify AMIS Networking Information screen appears.
2	Do the following.

IF you want to	THEN
prevent the system from receiving AMIS messages	set the Incoming messages field to Disabled.
prevent the system from composing and sending AMIS messages	set the Outgoing messages field to Disabled.
allow the system to receive AMIS messages	set the Incoming messages field to Enabled.
allow the system to compose and send AMIS messages	set the Outgoing messages field to Enabled.

3	Do you want to save the information? If yes, press [Save]. ***Result:*** The data entered in the screen is saved. You are returned to the previous menu. If no, press [Cancel]. ***Result:*** Any changes you have made are not saved and you are returned to the previous menu.

Section B Printing and reviewing Operational Measurement reports

In this section

Overview of this section

Introduction

Operational Measurement (OM) reports show how much the system is being used by AMIS Networking.

This section describes and analyzes the following reports that contain AMIS Networking information:

- Services Summary Traffic report
- AMIS Networking Detail Traffic report
- User Usage report

Services Summary Traffic report

The Services Summary Traffic report provides statistics for each of the voice services installed in your system, including AMIS Networking. It also reports the total number of times a user dials each service (number of accesses), and the average length of each access.

AMIS Networking Detail Traffic report

The AMIS Networking Detail Traffic report displays open AMIS traffic totals for AMIS Networking for your system.

Statistics are shown for

- the number of AMIS messages received by your system and
- the number of AMIS messages delivered to other voice messaging systems
- the connect time
- the number of failures for each time interval displayed in the report

User Usage report

The User Usage report provides statistics for local voice messaging usage on a per-user basis, including any network usage. For AMIS Networking, the report also displays users' daily networking activity.

Requesting the Operational Measurement reports

Introduction

Traffic and usage reports can be generated only by the system administrator. These report screens allow you to choose which reports you want to view and print. Also, for some reports, you can choose Report Start and Report End date and time.

Procedure

For instructions on viewing or printing reports, see the "Generating traffic reports" section in the "Operational Measurements traffic reports" chapter of your *System Administration Guide* (NTP 55x-7001-30x).

Interpreting the Services Summary Traffic report

Description

The Services Summary Traffic report provides statistics for each of the voice services installed in your system. This report gives the total number of times a user dials a service (number of accesses), and the average length of each access.

Report sample and field descriptions

For a sample of the report and descriptions of the fields on it, refer to the "Traffic reports" section in the "Operational Measurements traffic reports" chapter of your *System Administration Guide* (NTP 55x-7001-30x).

Interpreting the AMIS Networking Detail Traffic report

Description

The AMIS Networking Detail Traffic report displays open AMIS traffic totals for AMIS Networking for your system.

Statistics are shown for

- the number of AMIS messages received at your system
- the number of AMIS messages delivered to other voice messaging systems
- the connect time
- the number of failures for each time interval displayed in the report

Report sample and field descriptions

For a sample of the report and descriptions of the fields on it, refer to the "Traffic reports" section in the "Operational Measurements traffic reports" chapter of your *System Administration Guide* (NTP 55x-7001-30x).

Interpreting the User Usage report

Introduction

The User Usage report provides statistics for local voice messaging usage on a per-user basis. If AMIS Networking is installed, the report also displays users' daily networking activity. To generate User Usage reports, use the User Usage Reports screen.

Note: Check the Operational Measurement Options screen to make sure that the collection of user usage data is enabled. If it is disabled, ask your system administrator to enable it.

Report sample and field descriptions

For a sample of the report and descriptions of the fields on it, refer to the "User Usage reports" chapter of your *System Administration Guide* (NTP 55x-7001-30x).

Chapter 8

Troubleshooting network errors

In this chapter

Overview of this chapter

Introduction

If you are experiencing problems with your AMIS network, this chapter will help you to identify the cause of those problems.

Network errors may be caused by one or more of the following:

- AMIS is disabled.
- The networking information may either be incorrect or need to be modified to eliminate the problem.
- There are switch configuration errors.

Network status

AMIS may be disabled at either the system or customer levels of administration on the View/Modify AMIS Networking Information screen.

AMIS can be disabled for either or both incoming or outgoing messages.

Networking information errors

Networking information errors may include the following:

- Scheduling parameters need to be modified.
- The number of ports used at one time may need to be modified.

Switch-related errors

If the network error cannot be identified by using Meridian Mail, the error may be switch related. You can perform the following tests:

- call trace

  Call trace can help you determine if network calls are being blocked for one or more of the following reasons:

  — Digit manipulation is performed incorrectly (not enough or too many digits are inserted or deleted).

  — Class of Service restrictions are too stringent or too loose.

Switch-related errors (continued)

— Dialing is incorrect (more digits are required by trunks and trunk routes).

On the Meridian 1, a call trace can be performed on a telephone set or on a trunk and trunk route.

- link diagnostic

  The link diagnostic test identifies whether the link between the Meridian Mail system and the switch is working.

Hardware problems

Your system may be experiencing hardware problems that are not related to networking.

Identifying and investigating system errors

Introduction

If you are experiencing problems with your network, the problem may be with one of the following:

- networking information
  - — Scheduling parameters may need to be modified.
  - — AMIS is disabled.
- problems with
  - — voice ports
  - — switch hardware
  - — Meridian Mail hardware
  - — Meridian Mail system which is powered down or disabled at a remote site

Procedure

To identify the cause of network errors by using Meridian Mail, do the following.

Step	Action
1	Review the System Event and Error Reports (SEERs) for the following classes: • 36, Network Message Transfer Agent (NMTA) • 42, Open Access Transfer Agent (OTA) Also, look for SEERs related to hardware or other system problems. For instructions on reviewing and interpreting SEERs and their suggested actions, see your *Maintenance Messages (SEERs) Reference Manual* (NTP 555-7001-510).
2	View the network status. For instructions, see Chapter 7, “Maintaining the network.” For troubleshooting information, see “What to look for” following this procedure.
3	Review the Operational Measurement reports. For instructions on printing the reports, see Chapter 7, “Maintaining the network.” For troubleshooting information, see “What to look for” following this procedure.

What to look for

The following table lists some things to look for when reviewing network status and Operational Measurement reports.

Considerations	Suggested action
When reviewing Operational Measurement reports:	
Is there a large number of accesses? Is the average length of each access low?	A large number of accesses may indicate that the holding time for messages is too low, or the batch threshold is too small.
Are the numbers of "Failed to Send" messages high?	Check to make sure that the remote system is not down. Try incrementing the Networking call maximum field on the View/Modify AMIS Networking Information screen. Check the dialing translations. They may not be correctly configured.
Are the numbers of NDNs delivered high?	It is possible that users are entering incorrect addresses (or perhaps the mailboxes on remote systems do not exist).
Is networking generating an unusually high amount of traffic?	Try to determine if the high traffic level was due to some unusual (or perhaps cyclical) event that affected your organization. If the event is unusual, high traffic would not be expected to continue. If the high traffic is expected to continue, you may want to consider increasing the number of ports used for AMIS Networking. You may also want to consider expanding your system (for example, if you have a limited number of ports, increase the number of voice ports).
Were there any failures?	The error could be one of the following: • The remote system does not support the AMIS protocol. • The voice ports could not be accessed. You may want to consider adding more ports.

If you are still having a problem

If you are still unable to identify the source of the problem, try doing the following:

- Determine if AMIS Networking has been disabled.

  For instructions, see “Determining if AMIS Networking has been disabled” on page 8-7.
- Perform a call trace on the switch.

  For instructions, see “Tracing calls on the switch” on page 8-11.
- Perform a link diagnostic on the switch.

  For instructions, see “Performing a link diagnostic test” on page 8-16.

Determining if AMIS Networking has been disabled

Introduction

If the following have been disabled for AMIS Networking

- delivery of outgoing messages
- receiving of incoming messages

then messages cannot be sent to or received from remote sites.

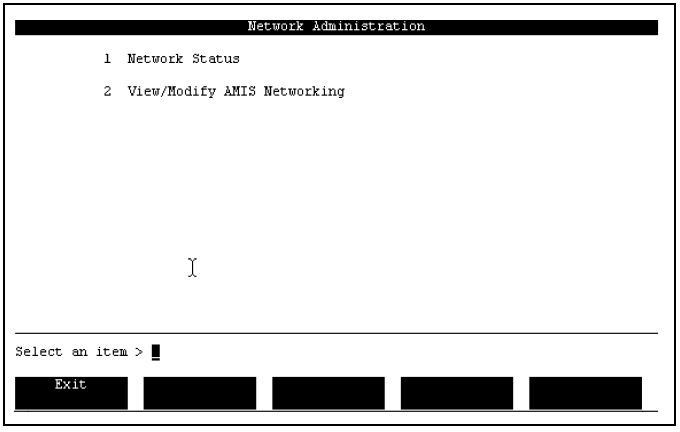
AMIS Networking is disabled (and enabled) on the View/ Modify AMIS Networking Information screen.

Procedure: system level

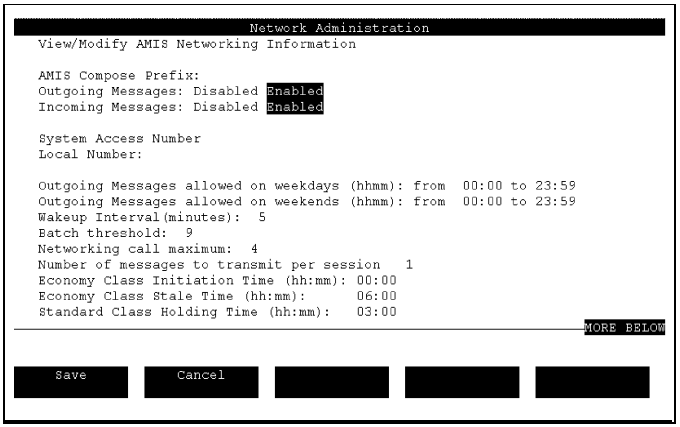
To determine if AMIS Networking has been disabled on a single-customer system (or at the system level on a multi-customer system), do the following.

Starting Point: The Main Menu

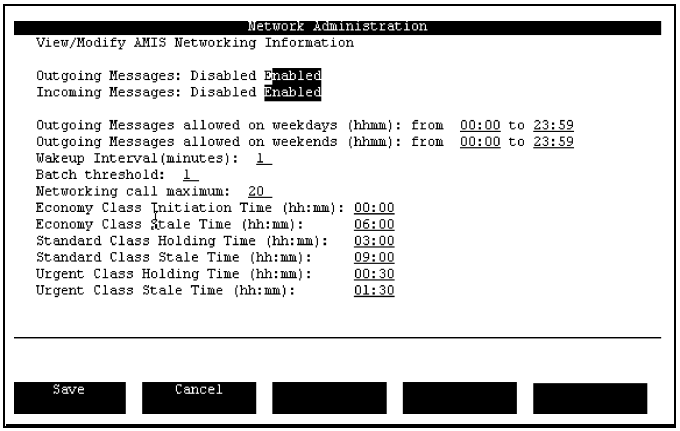
Step	Action
1	Select Network Administration. ***Result:*** The Network Administration menu is displayed.



Step	Action
2	Select View Modify AMIS Networking. ***Result:*** The View/Modify AMIS Networking Information screen is displayed. For a single-customer system:



For system level on a multi-customer system:



3	Review the following fields: • Outgoing messages • Incoming messages
4	Do either of these fields display Disabled as the selection? If yes, press [right arrow] to change the field to Enabled. If no, then AMIS Networking is enabled.

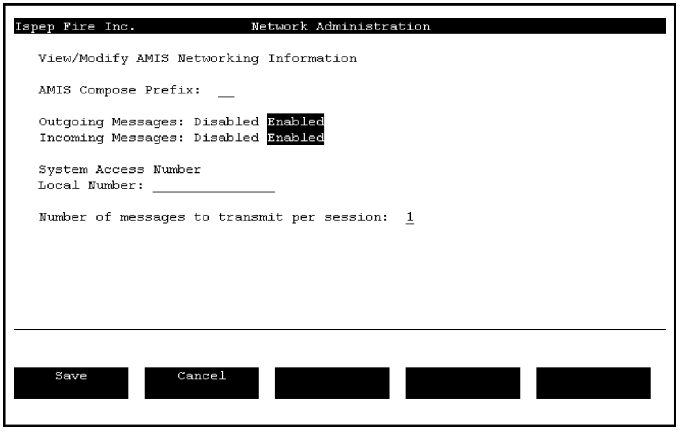
Step	Action
5	Did you make a change in step 3? If yes, press [Save]. ***Result:*** Your change is saved and you are returned to the Network Administration menu. If no, press [Cancel]. ***Result:*** The Network Administration menu is displayed.

Procedure: multi-customer system (customer level)

To determine if AMIS Networking has been disabled at the customer level on a multi-customer system, do the following.

Starting Point: The Customer Administration menu

Step	Action
1	Select Network Administration. ***Result:*** The View/Modify AMIS Networking Information screen appears.



2	Review the following fields: • Outgoing messages • Incoming messages
3	Do either of these fields display Disabled as the selection? If yes, press [right arrow] to change the field to Enabled. If no, then AMIS Networking is enabled.

Step	Action
4	Did you make a change in step 3? If yes, press [Save]. ***Result:*** Your change is saved and you are returned to the Network Administration menu. If no, press [Cancel]. ***Result:*** The Network Administration menu is displayed.

Tracing calls on the switch

Introduction

If the network error cannot be identified by using Meridian Mail, then it is possible that calls are being blocked by the switch. To determine if this is the case, you can perform a call trace on your switch. The call trace helps you to determine why a call is not going through to its destination.

A network call can be blocked for one or more of the following reasons:

- Digit manipulation is performed incorrectly (not enough or too many digits are inserted or deleted).
- Class of Service restrictions are too stringent or too loose.
- Dialing is incorrect (more digits are required by trunks and trunk routes).

Note: On the Meridian 1, a call trace can be performed on a telephone set or on a trunk and trunk route.

Skills required

Interpreting the results of a call trace requires an understanding of

- how the switch processes calls
- how to interpret the results of a call trace session

If you are a Meridian Mail administrator who does not have this understanding, Nortel recommends that you consult with a switch technician.

Performing call trace on non-Meridian 1 switches

If you need to perform a call trace on your DMS family, SL-100, or non-Nortel switch, do the following.

IF you have	THEN
a non-Nortel switch (AT&T or ROLM)	refer to your vendor's documentation.
a DMS family or SL-100 switch	contact your service provider. Your service provider will do the call trace.

Before you begin

To trace calls on the Meridian 1, you need to know one or more of the following before you initiate the test:

- customer number
- directory number that will be tested
- type of telephone and key number and type (for multi-line telephone sets)
- terminal number (loop, shelf, card, unit) of the telephone set or trunk you want to test
- route type and trunk member of the trunk and trunk route you want to test

Tracing calls on the Meridian 1

To perform the call trace on a telephone set or trunk, do the following at a Meridian 1 terminal.

Starting Point: You are already logged in and the > prompt is displayed.

Step	Action
1	Type **LD 80** and press <Return>. ***Result:*** The "." (period) prompt is displayed.
2	Enable enhanced trace. Type one of the following commands, then press <Return>: • **ENTC l s c u t** (to enable call trace for a TN) • **ENTD l ch t** (to enable call trace for a digital trunk) where • l = loop number • s = shelf number • c = card number • u = unit number • t = length of time for which the trace is to operate in HHMM ***Example:*** ENTC 001 0 02 01 0005 enables the trace on a TN for five minutes.
3	Start the trace. Type **GOTR** and press <Return>. ***Result:*** The "." (period) prompt is displayed.
4	Perform the trace. a. Type **TRAC xx...xx DEV** and press <Return>. (where xx...xx represents any parameter on the TRAC command). Refer to the *X11 input/output guide* (NTP 553-3001-400) for more information. DEV means that auxiliary data related to NARS/BARS or CDP will be printed. b. Place the call. c. Review the results on the terminal. For descriptions of call trace outputs, refer to "LD 80" in the *X11 input/output guide* (NTP 553-3001-400).
5	Repeat step 4 as many times as necessary.

Step	Action
6	Stop the trace. Type **STPT** and press <Return>. ***Result:*** The "." (period) prompt is displayed.
7	Disable enhanced trace. Type **DALL** and press <Return>. ***Result:*** The "." (period) prompt is displayed.

What to look for

When viewing the call trace results on the Meridian 1 terminal, review the following information. Refer to the *X11 input/output guide* (NTP 553-3001-400) for more information.

Output response	Description
AUX_NARS	NARS data to follow
AUX_PM and associated values such as: • ABSORBING • COMPLETE • NARS	auxiliary progress mark • digit manipulation is being performed on call • dialing is complete • call is network call
BUSY	unit or directory number is busy
COS_ORIG and COS_TERM	class of service restrictions for the originating and terminating parties
DG_MAN xxx FCA_INDEX xxx TOD x	digit manipulation index, free calling area screening, and time of day values
DSBL	The unit has been disabled.
EXP_ROUTE	An expensive route is being used for an ESN call.
MAIN_PM and associated values such as: • BUSY • DIAL • ESTD • REOR • RING	main progress mark • originator is receiving busy tone • one or more digits have been dialed; system requires more digits • call is established between originating and terminating parties • originator is receiving intercept treatment • originator is receiving ring-back tone

Output response	Description
NARS_PM	NARS call progress mark
NEW_RLIST_INDEX NWQ_RLIST_ENTRY	network queue route list index, and route list entry
NCOS_ORIG and NCOS_TERM	Network Class of Service for the originating and terminating parties
TGAR_ORIG and TGAR_TERM	trunk group access restriction for the originating and terminating parties

Performing a link diagnostic test

Introduction

If the network error cannot be identified by using any of the previous troubleshooting procedures, your problem may be a little more serious. It may be one that is not related to networking at all.

One of the things you can do is perform a link diagnostic test. The link diagnostic test identifies whether the link between the Meridian Mail system and the switch is working.

Skills required

Performing and interpreting the results of a link diagnostic test require the experience of a switch technician.

If you are a Meridian Mail administrator, Nortel recommends that you consult with a switch technician.

Performing the link diagnostic test

If you need to perform a link diagnostic test on your switch, do the following.

IF you have	THEN
Meridian 1	refer to LD 90 in the *X11 input/ output guide* (NTP 553-3001-400).
a non-Nortel switch (AT&T or ROLM)	refer to your vendor's documentation.
a DMS family or SL-100 switch	contact your service provider. Your service provider will do the link diagnostic test.

Appendix A

Networking implementation forms

In this appendix

Overview of this appendix

Introduction

This appendix contains full-sized samples of all the forms discussed throughout this manual.

What to do

When you need to use a specific form, make a photocopy of it and return the original to this manual.

The forms are sequentially numbered in the order in which they are presented in this manual. If you remove them from this manual, Nortel recommends that when you return the original forms to this manual, you place them in the correct order.

Types of forms

The following table describes the types of forms that are available.

Type	Form numbers	Purpose
Testing	NWP-030	This form can be used when testing Meridian Mail ports (ACD/UCD agents). ***Note:*** This form is not limited to AMIS Networking. It can be used during system installation as well.
Meridian Mail Network Information forms	NWP-033	This form is used to prepare for entering AMIS Networking information into Meridian Mail.
Implementation Checklist	NWP-035	This form is used to track your progress while implementing AMIS Networking.

Forms

Introduction

The networking implementation forms are shown on the following pages.

Reference list

The following table lists the forms and the page numbers where they can be found.

Form number	Form name	Shown on page	For instructions, see
NWP-030	Testing Meridian Mail Ports (ACD/UCD Agents)	A-4	Chapter 5, “Testing the network”
NWP-033	AMIS Networking Information	A-5	Chapter 7, “Maintaining the network”
NWP-035	AMIS Networking Implementation Checklist	A-6	Chapter 1, “Understanding AMIS Networking”

NWP-030

Testing Meridian Mail Ports (ACD/UCD Agents) **NWP-030**

Complete and attach additional pages if necessary.

Port number	Terminal number (TN)	Agent position ID	Record check mark

Tested by

Administrator:	Date:

NWP-033

AMIS Networking Information **NWP-033**

Customer-specific parameters

AMIS compose prefix:	Outgoing messages ☐ Enabled ☐ Disabled	Incoming messages ☐ Enabled ☐ Disabled
Local system access number:	Number of messages to transmit per session:	

System-wide parameters

Note: If you are working with a single-customer system, complete the Customer-specific parameters as well.

Outgoing messages allowed on weekends (hh:mm)	From: To:
Outgoing messages allowed on week days (hh:mm)	From: To:
Wakeup interval (minutes)	Batch threshold:
Networking call maximum:	
Economy class initiation time (hh:mm):	Economy class stale time (hh:mm):
Standard class holding time (hh:mm):	Standard class stale time (hh:mm):
Urgent class holding time (hh:mm:)	Urgent class stale time (hh:mm):

Completed by

Administrator:	Date:

NWP-035

AMIS Networking Implementation Checklist **NWP-035**
Page 1 of 1

Step	Description	For instructions, see the chapter	Done
1	Define the ACD/UCD queues.	Configuring the Meridian 1 for systems using AML Configuring the PBX/DMS for systems using SMDI	☐
2	Dedicate ACD/UCD agents to networking (if required).		☐
3	Verify TGAR and NCOS on ACD/UCD agents.		☐
4	Define trunks (if additional trunks are required).		☐
5	Verify TGAR (access to trunks).		☐
6	Dedicate ports to networking if required.	Configuring Meridian Mail	☐
7	Define the networking DN in the VSDN table.		☐
8	Define the AMIS Networking dialing prefixes and translation tables.		☐
9	Define the AMIS Networking system access number and compose prefix.		☐
10	Test call routing access.	Testing the network	☐
11	Test ACD/UCD agents.		☐
12	Compose and send a message from the local system tothe local system.		☐
13	Send a message from the local site to a remote system (if possible).		☐
14	Back up Meridian Mail.	Creating a backup of the system	☐
15	Print Meridian Mail network information.		☐
16	Back up the switch.		☐

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NORTEL
NORTHERN TELECOM

Reader Response Form

Meridian Mail 12
AMIS Networking Installation and Administration Guide (NTP 555-7001-242)

Tell us about yourself:

Name: _____

Company: _____

Address: _____

_____

Occupation: _____ **Phone:** _____

1. What is your level of experience with this product?

   ☐ New User ☐ Intermediate ☐ Experienced ☐ Programmer

2. How do you use this book?

   ☐ Learning ☐ Procedural ☐ Reference ☐ Problem solving

3. Did this book meet your needs?

   ☐ Yes ☐ No

   If you answered No to this question, please answer the following questions.

4. What chapters, sections, or procedures did you find hard to understand?

   _____

   _____

   _____

5. What information (if any) was missing from this book?

   _____

   _____

   _____

6. How could we improve this book?

   _____

   _____

   _____

Please return your comments by fax to (416) 597-7104, or mail your comments to: Toronto Information Products, Nortel, 522 University Avenue, 14th Floor, Toronto, ON, M5G 1W7, Canada.

NORTEL
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Reader Response Form

Reader Response Form

Meridian Mail
AMIS Networking Installation and Administration Guide

Toronto Information Products
Nortel
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Toronto, Ontario Canada
M5G 1W6

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