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Meridian Mail

Meridian Networking Installation and Administration Guide

Product release 12

Standard 1.0

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NORTEL
NORTHERN TELECOM

Meridian Mail

Meridian Networking Installation and Administration Guide

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This guide explains how to implement Meridian Networking, a networking service that uses the Meridian Enterprise message transfer protocol.

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Preface

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What this manual is about and who should read it

Introduction

The *Meridian 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 Meridian Mail systems.

Each Meridian Mail system is defined as a site in the network. The Meridian Mail site is connected to the other Meridian Mail system by trunks which allow the two systems to communicate with each other.

Description of this manual

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

Note: To identify the NTP you need, see “Related documents” on page xxv.

What this manual includes

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

- hardware installation
- 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

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 Meridian Mail Networking feature has been installed on your system. You can verify this by displaying the Configuration Record from the Administration Tools menu.

If Meridian Mail 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

- installation technicians (for installing the hardware required for Meridian Networking)
- 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.

Hardware installation

If you are responsible for hardware installation, you should have a basic understanding of how to

- install circuit cards, modems, and required cabling
- configure modems

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 through 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
- how to set up user mailboxes (for remote voice user administration)

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
- be knowledgeable about CDP and ESN dialing plans

**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, 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.)

Supported platforms

Introduction

Meridian Networking is supported on all Meridian Mail platforms using Release 8 or higher, except single-customer systems using VMUIF.

AML versus SMDI platforms

Instructions for implementation of Meridian 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. 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 Meridian Networking”	This chapter provides an overview of Meridian Networking. It describes what it is, how it works, and how it interacts with other features of Meridian Mail. It also describes the dialing plans that are used, and what these dialing plans need in order to work. This chapter also provides a high-level overview of the tasks that are performed during implementation.
Chapter 2, “Gathering information for the network”	This chapter explains • how to gather dialing plan information from the switch • why you need to gather it • how to convert this information into a network diagram • the basic guidelines for identifying the changes required (if any) to standardize the dialing plans across your network
Chapter 3, “Installing the hardware”	This chapter explains how to install and verify the hardware required for networking on both the switch and the Meridian Mail system.
Chapter 4, “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 • modify CDP and ESN dialing plans Note: If your system uses the SMDI link between the Meridian Mail system and the switch, ignore this chapter.

Chapter number and title	Description
Chapter 5, “Configuring the PBX/DMS for systems using SMDI”	For systems using SMDI, this chapter provides descriptive information for • defining UCD queues or hunt groups for networking • configuring the switch hardware • modifying dialing plans Note: If your system uses the AML link between the Meridian Mail system and the switch, ignore this chapter.
Chapter 6, “Configuring Meridian Mail”	For all platforms, this chapter explains how to • enable Meridian Networking for a specific customer • dedicate ports to networking • modify the VSDN table • define the networking configuration • configure the networking modem data ports • add local sites • add remote sites • add remote Network Message Service sites and locations
Chapter 7, “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 site only • those that test both the local and remote sites to ensure that messages can be sent and received
Chapter 8, “Creating a backup of the system”	This chapter explains • why a backup of the network database 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 (including the networking data port configuration)
Chapter 9, “Really understanding how Meridian Networking works”	This chapter provides more technical information about • how the Meridian 1 processes calls • how messages are transferred to other sites This information is essential for troubleshooting network errors and for fine-tuning your network.

Chapter number and title	Description
Chapter 10, “Maintaining the network”	This chapter explains how to • modify and delete local and remote sites • modify and delete remote Network Message Service sites and locations • add remote voice users • clear sites in error • modify the networking configuration • print and review Operational Measurements reports
Chapter 11, “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 • hardware problems • site configuration errors • site status which prevents it from receiving messages from the local site • networking configuration errors • switch configuration errors
Appendix A, “Networking implementation forms”	Appendix A contains full-size samples of all the forms used to implement networking.
Appendix B, “Miscellaneous tasks”	Appendix B contains instructions for changing the local site ID.
Appendix C, “Reference information”	Appendix C contains a table that shows the maximum number of sites, locations, translation tables, and exchange codes that can be defined at one time in Meridian Mail.
List of Fields	This section lists all networking related fields in alphabetical order. Use this section to quickly locate descriptive information for a field.
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 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.	Type PRT and press <Return>.
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.	<i>Procedure text:</i> Move your cursor to the Mailbox number equals local extension? field. <i>Other text:</i> The Add Remote Site screen is used to define sites in your network.
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.

Convention for	Description	Example
system responses	System responses appear in the same typeface as the accompanying text. They are introduced with Result: .	Result: The Add Remote Site 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 xiv.
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 adding remote sites, see Section C on page 6-77.
in another manual	in italics (for the NTP title) and parentheses (for the NTP number).	For instructions on how to ensure that all hardware and software requirements are fulfilled for networking, refer to the <i>Networking Planning Guide</i> (NTP 555-7001-241).

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
<i>Networking Planning Guide</i>	555-7001-241
<i>AMIS Networking Installation and Administration Guide</i>	555-7001-242
<i>Network Message Service Installation and Administration Guide</i>	555-7001-243
<i>Meridian Networking Installation and Administration Guide</i>	555-7001-244
<i>Virtual Node AMIS Networking Installation and Administration Guide</i>	555-7001-245
<i>Enterprise Networking Installation and Administration Guide</i>	555-7001-246

System administration documents

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

NTP name	NTP number
<i>Maintenance Messages (SEERs)</i>	555-7001-510
<i>System Administration Guide (M1)</i>	555-7001-301
<i>System Administration Guide for Multi-Customer Systems (M1)</i>	555-7001-302
<i>System Administration Guide (MSM and Modular Option GP)</i>	557-7001-301
<i>System Administration Guide for Multi-Customer Systems (MSM and Modular Option GP)</i>	557-7001-302

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

Meridian 1 documents

The following table lists documents that explain how to configure the Meridian 1. Documents which explain how to implement dialing plans have also been listed in case you need them.

NTP name	NTP number
<i>X11 input/output guide</i>	553-3001-400
<i>Basic and Network Alternate Route Selection description</i>	553-2751-100
<i>Coordinated Dialing Plan description</i>	553-2751-102
<i>Basic and Network Authorization Code description</i>	553-2751-103
<i>Flexible Numbering Plan</i>	553-2751-105
<i>Electronic Switched Network description</i>	309-3001-100
<i>ESN engineering (signaling guidelines)</i>	309-3001-180
<i>ESN transmission guidelines</i>	309-3001-181

Chapter 1

Understanding Meridian Networking

In this chapter

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Overview of this chapter

Introduction	This chapter provides an overview of Meridian Networking on Meridian Mail.
Description	Section A, “What is Meridian Networking?” • defines a network • describes Meridian 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
Dialing plans	Section B, “Understanding dialing plans” • identifies the different types of dialing plans that can be used (ESN, CDP, no dialing plan) • explains why standardization of the dialing plans is important • explains what is needed to make the dialing plans work
Implementing Meridian Networking	Section C, “Implementing Meridian 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 Meridian Networking?

In this section

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Meridian Networking and other Meridian Mail features	1-20
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Overview of this section

Introduction

This section

- defines a network
- describes Meridian 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
- Meridian Mail network

Description: Meridian Networking

Meridian Networking is a Meridian Mail networking protocol that is used to transmit messages between users on different Meridian Mail systems. It uses the following:

- a network database to define local and remote sites
- a hybrid analog and digital transmission scheme
- modems to transmit control passwords, message header information, and message delivery acknowledgments between sites

How it works

Descriptions are provided for

- how a user addresses a message to a remote site
- how Meridian Mail identifies the site to which the message must be sent
- when a message transfer session is initiated
- how messages are transferred to remote sites

How it is configured

Configuration of Meridian Networking consists of the following major components:

- hardware installation and configuration
- switch configuration
- Meridian Mail configuration

Meridian Networking and other Meridian Mail features

The following are described:

- how Meridian 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 Meridian Mail systems

What is a network?

Introduction

This topic defines the following:

- a network (generic definition)
- a switch network
- a Meridian Mail 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

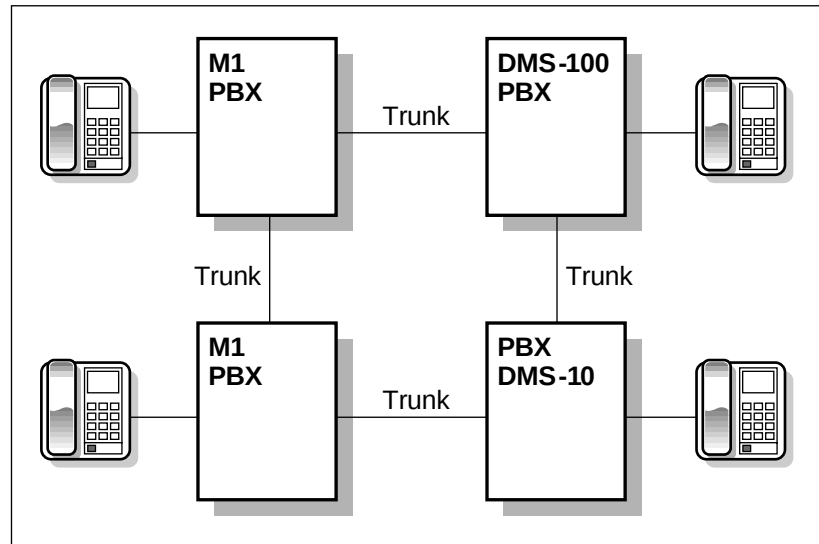
A switch network is a network of telephone trunks and switches which are normally used for processing telephone calls.

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

The following diagram shows an example of a switch network.



G100467

Definition:
Meridian Mail network

A Meridian Mail network is a collection of Meridian Mail systems and switches. Users at one Meridian Mail system can send messages to and receive messages from other users whose mailboxes reside on other Meridian Mail systems in the network.

A Meridian Mail network is typically a private network. It uses one of the following message transfer protocols:

- Meridian Networking (described in this manual)
- Enterprise Networking

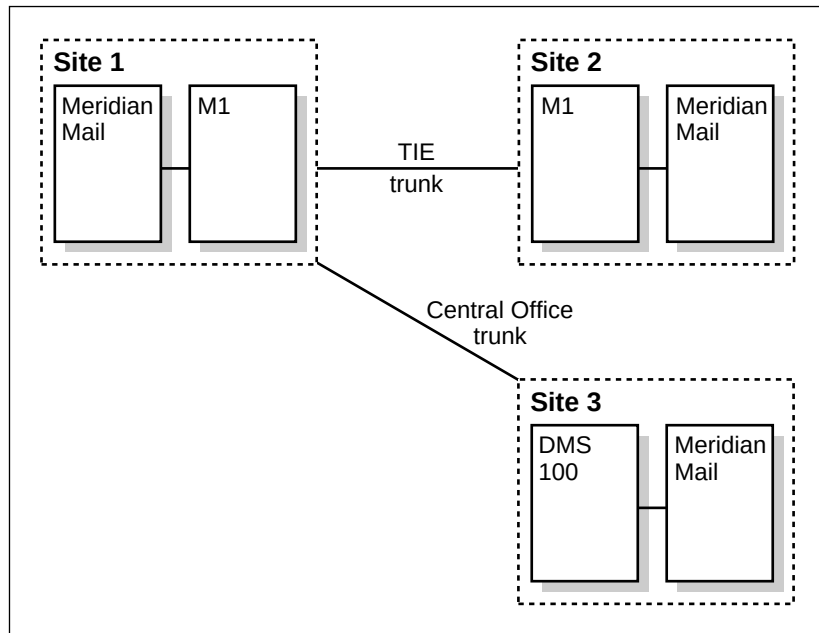
For more information, refer to the *Enterprise Networking Installation and Administration Guide* (NTP 555-7001-246)

Definition:
Meridian Mail network
(continued)

- AMIS Networking
- For more information, refer to one of the following:
- *AMIS Networking Installation and Administration Guide* (NTP 555-7001-242)
 - *Virtual Node AMIS Networking Installation and Administration Guide* (NTP 555-7001-245)

Example

The following diagram shows an example of a Meridian Mail network.



What is Meridian Networking?

Description

Meridian Networking is a Meridian Mail networking protocol that is used to transmit messages between users on different Meridian Mail systems. It uses the following:

- a network database to define local and remote sites
- a hybrid analog and digital transmission scheme
- modems to transmit control passwords and message header information between sites

Meridian Networking is also known as *proprietary networking*. It is restricted to North America due to the modem regulations and conference beep requirements in most countries. It supports up to 151 sites (one local site and 150 remote sites).

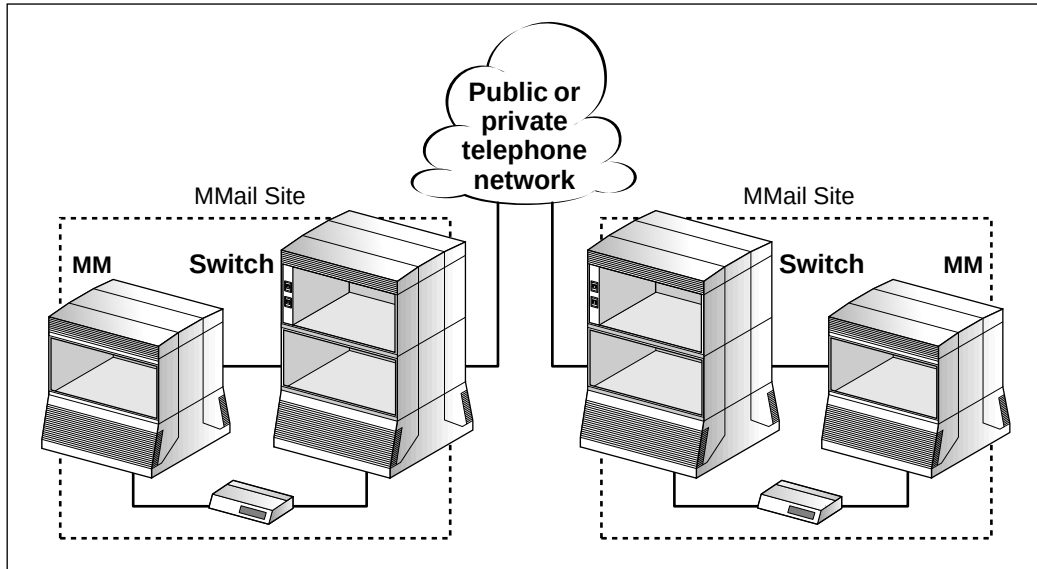
Meridian Mail sites

Each Meridian Mail system in the network is called a site. Each site has its own unique ID.

In the Meridian Mail system at a particular site, the site ID representing that Meridian Mail system is called the local site. All other sites, from the local site's point of view, are referred to as remote sites.

Diagram

The following diagram shows an example of a network that uses Meridian Networking.



G100401

How Meridian Networking works

Introduction

This topic

- explains how a user addresses a message to a remote site
- explains how Meridian Mail identifies the site to which the message must be sent
- explains when a message transfer session is initiated
- provides a high-level overview and diagram of how messages are transferred to remote sites

Components that must be configured

Meridian Networking relies on two very important components that must be configured. These are

- the dialing plan

The dialing plan is configured on the switch. It is the set of rules that the switch uses to route calls through a public or private telephone network to their final destinations.

Each site may use

- Coordinated Dialing Plan (CDP)
- Electronic Switched Network (ESN)
- both CDP and ESN, or
- no dialing plan (No dialing plan means that neither the ESN nor the CDP dialing plans are used.)

- the network database

The network database is the collection of local and remote sites that are defined on each Meridian Mail system in the network. Each site definition includes the following (this is not a complete list):

- site ID
- type of dialing plan used
- DN used to connect to that site

How a user addresses and sends a message to another site

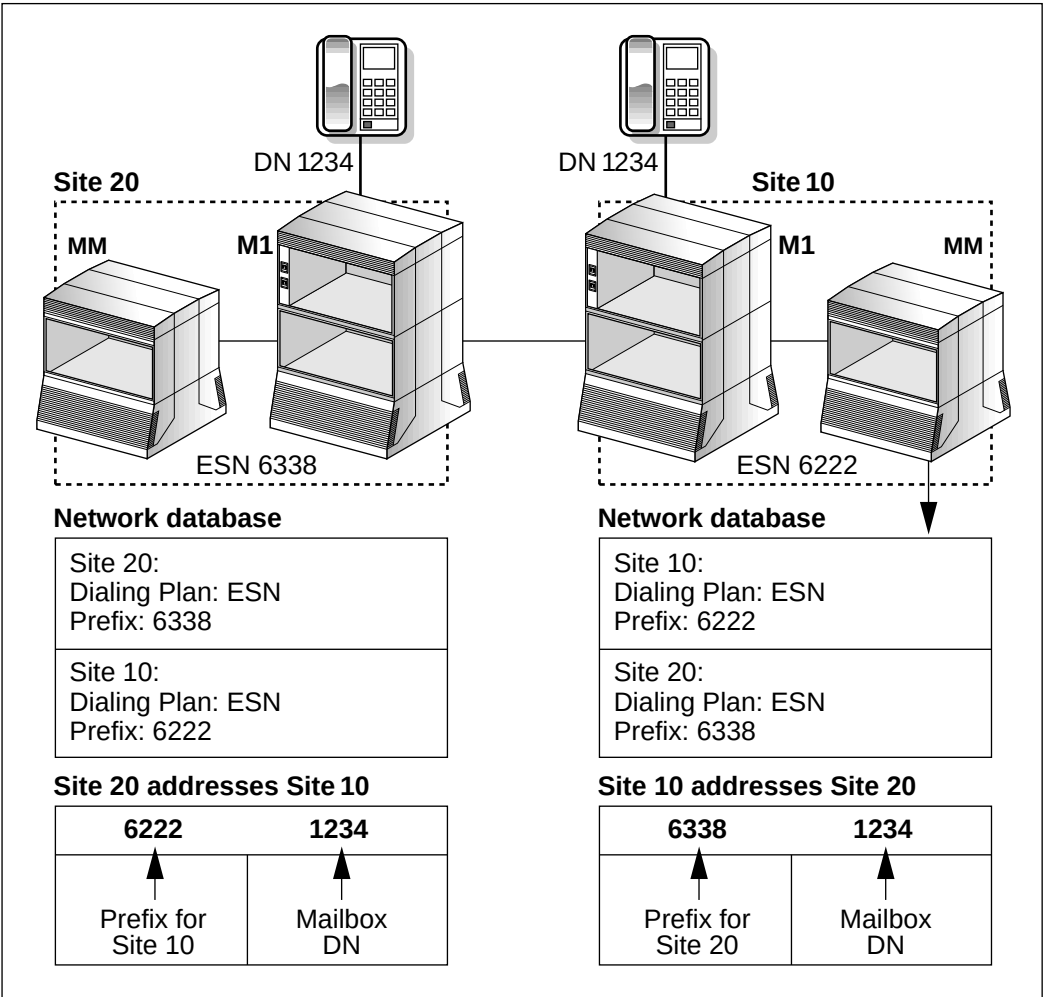
When a user wants to send a message to a user at another site, he or she does the following.

Stage	Description						
1	The user logs in to Meridian Mail.						
2	The user presses 75 to compose a message.						
3	The user enters a network address. <table border="1"> <tr> <th>IF the</th><th>THEN the user enters</th></tr> <tr> <td>user's mailbox number is the same as their extension DN</td><td> <i>For ESN:</i> ESN access code, ESN location code and mailbox number. Example: 63387460 <i>For CDP:</i> DN of user at remote site (CDP steering code and mailbox number). Example: 737673 <i>For Hybrid:</i> use ESN or CDP as appropriate. </td></tr> <tr> <td>mailbox numbering is not the same as user DNs (dialing plan), or the dialing plan is "None"</td><td>mailbox prefix and mailbox number.</td></tr> </table>	IF the	THEN the user enters	user's mailbox number is the same as their extension DN	<i>For ESN:</i> ESN access code, ESN location code and mailbox number. Example: 63387460 <i>For CDP:</i> DN of user at remote site (CDP steering code and mailbox number). Example: 737673 <i>For Hybrid:</i> use ESN or CDP as appropriate.	mailbox numbering is not the same as user DNs (dialing plan), or the dialing plan is "None"	mailbox prefix and mailbox number.
IF the	THEN the user enters						
user's mailbox number is the same as their extension DN	<i>For ESN:</i> ESN access code, ESN location code and mailbox number. Example: 63387460 <i>For CDP:</i> DN of user at remote site (CDP steering code and mailbox number). Example: 737673 <i>For Hybrid:</i> use ESN or CDP as appropriate.						
mailbox numbering is not the same as user DNs (dialing plan), or the dialing plan is "None"	mailbox prefix and mailbox number.						
4	The user presses #.						
5	The user completes the list of recipients as described below. <table border="1"> <tr> <th>IF</th><th>THEN the user</th></tr> <tr> <td>there are more addresses</td><td>repeats stages 3 and 4.</td></tr> <tr> <td>there are no more addresses</td><td>presses # again.</td></tr> </table>	IF	THEN the user	there are more addresses	repeats stages 3 and 4.	there are no more addresses	presses # again.
IF	THEN the user						
there are more addresses	repeats stages 3 and 4.						
there are no more addresses	presses # again.						
6	The user presses 5 (to record a message).						
7	The user records the message, then presses # (to stop recording).						
8	The user presses 79 to send the message.						

Stage	Description
9	The user logs out of Meridian Mail and hangs up.

Example of how messages are addressed

The following illustration shows how a message is addressed to a remote site using the ESN dialing plan.



G100468

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)
 - 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 messages queued for one site exceeds the batch threshold, then a session is initiated to the receiving site. 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 Meridian Mail knows which site to contact

Before Meridian Mail can deliver a message to a remote site, it must first determine what that site is and how to connect to it.

As discussed previously, a message address contains one of the following:

- ESN prefix (ESN access and location codes)
- CDP steering code
- mailbox prefix

followed by the mailbox number.

How Meridian Mail knows which site to contact (continued)

Meridian Mail does the following:

- searches the network database until it finds the ESN prefix, CDP steering code, or mailbox prefix (When Meridian Mail finds it, it has identified the site.)
- obtains the connection DN that has been defined for that site and initiates the call

Note: The connection DN is entered in dialable format.

How the message transfer works

The following is a brief description of how Meridian Networking transfers messages to remote sites. For a more detailed description, see Chapter 9, “Really understanding how Meridian Networking works.”

Stage	Description
1	Meridian Networking initiates the call to the remote site.
2	When the connection is established, both sites conference in their modems.
3	The local site sends its site ID and initiating password.
4	The remote site acknowledges the local site and checks the password. If it is valid, the remote site sends the responding password; otherwise, the remote site drops the call.
5	The local site checks the password. If it is valid, both sites proceed to stage 6; otherwise, the local site drops the call.
6	The local site sends the message sender and recipient information by modem.
7	The remote site receives the message sender and recipient information.
8	Both sites conference out the modems.
9	The local site plays the voice message over the voice port
10	The remote site records the voice message.
11	Both sites conference the modems back in.
12	The local site sends the rest of the message data.

Stage	Description
13	The remote site receives the message data.
14	The local site repeats stages 6 through 13 for any attachments.
15	The remote site deposits each message into the recipients' mailboxes.
16	The local site repeats stages 6 through 14 for each message.
17	If the remote site has messages that need to be sent to the local site, they are sent as described in stages 6 through 14.
18	Once all messages have been sent, both sites disconnect their modems and terminate the call.

Network broadcast messaging

Introduction

This section discusses how to send broadcast messages over the network.

Limitations

This feature is not supported for sending broadcast messages to pre-Meridian Mail Release 11 sites. The message will not be received by the end-users at pre-Release 11 sites and a Non-Delivery-Notification will not be returned.

This feature cannot be used to send broadcast messages to Virtual Node AMIS sites.

Sending a broadcast message to remote sites

A user can send a broadcast message to all network users at a remote site by entering the network prefix (ESN prefix, CDP code, or mailbox prefix) for that site before the broadcast mailbox number.

A user can also send a broadcast message to all network users at all sites and NMS locations in the network by entering the network-wide prefix before the broadcast mailbox number.

Example

In this example, assume an ESN dialing plan is being used. The same concept applies to CDP dialing plans or where a mailbox prefix is used. The sites and prefixes for this example are as follows:

- site 1, with an ESN prefix of 6111
- site 2, with an ESN prefix of 6222
- site 3, with an ESN prefix of 6333

Also assume the broadcast mailbox number is the default value, 5555, and the network-wide broadcast prefix is 6666.

The following table shows what a user at *Site 2* must enter to send a broadcast message.

To send from Site 2 to network users at	Prefix the Broadcast Mailbox with	The user enters
Site 1	Site 1's ESN prefix	6111-5555
Site 2	Nothing	5555
Site 3	Site 3's ESN prefix	6333-5555
All sites and locations	The network-wide broadcast prefix	6666-5555

Sending a broadcast message to remote NMS locations

A user can send a broadcast message to all network users at a remote NMS location by entering the network prefix (ESN prefix, CDP code, or mailbox prefix) for that location before the broadcast mailbox number.

Example

In this example, assume an ESN dialing plan is being used. The same concept applies to CDP dialing plans or where a mailbox prefix is used. The locations and prefixes for this example are as follow:

- location 0 at site 4, with an ESN prefix of 6440
- location 1 at site 4, with an ESN prefix of 6441
- location 2 at site 4, with an ESN prefix of 6442

Also assume the broadcast mailbox number is the default value, 5555, and the network-wide broadcast prefix is 6666.

The following table shows what a user at another site in the network must enter to send a broadcast message to one of the locations associated with site 4, or to all sites and locations in the network.

To send to network users at	Prefix the Broadcast Mailbox with	The user enters
Location 0 at Site 4	Location 0's ESN prefix	6440-5555
Location 1 at Site 4	Location 1's ESN prefix	6441-5555
Location 2 at Site 4	Location 2's ESN prefix	6442-5555
All sites and locations	The network-wide broadcast prefix	6666-5555

Note: An NMS network user can send a broadcast message to all users at all locations within that NMS network by entering the broadcast mailbox number (5555 in this example) with no prefix.

**Configuring the
system for network
broadcast messaging**

The following must be defined to enable network broadcast messaging:

- the Network Broadcast Administration fields in the Networking Configuration screen (see “Identifying the networking configuration changes required” on page 10-92)
- the Network Broadcast Capability field in the Add or View/Modify Class of Service screen (refer to the *System Administration Guide*, 55x-7001-30x)

Meridian Networking and other Meridian Mail features

Introduction

This topic describes how Meridian 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 Meridian Networking interacts with other features of Meridian Mail.

Meridian Mail feature	Interaction
Bulk Provisioning	Bulk Provisioning is a Meridian Mail enhancement that provides the ability to copy, by tape, information between Meridian Mail systems. Bulk Provisioning can be used to copy local voice users to another network site as remote voice users. The copied information includes each user's • spoken name • textual name • mailbox address Remote voice users' personal verifications are played when senders compose messages or use name dialing and name addressing.
Other networking services	If more than one networking service is implemented on the same Meridian Mail system, then Meridian Networking will share the same network database.
Outcalling	Meridian 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, only one customer group can use the network database. Meridian Networking must be specifically enabled for that customer (on the General Options screen).
Network Message Service	Any Meridian Networking site can be defined as a Network Message Service site (message center).
VMUIF	Meridian Networking is not 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 Meridian Mail systems.

End-user feature	Interaction
Call Sender	Call Sender can be used for both call answering and composed messages from network users • if the calling line identification (CLID) is present on the message or • if the mailbox numbering plan follows the dialing plan or • if a remote voice user (RVU) has been added for the network user Call Sender cannot be used to a remote user if pauses are required to dial the user. For example, if an access number is required to be dialed followed by a pause to wait for a dial tone, then in this case Call Sender cannot be used.
Reply To Reply All	The reply feature can be used with all networked messages. They can also be used with call answering messages left by network users provided the calling line identification (CLID) is present on the message.
Name Addressing Name Dialing	Name Addressing and Name Dialing are available if users at the remote site are defined as remote voice users at the local site.
Personal Distribution Lists	Network addresses can be included in a user's personal distribution list. Network addresses are subject to the same validation process as other entries in the list. They can become invalid when • the networking service is removed from the system • addresses contain references to network sites that no longer exist
System Distribution Lists	Only RVU addresses can be added to a system distribution list, if the RVUs are defined at the local site. System distribution lists are not automatically updated if a site is deleted from the network database. Note: If a system distribution list (SDL) at a remote site contains remote voice users whose mailboxes reside at other sites in the network, then a message that is addressed to the SDL is sent only to the local users at the remote site. The message is not automatically sent to the remote voice users at other remote sites. A non-delivery notification and SEER <i>are not</i> generated.

End-user feature	Interaction
Multiple recipients	A Meridian Networking message contains all the recipients of the message.
Personal verification	The user's personal verification will be played to callers in voice messaging scenarios if recipients have been defined as remote voice users at the local site. The administrator can record a personal verification for remote voice users who are defined at the local site, or Bulk Provisioning can be used to propagate the network user's own personal verification.
Remote site spoken names	A spoken name can be recorded for each remote site by pressing a softkey on the remote site maintenance screen.
Message privacy	Messages tagged as private are announced to the recipient, and may not be forwarded by the recipient to anyone else.
Acknowledgment tags	The acknowledgment tag causes the sender to be notified when the recipient listens to the message.
Message tags	Messages can be tagged as urgent, and will trigger urgent-related features such as remote notification or message waiting indication. Urgent network messages are sent before any standard messages.
Received time announced	The time at which the message was deposited into the mailbox is announced to the recipient.
Sent time announced	The message header includes the time that the message was sent. The sent time is played in the time-zone of the sender.
99-minute messages	Meridian Networking supports messages containing up to 99 minutes of voice (including any attachments).
Support for ACCESS applications	Meridian Networking will transmit all text information in a message including the sender's name, all recipients' names, and message subject to the receiving site for use in ACCESS applications such as Visit Messenger. Note: Meridian Networking sends more information than Enterprise Networking, and always sends it. If the recipients are defined as remote voice users at the local site, their names are provided to ACCESS applications.

How Meridian Networking is configured

Introduction

Configuration of Meridian Networking consists of the following major components:

- hardware installation and configuration
- switch configuration
- Meridian Mail configuration

Hardware installation and configuration

Meridian Networking requires the following in order to transfer messages to other sites:

- modems
- data ports on Meridian Mail
- conference cards on the switch
- line cards on the switch

These four items are used to transmit the local and remote site initiating and responding passwords as well as the message envelope information.

Switch configuration

Meridian Networking requires configuration of the following on the switch:

- line card ports
- conference card ports
- dummy ACD queue for the networking service DN that is night call forwarded to the primary Meridian Mail DN
- ACD agents if ports will be dedicated to networking
- dialing plan (CDP, ESN, or no dialing plan)

Configuration of the dialing plan is covered in great detail in this manual. It is extremely important that the current dialing plan be analyzed and, if necessary, modified so that it becomes standardized across the network. Standardization of the dialing plan across the network will

- result in a network that is easier to maintain
- allow for future growth of the network

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)
- adding local and remote sites (and NMS locations if a remote site is also using Network Message Service)
- modifying the networking scheduling parameters. Nortel (Northern Telecom) recommends that you work with the default settings until you are comfortable with how your network is operating.

The addition of local and remote sites is the largest and most important task in the configuration of Meridian Mail for networking. To simplify the task and to ensure that fewer errors are made during implementation, it is highly recommended that you first identify the dialing plans that are being used at each site.

The following information is required for each site:

- type of dialing plan used
- ESN access code and location code (if ESN is being used)
- steering codes (if CDP is being used)
- mailbox prefix (if no dialing plan is being used)

Reference

For a high-level overview of the implementation process and Nortel's recommendation for an easier implementation, see Section C, "Implementing Meridian Networking," on page 1-43.

Section B Understanding dialing plans

In this section

Overview of this section	1-26
Types of dialing plans	1-28
What a dialing plan needs in order to work	1-36

Overview of this section

Introduction	This section identifies and describes the different dialing plans that can be used for Meridian Networking, and what it takes to make them work.
Types of dialing plans	A dialing plan is the set of rules the switch uses to route calls through a public or private telephone network to their final destinations. Three types of dialing plans are available: • Electronic Switched Network (ESN) • Coordinated Dialing Plan (CDP) • no dialing plan (used when neither ESN nor CDP exist) This section describes these dialing plans, provides examples of how they are used, and explains how Meridian Mail uses these dialing plans as mailbox addressing. Note: Meridian Mail also supports a combination of both ESN and CDP dialing plans. This is called a <i>hybrid</i> dialing plan.
Standardization of dialing plan	The chosen dialing plan must be standardized across the network. Standardization will • result in a network that is easier to configure and maintain • allow for future growth of the network
Dialing plan elements	The CDP and ESN (NARS) dialing plans on the Meridian 1 need to be configured with one or more of the following elements so that calls are correctly routed to their destinations: • dialing plan parameters which identify the maximum number of tables and access codes that can be configured • access codes (NARS only) • time-of-day schedules

**Dialing plan elements
(continued)**

- network translation tables (NARS only)
- steering codes (CDP only)
- route lists
- network class of service groups
- free calling area screening tables (NARS only)
- digit manipulation tables

This section provides a brief description of what these elements are and how they are used.

Types of dialing plans

Introduction

This topic

- explains what a dialing plan is
- provides descriptions of the three types of dialing plans that can be used
- explains why you should standardize the dialing plans you use

Definition: dialing plan

A dialing plan is the set of rules the switch uses to route calls through a public or private telephone network to their final destinations.

Three types of dialing plans are available for Meridian Networking:

- Electronic Switched Network (ESN)
- Coordinated Dialing Plan (CDP)
- no dialing plan

Examples

For examples of how these dialing plans can be implemented in a network, see “Examples of network diagrams” on page 2-85.

Standardization

It is highly recommended that you standardize the dialing plans you use in your network. The current dialing plans should be analyzed and, if necessary, modified so that they become standardized across the network. Standardization will

- result in a network that is easier to configure and maintain
- allow for future growth of the network

**Description:
ESN**

An Electronic Switched Network (ESN) is a private communications network intended for use by business customers with distributed operating centers.

An ESN is actually a combination of

- switches and communication lines which make up the network
- software which contains the dialing plan configuration that allows users at switch locations to communicate easily with users at other switch locations

Notes:

1. When ESN is discussed throughout this manual, it refers to the dialing plan configuration.
2. Network Alternate Route Selection (NARS) is the Meridian 1 software package that is actually used to configure an ESN network. The terms ESN and NARS are typically used in the marketplace to mean the same thing.

In an ESN dialing plan for Meridian Networking, each switch location has at least one *ESN prefix*. The ESN prefixes consist of the access code and a unique location code.

**Definition:
access code**

An access code is used to access ESN routing in the same way that an access code (usually 9) is needed to dial out to the public network from a private network. The same ESN access code is typically used by all switches in the network although it may vary from switch to switch.

ESN access codes are similar to trunk access codes and are set independently in each switch.

**Definition:
location code**

The location code is a routing prefix that identifies a location within the network. It is usually three digits in length.

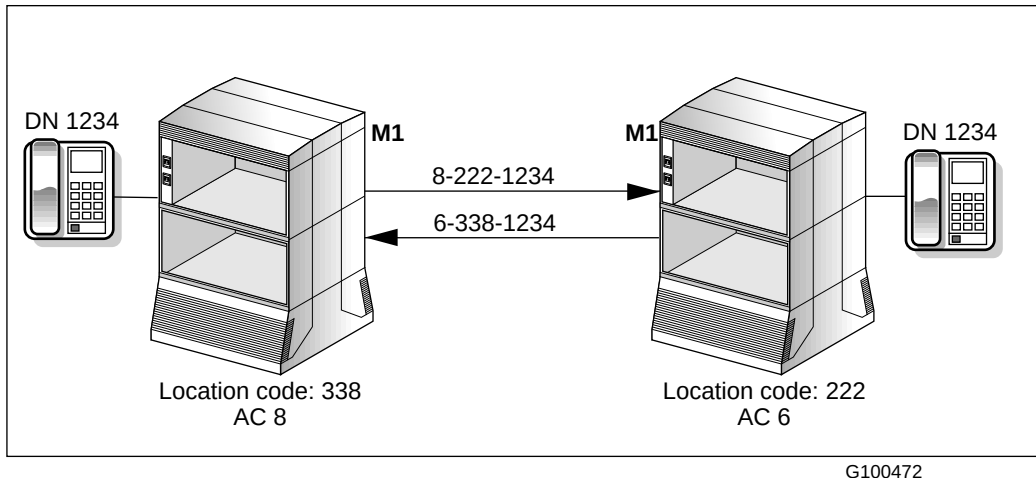
How an ESN call is placed

When a user places a call to a user at another location, he or she must first dial the access code and location code before dialing the user's extension DN.

All users in the network use the same prefix to reach a particular location. When a user calls another local user on the same switch, he or she simply dials the local extension without the access and location codes.

Example

The following diagram illustrates how ESN works.



On the first Meridian 1, the ESN access code is 8, and the location code is 338. On the second Meridian 1, the ESN access code is 6, and the location code is 222.

If you are a user on the second Meridian 1, and want to dial a user on the first Meridian 1, dial your access code (6) followed by the first Meridian 1's location code (338) and the user's extension (1234).

If you are a user on the first Meridian 1 and want to dial a user on the second Meridian 1, dial 82221234.

Overlapping digits between the ESN location code and user's extension

The last digit or more of the location code may overlap with the user's extension at the remote site, depending on how the information is defined on the switch. The following example shows how a user may place a call to a user at a remote site that has two location codes with an overlap of one digit defined.

Example

A site has two location codes. The ESN access code is 6. Location code 224 is used for local extensions that begin with "4" and location code 225 is used for local extensions that begin with "5". An overlap of one digit is defined, which means that the last digit of the location code is also the first digit of the user's extension.

To dial the extension 41234 at this site, users from another site would dial 62241234 instead of 622441234.

To dial the extension 51234 at this site, users from another site would dial 62251234 instead of 622551234.

**Description:
CDP**

CDP is a switch feature that enables a customer with two or more switches to coordinate the dialing plan for telephone sets (users) on each switch.

CDP enables a user at one switch to call a user at another switch within the CDP group by dialing a unique number without access codes and associated pauses for dial tone.

The CDP software provides the translation and digit manipulation capability required to implement CDP. Calls dialed within the CDP format can be terminated locally after digit translation or digit deletion.

Alternatively, calls can be routed to a remote switch in the CDP group following digit translation, route selection, and digit deletion or insertion.

How a CDP call is placed

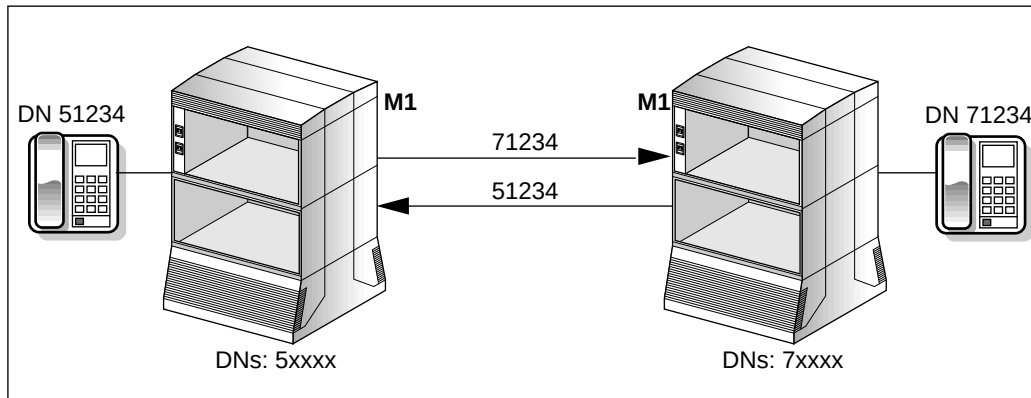
When a user places a call to another user, he or she must first dial the steering code before dialing the user's extension DN.

IF the call is being placed	THEN
to a user at the same site	the steering code is deleted and the call is terminated locally.
to a user at another site	the steering code identifies the site to which the call is to be routed. The call is terminated at the remote site.

Note: Usually the CDP steering code is also part of the user's extension DN. For example, if the steering code is 7, and the extension DN is 7123, the steering code is actually the first digit of the extension DN. Thus, the user is dialed by 7123, not 77123. (In Meridian Mail, this is called an *overlap*.)

Example

The following diagram illustrates how CDP works.



G100471

On the first Meridian 1, all DNs start with 5. Therefore, the steering code is 5. All DNs beginning with 5 will terminate on this Meridian 1.

On the second Meridian 1, all DNs start with 7. Therefore, the steering code is 7. All DNs beginning with 7 will terminate on the second Meridian 1.

**Description:
Hybrid**

Hybrid is a Meridian Mail term that indicates that both CDP and ESN are being used in the network.

A network site may support both of the dialing plans or only one of them. If a site is using both CDP and ESN, this implies that, on the switch, CDP has been implemented as part of NARS, not as CDP stand-alone.

**Description:
no dialing plan**

“No dialing plan” means that ESN or CDP has not been implemented. Therefore, to reach users at other sites, a user is required to enter the following:

- trunk access code
- area code (for long distance calls)
- exchange code
- user’s extension number

How Meridian Mail uses the dialing plan as mailbox addresses

If the users' telephone extension numbers are the same as their mailbox numbers, Meridian Mail uses the dialing plan as mailbox addresses.

Messages are addressed as described in the following table.

For	the mailbox address contains	Example
ESN	the access and location codes (which are entered as the ESN prefix in Meridian Mail) and the user's extension (mailbox) number	• access code - 6 • location code - 338 • mailbox number - 7460 The mailbox address is 63387460.
	ESN prefixes and user's extensions that overlap	• access code - 6 • location code - 224 • mailbox number - 41234 The mailbox address is 62241234, not 622441234.
CDP	the steering code and the user's extension (mailbox) number	• steering code - 22 • mailbox number - 7460 The mailbox address is 227460.
	a steering code and extension (mailbox) number that overlap	• steering code - 7 • mailbox number - 7123 The mailbox address is 7123, not 77123.

In a "no dialing plan" scenario, Meridian Mail cannot be configured to represent the numbering plan.

Instead, the Meridian Mail dialing plan is defined as None, and the sites are configured to use different dialing prefixes to reach a specific remote site. The dialing prefix is the sequence of digits required before the extension DN in order to dial it. For example, if the extension DN 1234 must be dialed through the public network as 914165551234, then the dialing prefix is 91416555.

A mailbox prefix is required to allow users to compose messages to mailboxes at the site.

**Definition:
mailbox prefix**

The mailbox prefix (defined in Meridian Mail) is similar *in concept* to the ESN prefix or CDP steering code. However, it does not reflect any dialing plans. It is used to identify the remote site to which the message is being addressed. (For more information, see “How Meridian Mail knows which site to contact” on page 1-14.)

The mailbox prefix is an arbitrary number. Its only restriction is that it must be unique; it cannot conflict with other prefixes or DNs on the system.

**How messages are
addressed**

Users address messages to a remote site with no dialing plan by entering the mailbox prefix for that site followed by the mailbox number of the user to whom the message is being sent.

Example: The mailbox prefix is 5 and the mailbox number is 7460. The mailbox address is 57460.

**Networking
connection DN
consideration for
private networks**

When initiating a network call to a remote site, Meridian Mail is required to enter the trunk access code, plus one of the following:

- *for long distance calls:* area code (NPA), exchange code (NXX), and extension
- *for local calls:* exchange code (NXX) and extension
- *across tie line:* extension

These formats must be considered when defining the networking connection DN for remote sites.

**When mailbox
numbering is not the
same as user
extensions**

Messages are addressed in a similar way when users' mailbox numbers are not the same as their telephone extension numbers. Users must know the mailbox numbers of the remote users to whom they wish to compose and send messages.

When mailbox numbering is not the same as the users' extension DNs, the call sender feature will not work for network messages (unless the sender exists as a remote voice user).

What a dialing plan needs in order to work

Introduction

The CDP and ESN (NARS) dialing plans on the Meridian 1 need to be configured with one or more of the following elements so that calls are correctly routed to their destinations:

- dialing plan parameters which identify the maximum number of tables and access codes that can be configured
- access codes (NARS only)
- time-of-day schedules
- network translation tables (NARS only)
- steering codes (CDP only)
- route lists
- network class of service groups
- free calling area screening tables (NARS only)
- digit manipulation tables

Descriptions of these elements follow.

What this has to do with networking for Meridian Mail

It is important that you understand the relationship between these elements in order to implement a working Meridian Mail network. If the dialing plan on the Meridian 1 does not route calls to their proper destinations, then you will not be able to get networking on Meridian Mail to work either.

Where to get more information

The following descriptions are overviews only. For more detailed descriptions, refer to the following documents:

- *Coordinated Dialing Plan description* (NTP 553-2751-102)
- *Electronic Switched Network description* (NTP 309-3001-100)
- *Meridian 1 feature document* for your Meridian 1 X11 release

ESN data block

The ESN data block is used to define parameters for both CDP and ESN. Some parameters apply only to CDP, or only to ESN. See the following table.

These parameters	apply to
maximum number of location codes	ESN (NARS)
maximum number of incoming trunk group exclusion tables	
free calling area screening tables	
access codes	
maximum number of digit manipulation tables	CDP and ESN (NARS)
maximum number of route lists	
time-of-day schedules	
number of digits used in the coordinated dialing plan	CDP
maximum number of steering codes	

Access codes

Access codes are used by NARS to identify the type of call that is about to be placed. There are two access codes on the Meridian 1:

- **AC1** Typically used to place on-network and long distance calls.
- **AC2** Typically used to place off-network and local calls.

Access codes trigger the switch to perform necessary call processing and routing using a specified set of network translation tables.

**Time-of-day
schedules**

Time-of-day schedules are used by CDP and NARS to define when routes are used. If both CDP and NARS are installed, the NARS time-of-day schedules can be shared by CDP.

When a route is selected to complete a call, the current time is compared with the time-of-day schedule associated with the route. See the following table.

IF	THEN
the current time is within the schedule	the route is used to complete the call.
the current time is not within the schedule	the route is not used to complete the call. In this case, the call is blocked.
time-of-day schedule is turned OFF	

**Network translation
tables**

Network translation tables are used by NARS to define how the following should be translated into a format that can be dialed by the trunk used to complete the call:

- location code
- home location code
- numbering plan area code
- home numbering plan area code
- central office exchange code
- special number

Translation is used to invoke either

- route selection with a specified route list
or
- standard call blocking

Steering codes

Steering codes are used by CDP. A steering code is a unique number dialed by a call originator along with the extension number (internal DN) of the party being called. The CDP software uses the steering code to determine where the call is to go.

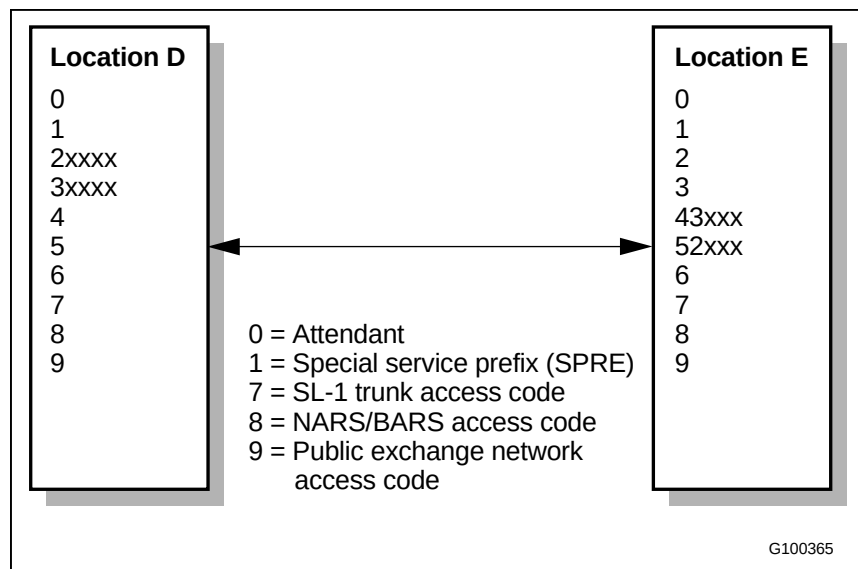
A steering code can be

- one to four digits in length
or
- one to seven digits in length when the directory number expansion package (DNXP) is present on the Meridian 1

At each switch, the steering codes must be unique; they must be different from any other assigned DN codes.

**Example:
steering codes**

The following diagram shows an example of steering codes used in a coordinated dialing plan.



According to the diagram, only the digits 2, 3, 4, 5, and 6 can be used as leading digits for steering codes. The following scenarios describe how users at both locations can call each other.

**Example:
steering codes
(continued)****Scenario 1**

In the preceding diagram, users at location D can call users at location E by dialing 43XXX or 52XXX. Similarly, users at location E can call users at location D by dialing 2XXXX or 3XXXX.

Location D uses the digits 43 and 52 as distant steering codes to select the trunk group to location E.

Location E uses the digits 2 and 3 as distant steering codes to select the trunk group to location D.

Scenario 2

A user in each location can call a user at the same location by using the same dialing format as scenario 1. That is

- users at location D dial 2XXXX or 3XXXX to reach users at their location
- users at location E dial 43XXX or 52XXX to reach users at their location

In these cases, each Meridian 1 interprets the digits 2 and 3 (location D) and 43 and 52 (location E) as local steering codes, and deletes them from the dialed number in order to terminate the call locally.

Route lists

Route lists are used by both CDP and NARS to define the alternate route choices for calls to a particular destination. The choices in the route list are called route list entries. The entries are searched sequentially for an available and eligible trunk route.

For CDP, route lists are associated with distant and trunk steering codes. They are not associated with local steering codes.

For ESN, route lists are used to identify the routes (which identify the trunks) that can be used to complete ESN calls.

Network Class of Service

Network Class of Service is used by both CDP and NARS, and is used to control

- which trunk routes are eligible to be accessed to complete the call
- whether queuing is offered to the caller
- whether the caller receives an “expensive route” warning tone (ERWT) when an expensive trunk route is selected to complete the call

Once the network class of service groups have been defined, they are associated with any telephone sets, trunks, Direct Inward System Access (DISA) DNs, and authorization codes that need to access the network.

Free calling area screening

Free calling area screening tables are used by NARS to define the following for off-network calls:

- area and exchange codes that are denied
- area and exchange codes that are allowed

Each table is associated with route list entries.

Note: Free calling area screening tables are not used by CDP.

Digit manipulation tables

Digit manipulation tables are used by CDP and NARS. They provide the translation and digit manipulation capability that is required to implement the dialing plan.

For CDP, calls dialed within the CDP format can be terminated locally after digit translation or digit deletion. Alternatively, calls can be routed to a remote switch in the CDP group following digit translation, route selection, and digit deletion or insertion.

For NARS, digit manipulation is used to translate the dialed number into a format that can be used by the trunk which is processing the call.

Digit manipulation tables are associated with route list entries.

Section C **Implementing Meridian Networking**

In this section

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Your responsibilities as the administrator	1-46
Implementation overview	1-48
Recommendation for implementation	1-53
Implementation checklist	1-55

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 recommendation for how the network is set up (if you are the network administrator)
- 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 Meridian Networking service including

- fulfillment of hardware and software requirements
- administration of local and remote sites, and networking configuration from your site's point of view
- dialing plan configuration

Implementation overview

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

- gathering information for the network
- installing hardware
- 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
recommendation**

If your network contains (or will contain) many sites and you are the network administrator (that is, the administrator responsible for maintaining all sites in the network), Nortel recommends that you concentrate on configuring a *specific pair* of sites at any given time.

Following this recommendation will

- reduce confusion
- reduce the number of errors made
- speed up the implementation process as a result of the previous two points

**Implementation
checklist**

To track your progress during implementation, you can use the NWP-029, “Meridian Networking Implementation Checklist.” This checklist is two pages in length, and can be obtained from Appendix A 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 Meridian Networking service. This topic explains what your duties as “site” or “network” administrator include.

Hardware and software aspects

You need to make sure that all hardware and 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)

Network configuration

You are also responsible for your site’s view of the network. Responsibilities include

- local site administration through which the basic networking parameters of the local site are specified
- remote site administration through which the connection parameters from the local site to selected remote sites are specified
- dialing plans, location numbers, and other configured information which must match for all sites in the network to ensure correct operation of the system
- configuration of networking modem data ports

For an overview of these tasks, see “Implementation overview” on page 1-48.

Remote access

In some installations, one administrator may be designated to maintain the networking parameters of some or all of the sites. Administration of the information can be achieved by dial-up access (also known as remote access) to each site.

For information about remote access, see your *System Administration Guide* (NTP 555-7001-30x).

Network view

Your view of the network will depend on which site you are working from. See the following table.

IF you are	THEN in the network database
located at site 1	site 1 is the local site, and all other sites are remote sites.
located at site 2	site 2 is the local site, and all other sites are remote sites.
dialing into site 2 and performing network administration from site 1	site 2 is the local site, and all other sites are remote sites.
dialing into site 1 and performing network administration from site 2	site 1 is the local site, and all other sites are remote sites.

To clarify this, from the point of view of any system in the network, all other sites are remote sites.

Implementation overview

Introduction

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

The implementation process consists of seven phases, as follows.

Stage	Description
1	Gather dialing plan information for the network.
2	Install the hardware required for networking.
3	Configure the switch.
4	Configure Meridian Mail.
5	Test the network.
6	Create a backup of the network.
7	Maintain the network and troubleshoot network errors as required.

Consult with other administrators

If you are administering your site only, then make sure you regularly consult with administrators at other sites to ensure

- the validity of your information
- that location prefixes are not duplicated

Gathering information for the network

One of the first steps to implementing Meridian Networking is to determine what type of dialing plan is used on the switch.

This information is needed to define how the local and remote sites are dialed by other sites in the network.

Gathering information for the network (continued)

To gather information for the network, do the following. For detailed instructions, see Chapter 2, "Gathering information for the network".

Step Action

- 1 Determine if the switch is configured with ESN.
 - 2 Determine if the switch is configured with CDP.
 - 3 Draw a diagram of the existing network.
 - 4 Determine if any changes to the switch configuration are required.
-

Installing the hardware

The next step is to install the hardware required for networking. For detailed instructions, see Chapter 3, "Installing the hardware."

Do the following.

Step Action

- 1 Verify the presence of data ports on Meridian Mail.
If data ports are not available, you will need to install an RSM or utility card.
 - 2 Install switch hardware as required:
 - additional trunks
 - conference card
 - line card
 - 3 Configure and install the networking modems.
-

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	4, see Chapter 4, "Configuring the Meridian 1 for systems using AML".
one of the following: • DMS family • SL-100 • non-Nortel switch (AT&T or ROLM)	5, see Chapter 5, "Configuring the PBX/DMS for systems using SMDI".

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).
6	Set up data pathways: a. Configure line card ports. b. Verify the presence of a conference card. c. Define the modem DNs.
7	Modify the dialing plan configuration as needed: • ESN • CDP

Configuring Meridian Mail

Once you have installed the hardware and configured your switch, you can configure Meridian Mail for networking. For detailed instructions, see Chapter 6, "Configuring Meridian Mail".

Step Action

- 1 Enable Meridian Mail Networking.
 - 2 Dedicate ports to Meridian Networking (if required).
 - 3 Define the Meridian Networking DN in the Voice Services DN table.
 - 4 Configure the networking modem data ports.
 - 5 Modify the number of modems in the networking configuration.
 - 6 Define the local site.
 - 7 Define remote sites and, if needed, remote Network Message Service (NMS) locations.
-

Testing the network

Once both the switch and Meridian Mail have been configured for Meridian Networking, you need to perform some tests to ensure that the network will function properly. For detailed instructions, see Chapter 7, "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 Test the Meridian Networking DN.
Result: This is known as an "incalling test."

Step Action

- 4 Test the modem connections.
 - 5 Perform a modem verification test.
Result: This test ensures that the local sites can receive messages and that the modems have been correctly configured.
 - 6 Send a message from the local site to a remote site.
Result: This is known as an "end-to-end test."
-

Creating a backup of the system

The final step to implementing Meridian Networking is to create a backup of the system. For detailed instructions, see Chapter 8, "Creating a backup of the system".

Step Action

- 1 Back up Meridian Mail.
 - 2 Print Meridian Networking information.
 - 3 Back up the switch.
 - 4 Print switch network information.
-

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:

- Add, modify, or delete remote sites and NMS locations as required.
- Modify the networking configuration.
- Verify network status and disable sites as required.
- Print and review Operational Measurement reports.
- Troubleshoot network errors as required.

Recommendation for implementation

Introduction

If your network contains (or will contain) many sites and you are the network administrator (that is, the administrator responsible for maintaining all sites in the network), Nortel recommends that you concentrate on configuring a *specific pair* of sites at any given time.

Rationale

Following this recommendation will

- reduce confusion
- reduce the number of errors made
- speed up the implementation process as a result of the previous two points

Exception

The exception to this recommendation is that you should gather information for the network from all sites first, before you proceed to the next phase of implementation. You need to create a diagram of the entire network so you can make the correct decisions for dialing plan configuration.

Example: network with six sites

For example, your network will contain six sites, numbered from 1 to 6. Imagine that your network resembles a wheel with spokes, with site 1 as the hub.

Procedure

Do the following.

Step	Action
1	Install hardware for and configure sites 1 and 2. Configuration includes both the switch configuration and the Meridian Mail configuration.
2	Test the two sites. Make sure that both sites can receive messages from and send messages to each other.

Step Action

3	Create a backup of the system at both sites.
4	Repeat steps 1 to 3 for • sites 1 and 3 • sites 1 and 4 • sites 1 and 5 • sites 1 and 6
5	If you are the administrator for the entire network, repeat steps 1 to 4 for each site.
-

Implementation checklist

Introduction

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

This checklist is form NWP-029, “Meridian 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 two pages.

**Sample of checklist:
page 1**

The following is an example of page 1 of the NWP-029, “Meridian Networking Implementation Checklist.”

Meridian Networking Implementation Checklist

NWP-029

Page 1 of 2

Step	Description	For instructions, see the chapter	Done
1	Gather ESN information from the switch.	Gathering information for the network	☐
2	Gather CDP information from the switch.		☐
3	Draw a diagram of the existing network.		☐
4	Analyze the information and determine if changes are required to the dialing plan configuration on the switch.		☐
5	Verify the presence of data ports on Meridian Mail. If ports are not available, install RSM or utility cards as required.	Installing the hardware for systems using AML	☐
6	Install switch hardware as required for Meridian Networking (additional trunks and line cards).	Installing the hardware for systems using SMDI	☐
7	Configure and install the networking modems.		☐
8	Define the ACD/UCD queues.	Configuring the Meridian 1 for systems using AML	☐
9	Dedicate ACD/UCD agents to networking (if required).		☐
10	Verify TGAR and NCOS on ACD/UCD agents.		☐
11	Define trunks (if additional trunks are required).		☐
12	Verify TGAR (access to trunks).		☐
13	Configure line card ports.		☐
14	Verify the presence of a conference card.		☐
15	Modify the dialing plan configuration on the switch if required.		☐
16	Enable Meridian Networking.	Configuring Meridian Mail	☐
17	Dedicate ports to Meridian Networking if required.		☐
18	Define the networking DN in the VSDN table.		☐
19	Define modem DNS.		☐
20	Define the local site.		☐
21	Define remote sites.		☐
22	Define remote Network Message Service (NMS) sites if required.		☐
23	Convert existing sites to Meridian Networking if necessary.	Configuring Meridian Mail	☐
24	Modify the number of modems in the networking configuration.		☐

**Sample of checklist:
page 2**

The following is an example of page 2 of the NWP-029, “Meridian Networking Implementation Checklist form.”

Meridian Networking Implementation Checklist**NWP-029**

Page 2 of 2

Step	Description	For instructions, see the chapter	Done
25	Test call routing access.	Testing the network	☐
26	Test ACD/UCD agents.		☐
27	Test the Meridian Networking DN.		☐
28	Test the modem connections.		☐
29	Perform a modem verification test.		☐
30	Send a message from the local site to each remote site.		☐
31	Add remote voice users. This step is optional.	Configuring Meridian Mail	☐
32	Back up Meridian Mail.	Creating a backup of the system	☐
33	Print Meridian Mail network information.		☐
34	Back up the switch.		☐
35	Print switch network information.		☐

Chapter 2

Gathering information for the network

In this chapter

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Section B: Recording Meridian 1 information	2-13
Section C: Gathering ESN information from the Meridian 1	2-29
Section D: Gathering CDP information from the Meridian 1	2-61
Section E: Identifying the hardware and software requirements	2-79

Overview of this chapter

Introduction

This chapter explains

- how to gather the following dialing plan information from the Meridian 1
 - Coordinated Dialing Plan (CDP)
 - Electronic Switched Network (ESN)
- how to convert the Meridian 1 dialing plan information into a network diagram
- the basic guidelines for identifying the changes required on the Meridian 1 in order to implement Meridian Networking

For the DMS family, the SL-100, and non-Nortel switches, only the information that Meridian Mail needs for networking is identified.

Details about dialing plans on these switches *are not* provided.

Rationale: Dialing plans on DMS-family switches are maintained by the central office; they are not maintained directly by the customer who owns the Meridian Mail system.

Non-Nortel switches have their own documentation that should explain how to maintain dialing plans.

Why you need to gather information

You need to gather information in order to

- identify the sites in your network
- identify how the sites relate to each other
- identify what dialing plan each Meridian 1 is using
- create the network diagram which will help you to visualize your network
- determine if the dialing plans on one or more switches in the network need to be modified so that message transfers by Meridian Mail will work

**Why you need to
gather information
(continued)**

- prepare for Meridian Mail configuration
Some of the dialing plan information from the switch is used when adding or maintaining sites in Meridian Mail. For more information, see the following chapters:
 - Chapter 6, “Configuring Meridian Mail”
 - Chapter 10, “Maintaining the network”

Gathering the numbering plan information from PBX/DMS switches

Introduction

Numbering plans for DMS family and SL-100 switches are configured and maintained at the central office. Therefore, detailed instructions for gathering this information are not provided for the following:

- DMS-10
- DMS-100
- DMS-500
- SL-100

For instructions on working with AT&T, NEC, and ROLM switches, see the documentation for those switches. If you do not have the documentation, contact your vendor.

Requirements for Meridian Networking

You need to obtain the following information from each site that uses a DMS family, SL-100, or non-Nortel switch, in order to configure Meridian Mail for networking:

- directory numbers at each site
- for CDP
 - steering codes
 - number of digits in common between steering codes and directory numbers
- for ESN
 - ESN access codes
 - location codes
 - number of digits in common between the ESN prefixes and directory numbers

To get this information from DMS family and SL-100 switches, contact the administrator at your central office.

To get this information from AT&T, NEC, and ROLM switches, refer to the documentation for those switches.

Section A **Gathering information from Meridian 1 sites**

In this section

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Overview of this section

Introduction

This section explains the following:

- what you need to do before you start gathering information for the network
- the difference between non-Network Message Service sites and Network Message Service sites and locations

Before you start gathering information

Before you can implement Meridian Networking, you need to do the following:

1. Confirm that all sites have the hardware and switch software packages that are required to properly implement Meridian Networking. If you are not sure that they do, read the *Networking Planning Guide* (NTP 555-7001-241).
2. Do one of the following for each Meridian 1:
 - Gather the forms that will be used for gathering information from each Meridian 1 in the network.
or
 - Prepare to print the information.

Note: For DMS family and SL-100 switches, the central office will gather information about and perform any changes required for dialing plans.

3. Create a separate file folder for each site. Each folder will hold all notes, forms, and printouts that you complete for the site.

These folders should be stored in a secure location. If you lose them, you will have to begin again.

Preparing yourself

Introduction

In order to properly implement Meridian Networking, you must

- identify the dialing plan used on each switch in the network
- identify how that dialing plan has been configured

This topic provides some information that will help you prepare for the gathering of this information.

Hardware and software requirements

Since you are already reading this manual it is assumed that each site has all of the hardware and switch software packages required to properly implement Meridian. Networking. If you are not sure that each site has all the software, then review the following sections in the *Networking Planning Guide* (NTP 555-7001-241), Chapter 6, “Identifying the customer’s hardware and software requirements”:

- Section B: “Hardware required for networking”
- Section C: “Switch software required for networking”

Recording the Meridian 1 dialing plan information for each site

The following sections of this chapter provide the instructions for recording information from the Meridian 1.

- Section C: “Gathering ESN information from the Meridian 1”
- Section D: “Gathering CDP information from the Meridian 1”

The information can either be recorded on data entry forms, or it can be printed from the Meridian 1.

You can use the data entry forms when

- you are capturing small amounts of information
- you are not able to print a hard copy yourself

There is a data entry form for each block of information required from the Meridian 1 overlays. In some cases, you may be required to complete several copies of the same form in order to record all the information for the data block.

The forms can be photocopied from Appendix A, “Networking implementation forms”, at the back of this NTP.

Note: The data entry forms or printouts must be completed for each site in the network.

Do not distract yourself

As you are gathering the information, work with each site independently. Do not distract yourself with information that you have seen at another site.

After you have gathered the information, you (or a Meridian 1 expert) will analyze the information for all sites together to determine if the dialing plan at each site is compatible with the dialing plans at the other sites. (See Section E, “Identifying the hardware and software requirements.”)

DMS family, SL-100, and non-Nortel switch dialing plans

Detailed instructions for gathering the information from DMS family and non-Nortel switches *are not* provided.

Only the basic requirements for dialing plans are identified in “Gathering the numbering plan information from PBX/DMS switches” on page 2-4.

Rationale: Dialing plans on DMS family switches are maintained by the central office; they are not maintained directly by you (the customer who owns the Meridian Mail system.)

Non-Nortel switches have their own documentation that should explain how to maintain dialing plans. If you do not have this documentation, contact your vendor.

Record keeping

If you will be supervising the implementation of Meridian Networking at each site, then Nortel recommends that you do the following:

- Create a separate file folder for each site.
Put all notes, forms, and printouts that you complete for the site into this folder.
- Keep the file folders in a secure location.
If you lose the information, you will have to begin again.

Components of Network Message Service (NMS) sites

Introduction

This topic explains the difference between non-Network Message Service sites and Network Message Service sites and locations.

Why this is important

If you have both Meridian Networking and Network Message Service on your system, it is important that you understand the concept of NMS sites and locations because

- this information is required on the data entry forms used throughout this chapter
- understanding how this information is maintained on Meridian Mail will be much easier

If Network Message Service is not being used anywhere in the network, you can ignore all references to NMS throughout this manual and skip this section.

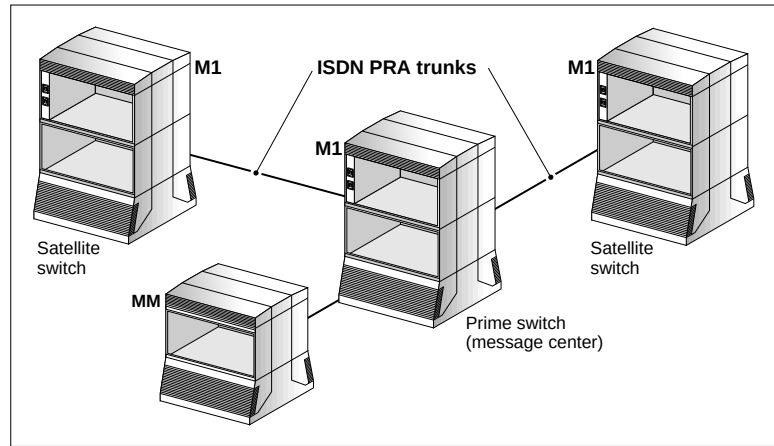
Definition: Network Message Service

Network Message Service is a Meridian Mail feature that permits one Meridian Mail system to provide voice messaging services to users in a network of Meridian 1 switches which are interconnected by ISDN PRA trunks.

This type of network contains two or more locations. One location contains a Meridian Mail system connected to a Meridian 1 switch; the remaining locations contain only Meridian 1 switches which are connected by ISDN PRA trunks. See the following diagram.

Example

This is an example of a typical NMS network.



G100404

**Definition:
NMS sites**

An NMS site is a site that is defined in the Meridian Mail network database. Both the local site and a remote site can be defined as NMS sites.

The difference between an NMS site and a Meridian Networking site is that, for the NMS site, the “Site is network message center” field is defined on the site maintenance screen as Yes. Defining the site as a message center allows you to define the other switch locations in the NMS network as locations which are associated with this site.

The switch that is connected to Meridian Mail is called the *prime location*.

**Definition:
NMS locations**

An NMS location is a switch in the network that

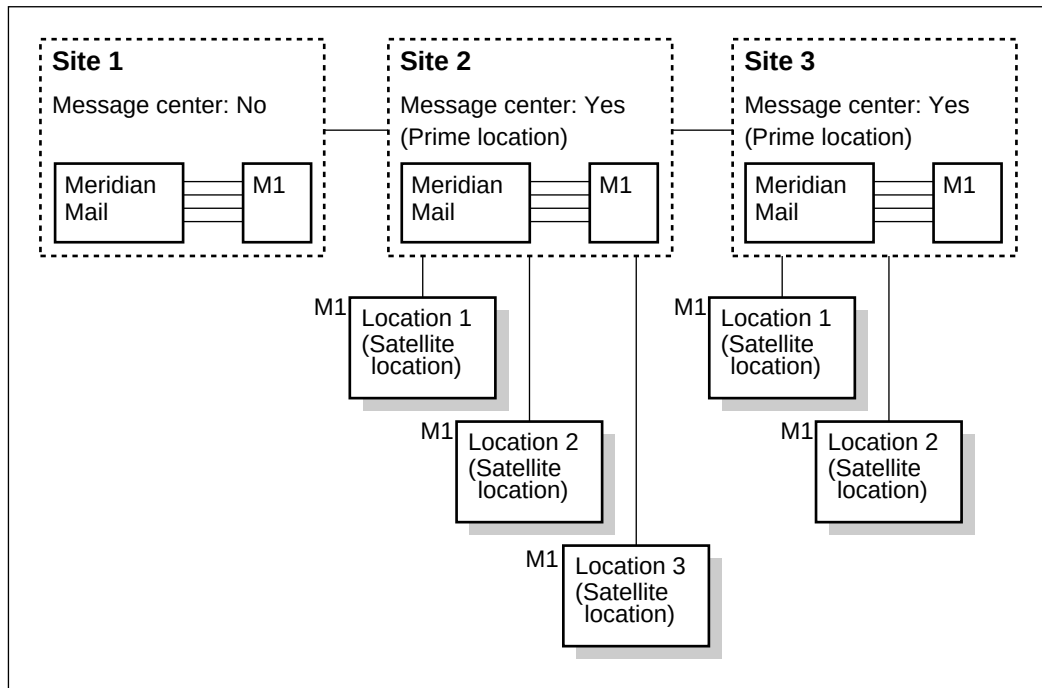
- is not connected to its own Meridian Mail system
- is connected by an ISDN PRA trunk to another switch location that does have a Meridian Mail system

Note: The Meridian Mail system may not be directly connected to the switch.

NMS switch locations without Meridian Mail are called *satellite locations*.

What the hierarchy looks like

The following flowchart shows how sites and NMS sites and locations relate to each other in Meridian Mail.



G100410

Section B **Recording Meridian 1 information**

In this section

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Recording the information	2-17
Completing the Site Information form	2-21
Obtaining the customer number	2-25
Completing the Meridian 1 overlay forms	2-26

Overview of this section

Introduction	When gathering dialing plan information from the Meridian 1, you can • print the information from the Meridian 1 to a printer • manually record the information on data entry forms • do both of the above
What information is collected	The following types of information are collected from each Meridian 1 in the network: • coordinated dialing plan (CDP) information • Network Alternate Route Selection (NARS) NARS, which is a collection of packages used in an Electronic Switched Network, is commonly referred to as ESN.
What this information is used for	The information is used • to determine if the dialing plan on one Meridian 1 is compatible with the dialing plans on other Meridian 1s in the network If they are not compatible, then you will need to make changes. • when defining local and remote sites in Meridian Mail
What is in this section	This section contains the following: • general instructions for recording information collected from the Meridian 1 • a list of the data entry forms that are used

Should you gather CDP information, ESN information, or both?

Introduction

Any site in the network may use the following dialing plans:

- CDP only
- ESN only
- both CDP and ESN
- none of the above

CDP can be implemented on the Meridian 1 as part of ESN, or it can be implemented by itself (referred to as “stand-alone CDP”).

Where to find CDP and ESN instructions

The following table describes where to find instructions for the configuration that has been implemented at any given site.

This section	contains procedures for
Section C: Gathering ESN information from the Meridian 1	gathering information for • ESN • CDP that has been implemented as part of ESN.
Section D: Gathering CDP information from the Meridian 1	gathering information for CDP that has been implemented by itself (CDP stand-alone) The instructions and the forms that are used for CDP stand-alone are the same as those found in Section C.

The instructions for gathering some information for CDP (as stand-alone or as part of ESN) have been duplicated for the benefit of administrators who are not familiar with dialing plans and how they are configured on the Meridian 1. Printing information from the Meridian 1 is a straightforward task, but trying to decide if a particular overlay applies to the site configuration is not.

Deciding which instructions to use

You have the option of deciding which instructions to follow. See the following table for assistance.

IF you	THEN
know for certain that this site is using only ESN	follow all the procedures in Section C, “Gathering ESN information from the Meridian 1.”
know for certain that this site is using only CDP	follow only the procedures in Section D, “Gathering CDP information from the Meridian 1.”
know for certain that this site is using both CDP and ESN	follow the procedures in both sections
are not sure at all	If a Meridian 1 technician will be evaluating the information and making the configuration changes, then the technician can decide which forms or printouts to use. (It is better to provide too much information than not enough.)

Recording the information

Introduction

As you gather the dialing plan information from the Meridian 1, you will need to make a hard copy record. You can do this by doing one or both of the following:

- printing the information from the Meridian 1 to a printer
- manually recording the information on a series of data entry forms

Preparing to print

To prepare for printing, see the following table.

IF	THEN
you have a printer that is connected to the Meridian 1 terminal	enable printing on the printer instead of printing on the screen. Refer to your Meridian 1 terminal documentation for instructions. Ensure that the printer is loaded with enough paper. Note: If you are using a VTx20 (where x represents your particular model) terminal, press <CTRL> <F2> (Print) to enable automatic printing. Otherwise, refer to your Meridian 1 terminal documentation for instructions.
you are using a PC as your terminal	you can • print the information on the screen, then save it in a file for printing later • print it on the printer that is connected to your PC
you do not have a printer, or it is not working (out of order)	you can ask your technical support representative to access your system remotely and print the information for you. Note: For most overlays, you can record the information manually from the screen onto the data entry forms. To do this, you may have to pause scrolling on the screen. If you are using a VTx20 (where x represents your particular model) terminal, press <F1> (Hold). Otherwise, refer to your Meridian 1 terminal documentation for instructions.

Preparing to manually record the information To manually record the information from the overlays, use the Meridian 1 Network Information forms listed in the following table. The forms are all shown in at the back of this manual. They may be photocopied.

Form name	Form number	Description	Used for
Site Information	NWP-004	This form is used to identify • the site's address and telephone numbers • customer number (on multi-customer systems) • the site administrator's name • if the site is a message center Complete one copy of this form for each site.	CDP ESN
ESN Data Block	NWP-005	This form is used to identify the parameters that have been defined for ESN on this system.	CDP ESN
Digit Manipulation Tables	NWP-006	This form is used to identify how many digits are to be deleted and what digits are to be inserted for network calls. You can record up to four DMI tables on this form. Complete additional pages as required.	CDP ESN
CDP Steering Codes	NWP-007	This form is used to identify the local, distant, and trunk steering codes defined for this site. Note: Trunk steering codes are not supported for locations that are also using Network Message Service.	CDP ESN
Route List Index	NWP-008	This form is used to identify the parameters defined for each route list used at this site. Complete this form for each route list that is defined on the system.	CDP ESN

Form name	Form number	Description	Used for
NCOS Groups	NWP-009	This form is used to identify the network class of service groups defined at this site. Complete this form for each NCOS group that is defined on the system.	CDP ESN
FCAS Tables	NWP-010	This form is used to identify the NPAs and NXXs that are to be screened. You can record up to five NPA or NXX codes on this form. Complete additional pages as required.	ESN
ITGE Groups	NWP-011	This form is used to identify the incoming trunk exclusion tables that restrict calls from being made to specific area codes, exchange codes, locations, and special numbers. You can record up to eight ITGE groups on this form. Complete additional pages as required.	ESN
Network Translation Location Codes	NWP-012	This form is used to identify the LOCs that have been defined at this site. Complete this form for each LOC that is defined on the system.	ESN
Network Translation Numbering Plan Area Codes	NWP-013	This form is used to identify the NPAs that have been defined at this site. Complete this form for each NPA that is defined on the system.	ESN
Network Translation Exchange Codes	NWP-014	This form is used to identify the NXXs that have been defined at this site. Complete this form for each NXX that is defined on the system.	ESN
Network Translation Special Number Translation Codes	NWP-015	This form is used to identify the SPNs that have been defined at this site. Complete this form for each SPN that is defined on the system.	ESN

Form name	Form number	Description	Used for
Network Translation Home Location and Home Numbering Plan Area Codes	NWP-016	This form is used to identify the HLOCs and HNPAs that have been defined at this site. You can record up to three HLOCs and HNPAs on this form. Complete additional pages as required.	ESN
Site Numbering Plan	NWP-017	This form is used to identify the directory numbers (extensions) used at this site.	CDP ESN

Filing the information When you are finished, put all the data entry forms and printouts in the file folder you created for the site.

Completing the Site Information form

Description

The NWP-004, “Meridian 1 Network Information Site Information” form is used to record the site’s name, address, telephone numbers, and site administrator’s name.

This form also identifies the following:

- the customer number on the Meridian 1
The customer number on a single-customer system is usually 0. To identify the customer number for a multi-customer system, you need to print the customer data block on the Meridian 1.
- whether the site is a message center
If the site *is* a message center, the method for defining the site in Meridian Mail is different from non-Network Message Service sites.

Where to get a copy

Obtain a copy of form NWP-004. The forms are shown in Appendix A, “Networking implementation forms”, at the back of this manual. They may be photocopied.

Form sample:
NWP-004

The following shows a sample of form NWP-004. Field completion instructions are on the following pages.

Meridian 1 Network Information—Site Information

NWP-004

Address and contact information

Site name:	Site number:	Customer number:	Administrator's name:
Address:			
City:	Prov/State:	Country:	Postal/Zip Code:
Telephone:		Fax:	

Site type

Answer the following questions

1) Is this site a message center (contains a Meridian Mail system that services one or more Meridian 1 switches located somewhere else)?

☐ Yes
☐ No

2) Is this switch connected to a message center (in other words, does not have its own Meridian Mail system)?

☐ Yes
☐ No

3) If response to question 2 is "yes," record the site name or number.

Site: _____

Completed by

Administrator:	Date:

Address and contact information fields

Descriptions of the site address and contact information fields follow.

Field	Description
Site name	Site name. This could be the name of the geographical area in which the site is located.
Site number	A unique number that identifies the site. In Meridian Mail, the site number must be in the range of 1–500.
Customer number	The number that identifies the customer (in a multi-customer system) for which Meridian Networking is being implemented. For instructions on how to identify the customer number, see “Obtaining the customer number” on page 2-25.
Administrator’s name	Name of the site administrator who maintains the Meridian Mail or Meridian 1 system, or both.
Address	Site’s street address, including suite number.
City	The city in which the site is located.
Prov/State	The province or state in which the site is located.
Country	The country in which the site is located.
Postal/Zip Code	Site’s postal or zip code.
Telephone	Administrator’s telephone number.
Fax	Administrator’s fax number.

Site type fields

The “Site type” area of the form helps you identify sites that are using Network Message Service (NMS). Sites that use NMS are considered to be message centers, and are defined differently from other networking sites in Meridian Mail.

See the following table for analysis.

IF this site	THEN
has a Meridian Mail system that is directly connected to a Meridian 1	this site is considered to be a standard networking site. Record a check mark next to No for questions 1 and 2.
has already implemented, or is considering implementing the Network Message Service feature of Meridian Mail	the site is a message center. This site is providing messaging services to one or more Meridian 1 locations. For question 1, check Yes. For question 2, check No.
does not have its own Meridian Mail system, but is connected to another site that does have a Meridian Mail system	this site is considered to be a Network Message Service (NMS) location. For question 1, check No. For question 2, check Yes. For question 3, record the name or number of the site that is providing the messaging services (the one with the Meridian Mail system).

Obtaining the customer number

Introduction

Meridian 1 customers are defined in the customer data block on overlay 21, and printed from overlay 21. The customer data block (CDB) is used to identify the customer number for which Meridian Networking is to be implemented.

Procedure

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 21 and press <Enter>. Result: The REQ prompt is displayed.
2	Type PRT and press <Enter>. Result: The TYPE prompt is displayed.
3	Type CDB and press <Enter>. Result: The CUST prompt is displayed.
4	Leave this prompt blank and press <Enter>. Result: The information for this data block is printed.
5	Review the information and locate the customer you want to use.
6	Record the customer number on the NWP-004, "Meridian 1 Network Information Site Information" form.
7	Type **** to exit the overlay.

Completing the Meridian 1 overlay forms

Description

The Meridian 1 network information forms are used to record information from the Meridian 1 overlays.

There are 14 forms—one for each data block that needs to be recorded.

Where to get copies

The forms are shown in Appendix A, “Networking implementation forms”, at the back of this manual. They may be photocopied.

Completing site information fields

The following fields are present on each form. Complete them as described in the following table.

Field	Description
Page ____ of ____	You may be required to complete more than one copy of any form for this site. Example: If you complete three copies of form NWP-006, complete the fields as follows: Page 1 of 3, Page 2 of 3, Page 3 of 3 Otherwise, complete as follows: Page 1 of 1
Site or NMS location name	This could be the name of the geographical area in which the site is located.
Site or NMS location number	A unique number that identifies the site. If numbers have not yet been assigned to all sites, you may want to define them now. They will be required for Meridian Mail configuration.
Customer number	The number that identifies the customer (in a multi-customer system) for which Meridian Networking is being implemented. For instructions on how to identify the customer number, see “Obtaining the customer number” on page 2-25.

Field	Description
Administrator's name	Name of the administrator at the site. This is the person who maintains the Meridian Mail or Meridian 1 system, or both.

Printout attached

You may attach a printout of the information when there is too much information to record manually.

If you do attach a printout, check this box.

Completing the remaining fields

For instructions on completing the fields specific to each overlay, see the *X11 input/output guide* (NTP 553-3001-400).

Section C **Gathering ESN information from the Meridian 1**

In this section

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Digit manipulation index (LD 86)	2-35
Route list index (LD 86)	2-37
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Site numbering plan	2-58

Overview of this section

Introduction

This section explains how to identify if the Meridian 1 is using ESN (and CDP, if it has been implemented as part of ESN).

How information is gathered

Identifying if the Meridian 1 is using ESN is done by printing (and manually recording, if applicable) information from the following:

- the following data blocks on overlay 86
 - Route List Index (RLB)
 - Digit Manipulation Index (DMI)
 - ESN data block (ESN)
 - Incoming trunk group exclusion (ITGE)
- the following data blocks on overlay 87
 - Coordinated Dialing Plan (CDP)
 - Network control (NCTL)
 - Free calling area screening (FCAS)
- network translation data blocks on overlay 90 for numbering plan area and location codes
- overlay 21, Route Data Block (RDB)
- overlay 20, Directory Number Block (DNB)

The information from each overlay can be

- manually recorded on a data entry form
- printed directly to a printer

Instructions for completing the forms are provided in Section B: Recording Meridian 1 information. An example of each form is provided in this section with each overlay procedure.

When you can skip this section

If you know for certain that you are not using ESN on the Meridian 1, then you may skip this section.

What this information is used for

The information on these forms is used

- to determine if the dialing plan on one Meridian 1 is compatible with the dialing plans on other Meridian 1s in the network
If they are not compatible, then you will need to make changes.
- when defining local and remote sites in Meridian Mail

How this section is organized

This section contains the following:

- detailed instructions for obtaining information from overlays on the Meridian 1
In some cases, the same overlays but different feature data blocks are used to access information. For efficiency's sake, the procedures are sequenced so that you gather all information from one overlay before proceeding to the next overlay. You will not have to load the same overlay again and again.
- examples of information gathering forms

Where to get more information

If you need more information about ESN features, see the following documents:

- *Electronic Switched Network Description* (NTP 309-3001-100)
- *Basic and Network Alternate Route Selection description* (NTP 553-2751-100)
- *X11 input/output guide* (NTP 553-3001-400)

ESN data block (LD 86)

What this overlay is used for

On overlay 86, the ESN feature is used to identify the following:

- ESN access codes
- maximum number of the following
 - location codes
 - incoming trunk group exclusion (ITGE) tables
 - digit manipulation tables
 - route lists
 - free calling area screening tables
- time of day schedules

It is also used to identify

- if CDP is also being used
- the maximum number of steering codes that can be defined for CDP
- the number of digits used in the coordinated dialing plan

Procedure

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 86 and press <Enter>. Result: The REQ prompt is displayed.
2	Type PRT and press <Enter>. Result: The CUST prompt is displayed.
3	Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. Result: The FEAT prompt is displayed.

Step Action

- 4 Type **ESN** and press <Enter>.
Result: The information for this data block is printed.
 - 5 Complete the NWP-005, "Meridian 1 Network Information—ESN Data Block" form.
An example of the form follows this procedure.
 - 6 Go to "Digit manipulation index (LD 86)" on page 2-35.
-

Form example:
NWP-005

The following is an example of the NWP-005, “Meridian 1 Network Information—ESN Data Block” form. For instructions on completing the form, see “Completing the Meridian 1 overlay forms” on page 2-26.

Meridian 1 Network Information—ESN Data Block

NWP-005

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

ESN data block (LD 86, ESN) (If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
MXLC	Maximum number of location codes		
MXSD	Maximum number of Supplemental Digit Restriction blocks		
MXIX	Maximum number of incoming trunk group exclusion tables		
MXDM	Maximum number of digit manipulation tables		
MXRL	Maximum number of route lists		
MXFC	Maximum number of free calling area screening tables		
CDP	Coordinated dialing plan is implemented for this customer		
MXSC	Maximum number of steering codes		
NCDP	Maximum number of digits in CDP DNs		
MSCC	Maximum number of Special Common Carrier entries		
AC1	NARS/BARS access code 1		
AC2	NARS/BARS access code 2		
DLTN	NARS/BARS dial tone after AC1 or AC2		
ERWT	Expensive route warning tone		
ERDT	Expensive route delay time		
TODS	Time-of-day schedules	0 ____ to ____ 1 ____ to ____ 2 ____ to ____ 3 ____ to ____ 4 ____ to ____ 5 ____ to ____ 6 ____ to ____ 7 ____ to ____	0 ____ to ____ 1 ____ to ____ 2 ____ to ____ 3 ____ to ____ 4 ____ to ____ 5 ____ to ____ 6 ____ to ____ 7 ____ to ____
RTCL	Routing controls		
NMAP	Network class of service (NCOS) map		
ETOD	Extended Time-of-day schedule		
TGAR	Check for trunk group access restrictions		

☐ printout attached

Digit manipulation index (LD 86)

What this overlay is used for

On overlay 86, the DGT feature is used to identify the digit manipulation tables that are being used.

Digit manipulation tables are used to define

- how many leading digits of a dialed number will be deleted
- what digits will be inserted before the dialed number

Digit manipulation tables are associated with trunks and are used by ESN to convert a dialed number into a format that can be used by the trunk.

Procedure

At the Meridian 1 terminal, do the following.

Starting Point: You are already logged in, and overlay 86 is loaded. The REQ prompt is displayed.

Step	Action

1	Type PRT and press <Enter>. Result: The CUST prompt is displayed.
2	Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. Result: The FEAT prompt is displayed.
3	Type DGT and press <Enter>. Result: The DMI prompt is displayed.
4	Press <Enter>. Result: The information for this data block is printed.
5	Complete the NWP-006, "Meridian 1 Network Information—Digit Manipulation Tables" form. An example of the form follows this procedure.
6	Go to "Route list index (LD 86)" on page 2-37.

Form example:
NWP-006

The following is an example of the NWP-006, “Meridian 1 Network Information—Digit Manipulation Tables” form. For instructions on completing the form, see “Completing the Meridian 1 overlay forms” on page 2-26.

Meridian 1 Network Information—Digit Manipulation Tables

NWP-006

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Digit manipulation tables (LD 86, DGT)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
DMI	Digit manipulation index number		
DEL	Number of leading digits to be deleted		
INST	Insert		
SCCI	Special Common Carrier index into the SCC data table		
CTYP	Call type to be used by the manipulated digits (INTL, NPA, NXX, LOC, CDP, SPN, UKWN)		
Next DMI			
DMI	Digit manipulation index number		
DEL	Number of leading digits to be deleted		
INST	Insert		
SCCI	Special Common Carrier index into the SCC data table		
CTYP	Call type to be used by the manipulated digits (INTL, NPA, NXX, LOC, CDP, SPN, UKWN)		
Next DMI			
DMI	Digit manipulation index number		
DEL	Number of leading digits to be deleted		
INST	Insert		
SCCI	Special Common Carrier index into the SCC data table		
CTYP	Call type to be used by the manipulated digits (INTL, NPA, NXX, LOC, CDP, SPN, UKWN)		
Next DMI			
DMI	Digit manipulation index number		
DEL	Number of leading digits to be deleted		
INST	Insert		
SCCI	Special Common Carrier index into the SCC data table		
CTYP	Call type to be used by the manipulated digits (INTL, NPA, NXX, LOC, CDP, SPN, UKWN)		

☐ printout attached

Route list index (LD 86)

What this overlay is used for

On overlay 86, the RLB feature is used to identify the route lists (and their associated route numbers) that are being used by the switch.

Route lists identify the routes (which identify the trunks) that can be used to complete ESN calls.

Procedure

At the Meridian 1 terminal, do the following.

Starting Point: You are already logged in, and overlay 86 is loaded. The REQ prompt is displayed.

Step	Action

1	Type PRT and press <Enter>. Result: The CUST prompt is displayed.
2	Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. Result: The FEAT prompt is displayed.
3	Type RLB and press <Enter>. Result: The RLI prompt is displayed.
4	Press <Enter> to print all route lists. Result: The information for this data block is printed.
5	Complete the NWP-008, "Meridian 1 Network Information—Route List Index" form. An example of the form follows this procedure.
6	Go to "Incoming trunk exclusion (LD 86)" on page 2-39.

Form example:
NWP-008

The following is an example of the NWP-008, “Meridian 1 Network Information—Route List Index” form. For instructions on completing the form, see “Completing the Meridian 1 overlay forms” on page 2-26.

Meridian 1 Network Information—Route List Index

NWP-008

Site or NMS location information

Page of

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Route list index (LD 86, RLB)
(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
RLI	Route list index to be accessed		
ENTR	Entry number for NARS/BARS route list		
LTER	Local termination entry		
ROUT	Route number		
TOD	Time-of-day schedule	0 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____	0 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____
CNV	Conversion to listed directory number (LDN)		
EXP	Expensive route		
FRL	Facility restriction level		
DMI	Digit manipulation index		
ISDM	ISL D-channel down digit manipulation index		
FCI	Free calling area screening index number		
OHQ	Off-hook queuing allowed		
CBQ	Call-back queuing		

☐ printout attached

Incoming trunk exclusion (LD 86)

What this overlay is used for

On overlay 86, the ITGE feature is used to identify the trunks that will block calls that should have been dialed off-network. Exclusion numbers are associated with trunks that route to specific

- numbering plan area codes (NPA)
- exchange codes (NXX)
- special numbers (SPN)
- locations (LOC)

Procedure

At the Meridian 1 terminal, do the following.

Starting Point: You are already logged in, and overlay 86 is loaded. The REQ prompt is displayed.

Step	Action

1	Type PRT and press <Enter>. Result: The CUST prompt is displayed.
2	Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. Result: The FEAT prompt is displayed.
3	Type ITGE and press <Enter>. Result: The ITEI prompt is displayed.
4	Press <Enter> to print all trunk exclusions. Result: The information for this data block is printed.
5	Complete the NWP-011, "Meridian 1 Network Information—ITGE Groups" form. An example of the form follows this procedure.
6	Type **** to exit the overlay. Result: OVL000 is displayed.
7	Go to "Coordinated Dialing Plan (LD 87)" on page 2-41.

Form example:
NWP-011

The following is an example of the NWP-011, “Meridian 1 Network Information—ITGE Groups” form. For instructions on completing the form, see “Completing the Meridian 1 overlay forms” on page 2-26.

Meridian 1 Network Information—ITGE Groups

NWP-011

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Incoming trunk exclusion (LD 86, ITGE)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		
Next index or route			
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		
Next index or route			
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		
Next index or route			
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		
Next index or route			
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		
Next index or route			
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		
Next index or route			
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		
Next index or route			
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		

☐ printout attached

Coordinated Dialing Plan (LD 87)

What this overlay is used for

On overlay 87, the CDP feature is used to identify the following:

- the following types of steering codes used by the switch
 - local steering code (identifies that the call is internal, from one user to another user on the same switch)
 - distant steering code (identifies that the call is going to a user on another switch in the private network)
 - trunk steering code (identifies that the call is external; the call is going to a user on a switch in the public network)

- the route lists used by each steering code

Note: Local steering codes are not associated with route lists.

Procedure

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 87 and press <Enter>. Result: The REQ prompt is displayed.
2	Type PRT and press <Enter>. Result: The CUST prompt is displayed.
3	Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. Result: The FEAT prompt is displayed.
4	Type CDP and press <Enter>. Result: The TYPE prompt is displayed.

Step Action

- 5 Type one of the following:
 - **DSC** for distant steering code
 - **LSC** for local steering code
 - **TSC** for trunk steering code

Note: A response is mandatory; otherwise, the error ESN128 is displayed.

Result: Your response is repeated on the screen. The information for this data block is printed.
 - 6 Press <Enter>.
 - Result:** The information for this data block is printed.
 - 7 Repeat steps 2 to 6 for each steering code type.
 - Result:** The information for the data block is printed.
 - 8 Complete the NWP-007, "Meridian 1 Network Information—CDP Steering Codes" form.
 - An example of the form follows this procedure.
 - 9 Go to "Network control (LD 87)" on page 2-44.
-

Form example:
NWP-007

The following is an example of the NWP-007, “Meridian 1 Network Information—CDP Steering Codes” form. For instructions on completing the form, see “Completing the Meridian 1 overlay forms” on page 2-26.

Meridian 1 Network Information—CDP Steering Codes

NWP-007

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

CDP steering codes (LD 87, CDP)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
LSC	Local steering code		
DMI	Digit manipulation index for local steering code (LSC)		
DEL	Number of digits to be deleted for local steering code (LSC)		
DSC	Distant steering code		
DSP	Display (local steering code and DN)		
RLI	Route list index to be accessed for distant steering code (DSC)		
TSC	Trunk steering code		
FLEN	Flexible length number of digits		
ITOH	Inhibit time-out option		
RLI	Route list index to be accessed for trunk steering code (TSC)		

☐ printout attached

Network control (LD 87)

What this overlay is used for

On overlay 87, the NCTL feature is used to identify the class of service (NCOS) groups used by the switch.

NCOS groups are used to control access to trunks, call queuing, and to provide a caller with an “expensive route” warning tone.

NCOS groups are assigned to each of the following:

- 500/2500 sets
- SL-1 M1000, M2000, and M3000 telephones
- Touchphone
- attendant console
- trunks
- Direct Inward System Access directory number
- authorization code

Procedure

At the Meridian 1 terminal, do the following.

Starting Point: You are already logged in, and overlay 87 is loaded. The REQ prompt is displayed.

Step	Action
1	Type PRT and press <Enter>. Result: The CUST prompt is displayed.
2	Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, “Meridian 1 Network Information—Site Information” form. Result: The FEAT prompt is displayed.
3	Type NCTL and press <Enter>. Result: The NRNG prompt is displayed.

Step Action

4	Type 0 99 and press <Enter>. Result: The information for this data block is printed.
5	Complete the NWP-009, "Meridian 1 Network Information— NCOS Groups" form. An example of the form follows this procedure.
6	Go to "Free calling area screening (LD 87)" on page 2-47.
-

Form example:
NWP-009

The following is an example of the NWP-009, “Meridian 1 Network Information—NCOS Groups” form. For instructions on completing the form, see “Completing the Meridian 1 overlay forms” on page 2-26.

Meridian 1 Network Information—NCOS Groups

NWP-009

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Network Class of Service Groups (LD 87, NCTL)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
NRNG	Network class of service (NCOS) range		
SOHQ	Off-hook queuing option		
OHTL	Off-hook queue time limit		
SCBQ	Call-back queuing option		
CBTL	Call-back queue time limit		
RANE	RAN route number for CBQ to ESN stations		
RANC	RAN route number for CBQ offer to conventional main		
NCOS	Network class of service group number		
FRL	Facility restriction level		
RWTA	Expensive route warning tone		
NSC	Network speed call access allowed		
LIST	List numbers to which system speed call has access		
OHQ	Off-hook queuing eligibility		
CBQ	Call-back queuing eligibility		
ROUT	Call-back queuing on initial routes		
RADT	Route advance timer		
SPRI	Starting priority in CBQ		
MPRI	Maximum priority attainable in CBQ		
PROM	Priority promotion timer		

☐ printout attached

Free calling area screening (LD 87)

What this overlay is used for

On overlay 87, the FCAS feature is used to identify the following for off-network calls:

- area and exchange codes that are to be denied
- area and exchange codes that are to be allowed

Procedure

At the Meridian 1 terminal, do the following.

Starting Point: You are already logged in, and overlay 87 is loaded. The REQ prompt is displayed.

Step	Action

1	Type PRT and press <Enter>. Result: The CUST prompt is displayed.
2	Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. Result: The FEAT prompt is displayed.
3	Type FCAS and press <Enter>. Result: The FCI prompt is displayed.
4	Press <Enter>. Result: The information for this data block is printed.
5	Complete the NWP-010, "Meridian 1 Network Information—FCAS Tables" form. An example of the form follows this procedure.
6	Type **** to exit the overlay. Result: OVL000 is displayed.
7	Go to "Network translation (LD 90)" on page 2-49.
-

Form example:
NWP-010

The following is an example of the NWP-010, “Meridian 1 Network Information—FCAS Tables” form. For instructions on completing the form, see “Completing the Meridian 1 overlay forms” on page 2-26.

Meridian 1 Network Information—FCAS Tables

NWP-010

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Free calling area screening (LD 87, FCAS)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
FCI	Free calling area screening (FCAS) index number		
NPA	Numbering plan area code to be screened		
NXX	Exchange code to be denied or allowed		
DENY	Range of exchange codes to be denied		
ALLOW	Range of exchange codes to be allowed		
Next NPA or NXX			
NPA	Numbering plan area code to be screened		
NXX	Exchange code to be denied or allowed		
DENY	Range of exchange codes to be denied		
ALLOW	Range of exchange codes to be allowed		
Next NPA or NXX			
NPA	Numbering plan area code to be screened		
NXX	Exchange code to be denied or allowed		
DENY	Range of exchange codes to be denied		
ALLOW	Range of exchange codes to be allowed		
Next NPA or NXX			
NPA	Numbering plan area code to be screened		
NXX	Exchange code to be denied or allowed		
DENY	Range of exchange codes to be denied		
ALLOW	Range of exchange codes to be allowed		
Next NPA or NXX			
NPA	Numbering plan area code to be screened		
NXX	Exchange code to be denied or allowed		
DENY	Range of exchange codes to be denied		
ALLOW	Range of exchange codes to be allowed		

☐ printout attached

Network translation (LD 90)

What this overlay is used for

On overlay 90, the NET feature is used to identify the following:

- location codes for other site
- location code for this site (home location code)
- numbering plan area code
- home numbering plan area code (area code of local switch)
- central office exchange code
- special number translation

Procedure

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 90 and press <Enter>. Result: The REQ prompt is displayed.
2	Type PRT and press <Enter>. Result: The CUST prompt is displayed.
3	Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. Result: The FEAT prompt is displayed.
4	Type NET and press <Enter>. Result: The TRANS prompt is displayed.
5	Type one of the following and press <Enter>. • AC1 (access code 1) • AC2 (access code 2) Result: The TYPE prompt is displayed.
6	Type ALL and press <Enter>. Result: The information for this data block is printed.

Step Action

- 7 Record the information on the following Meridian 1 Network Information forms:
 - NWP-012, "Location Codes"
 - NWP-013, "Numbering Plan Area Codes"
 - NWP-014, "Exchange Codes"
 - NWP-015, "Special Number Translation Codes"
 - NWP-016, "Home Location and Home Numbering Plan Area Codes"

Examples of these forms follow this procedure. For instructions on completing the forms, see "Completing the Meridian 1 overlay forms" on page 2-26.
 - 8 Type **** to exit the overlay.
Result: OVL000 is displayed.
 - 9 Go to "Route data block (LD 21)" on page 2-56.
-

Form example:
NWP-012

The following is an example of the NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” form.

Meridian 1 Network Information—Network Translation Location Codes

NWP-012

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Network translation—location codes (LD 90, NET)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
TRAN	Translator (AC1 or AC2)		
TYPE	Type of data block	LOC	LOC
LOC	Location code		
RLI	Route list index		
ITEI	Incoming trunk group exclusion index		
LDN	Listed directory number		
DID	Direct inward dial		
MINXX	Multiple NXX (exchange codes)		
SAVE	Number of trailing digits to save		
OFFC	Office		
RNGE	Range of DID numbers		
RNGE	Range of DID numbers		
OFFC	Office		
RNGE	Range of DID numbers		
RNGE	Range of DID numbers		

☐ printout attached

Form example:
NWP-013

The following is an example of the NWP-013, “Meridian 1 Network Information—Network Translation Numbering Plan Area Codes” form.

Meridian 1 Network Information—Network Translation
Numbering Plan Area Codes

NWP-013

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Network translation—NPA codes (LD 90, NET)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
TRAN	Translator (AC1, AC2, or SUM)		
TYPE	Type of data block	NPA	NPA
NPA	Numbering plan area code		
RLI	Route list index		
SDRR	Supplemental digit restriction or recognition		
DENY	Number to be denied within the NPA		
DMI	Digit manipulation index		
LDID	Local DID number to be recognized		
LDDD	Local DDD number to be recognized		
DID	Remote DID number to be recognized		
DDD	Remote DDD number to be recognized		
ITED	Incoming trunk group exclusion digits		
ITEI	Incoming trunk group exclusion index		

☐ printout attached

Form example:
NWP-014

The following is an example of the NWP-014, “Meridian 1 Network Information—Network Translation Exchange Codes” form.

Meridian 1 Network Information—Network Translation Exchange Codes

NWP-014

Site or NMS location information

Page of

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Network translation—NXX codes (LD 90, NET)
(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
TRAN	Translator (AC1, AC2, or SUM)		
TYPE	Type of data block	NXX	NXX
NXX	Numbering plan exchange code (central office)		
RLI	Route list index		
SDRR	Supplemental digit restriction or recognition		
DENY	Number to be denied within the NXX		
DMI	Digit manipulation index		
LDID	Local DID number to be recognized		
LDDD	Local DDD number to be recognized		
DID	Remote DID number to be recognized		
DDD	Remote DDD number to be recognized		
ITED	Incoming trunk group exclusion digits		
ITEI	Incoming trunk group exclusion index		

☐ printout attached

Form example:
NWP-015

The following is an example of the NWP-015, “Meridian 1 Network Information—Network Translation Special Number Translation Codes” form.

Meridian 1 Network Information—Network Translation
Special Number Translation Codes

NWP-015

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Network translation—SPN codes (LD 90, NET)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
TRAN	Translator (AC1, AC2, or SUM)		
TYPE	Type of data block	SPN	SPN
SPN	Special number translation		
FLEN	Flexible length		
ITOH	Inhibit time-out handler		
RLI	Route list index		
SDRR	Supplemental digit restriction or recognition		
DENY	Number to be denied		
DMI	Digit manipulation index		
LDID	Local DID number to be recognized		
LDDD	Local DDD number to be recognized		
DID	Remote DID number to be recognized		
DDD	Remote DDD number to be recognized		
ITED	Incoming trunk group exclusion digits		

☐ printout attached

Form example:
NWP-016

The following is an example of the NWP-016, “Meridian 1 Network Information—Network Translation Home Location and Home Numbering Plan Area Codes” form.

Meridian 1 Network Information—Network Translation
Home Location and Home Numbering Plan Area Codes

NWP-016

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Network translation—HLOC codes (LD 90, NET)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
TRAN	Translator (AC1, AC2, or SUM)		
TYPE	Type of data block	HLOC	HLOC
HLOC	Home location code		
DMI	Digit manipulation index		
Next HLOC			
HLOC	Home location code		
DMI	Digit manipulation index		
Next HLOC			
HLOC	Home location code		
DMI	Digit manipulation index		

☐ printout attached

Network translation—HNPA codes (LD 90, NET)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
TRAN	Translator (AC1, AC2, or SUM)		
TYPE	Type of data block	HNPA	HNPA
HNPA	Home numbering plan area code		
HNPA	HNPA with 1+ dialing	1	1
Next HNPA			
HNPA	Home numbering plan area code		
HNPA	HNPA with 1+ dialing	1	1
Next HNPA			
HNPA	Home numbering plan area code		
HNPA	HNPA with 1+ dialing	1	1

☐ printout attached

Route data block (LD 21)

What this overlay is used for	Overlay 21 is used to identify the type of trunks that are being used. Trunks are associated with route lists and routes that are used to complete calls. Note: Trunks are actually defined on overlay 16.
Printout is required	The route data block contains too much information for you to record manually. Therefore, a hard copy printout is required. If you are unable to print the route data block yourself, you might want to ask your technical support representative to access your system remotely and print it for you.
Procedure	At the Meridian 1 terminal, do the following.

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

Step	Action
1	Load overlay 21. Result: The REQ prompt is displayed.
2	Type PRT and press <Enter>. Result: The TYPE prompt is displayed.
3	Type RDB and press <Enter>. Result: The CUST prompt is displayed.
4	Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. Result: The ROUT prompt is displayed.

Step Action

5	Press <Enter>. Result: The ACOD prompt is displayed.
6	Press <Enter>. Result: The information for this data block is printed.
7	Type **** to exit the overlay. Result: OVL000 is displayed.
-

Site numbering plan

Introduction

The last task in gathering ESN information is to identify the numbering plan used on the Meridian 1. This information is obtained by printing the directory number block (DNB) on overlay 20.

Notes:

1. On older releases of Meridian 1 software, you may have to use overlay 22 to print the directory number block.
2. Directory numbers are actually configured by adding telephone sets in either overlay 10 or overlay 11 (depending on telephone set type).

If you followed the procedures in Section D, “Gathering CDP information from the Meridian 1”, and you have gathered the site numbering plan information already, then ignore this topic. You do not have to gather the site numbering plan information again.

Two ways to identify the numbering plan

There are two ways to identify the numbering plan used in the Meridian 1. The method you use is your choice. It may depend on how many directory numbers have been defined on the Meridian 1.

Method 1

Print the entire directory number block (DNB) by using overlay 20.

Method 2

Print only the unused directory numbers by using overlay 20 (available for Release 19 and later).

Procedure

When requesting the entire directory number block, you can

- specify a range of directory numbers, or print the entire directory number block
- filter the directory numbers by date or description
- specify printing on a per-page basis

When requesting unused directory numbers, you can specify a range of directory numbers.

For detailed instructions on both methods, see LD 20 in the *X11 input/output guide* (NTP 553-3001-400).

Recording the information

Most likely, there will be too much information to record manually. Nortel recommends that you print the information (if you can), and attach the printout to the rest of the information you have already gathered.

You can, however, summarize the numbering plan by recording some of the information in the “Used directory numbers” section of the NWP-0017, “Meridian 1 Network Information—Site Numbering Plan” form. An example of this form follows.

Form example:
NWP-017

The following is an example of the NWP-017, “Meridian 1 Network Information—Site Numbering Plan” form. For instructions on completing the form, see “Completing the Meridian 1 overlay forms” on page 2-26.

Meridian 1 Network Information—Site Numbering Plan

NWP-017

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Used directory numbers (LD 20) (If necessary, complete and attach additional pages, or attach printout.)

Ranges (record all that apply) Example: 1550 to 1599					
☐ Starting with 0					
☐ Starting with 1					
☐ Starting with 2					
☐ Starting with 3					
☐ Starting with 4					
☐ Starting with 5					
☐ Starting with 6					
☐ Starting with 7					
☐ Starting with 8					
☐ Starting with 9					

☐ printout attached

Section D **Gathering CDP information from the Meridian 1**

In this section

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Coordinated Dialing Plan (LD 87)	2-64
Network control (LD 87)	2-67
Route list index (LD 86)	2-69
Digit manipulation index (LD 86)	2-71
ESN data block (LD 86)	2-73
Route data block (LD 21)	2-75
Site numbering plan	2-76

Overview of this section

Introduction

This section explains how to identify if the Meridian 1 is using a stand-alone coordinated dialing plan (CDP).

Note: For instructions on how to identify if CDP has been implemented as part of ESN, see Section C, “Gathering ESN information from the Meridian 1”.

How information is gathered

Gathering information for CDP is done by printing (and manually recording, if applicable) information from the following:

- the following data blocks on overlay 86
 - Route List Index (RLB)
 - Digit Manipulation Index (DMI)
 - ESN data block (ESN)
- the following data blocks on overlay 87
 - Coordinated dialing plan (CDP)
 - Network control (NCTL)
- overlay 21, Route Data Block (RDB)
- overlay 20, Directory Number Block (DNB)

The information from each overlay can be

- manually recorded on a data entry form
- printed directly to a printer

Instructions for completing the forms are provided in Section B, “Recording Meridian 1 information”. An example of each form is provided in this section with each overlay procedure.

When you can skip this section

If you know for certain that you are not using CDP on the Meridian 1, then you may skip this section.

What this information is used for

The information on these forms is used

- to determine if the dialing plan on one Meridian 1 is compatible with the dialing plans on other Meridian 1s in the network
If they are not compatible, then you will need to make changes.
- when defining local and remote sites in Meridian Mail

What is in this section

This section contains the following:

- detailed instructions for obtaining information from overlays on the Meridian 1
In some cases, the same overlays but different feature data blocks are used to access information. For efficiency's sake, the procedures are sequenced so that you gather all information from one overlay before proceeding to the next overlay. You will not have to load the same overlay again and again.
- examples of information-gathering forms

Where to get more information

If you need more information about CDP features, see the following documents:

- *Coordinated Dialing Plan Description* (NTP 309-3001-102)
- if CDP is implemented as part of ESN:
 - *Electronic Switched Network Description* (NTP 309-3001-100)
 - *Basic and Network Alternate Route Selection description* (NTP 553-2751-100)
- *X11 input/output guide* (NTP 553-3001-400)

Coordinated Dialing Plan (LD 87)

What this overlay is used for	On overlay 87, the CDP feature is used to identify the following: - the following types of steering codes used by the switch - local steering code (identifies that the call is internal, from one user to another user on the same switch) - distant steering code (identifies that the call is going to a user on another switch in the private network) - trunk steering code (identifies that the call is external; the call is going to a user on a switch in the public network) - route lists used by each steering code Note: Local steering codes are not associated with route lists.

Procedure	At the Meridian 1 terminal, do the following. Starting Point: You are already logged in, and are at the > prompt. <table><tr><th>Step</th><th>Action</th></tr><tr><td>1</td><td>Type LD 87 and press <Enter>. Result: The REQ prompt is displayed.</td></tr><tr><td>2</td><td>Type PRT and press <Enter>. Result: The CUST prompt is displayed.</td></tr><tr><td>3</td><td>Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. Result: The FEAT prompt is displayed.</td></tr><tr><td>4</td><td>Type CDP and press <Enter>. Result: The TYPE prompt is displayed.</td></tr></table>	Step	Action	1	Type LD 87 and press <Enter>. Result: The REQ prompt is displayed.	2	Type PRT and press <Enter>. Result: The CUST prompt is displayed.	3	Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. Result: The FEAT prompt is displayed.	4	Type CDP and press <Enter>. Result: The TYPE prompt is displayed.
Step	Action										
1	Type LD 87 and press <Enter>. Result: The REQ prompt is displayed.										
2	Type PRT and press <Enter>. Result: The CUST prompt is displayed.										
3	Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. Result: The FEAT prompt is displayed.										
4	Type CDP and press <Enter>. Result: The TYPE prompt is displayed.										

Step Action

- 5 Type one of the following:
 - **DSC** for distant steering code
 - **LSC** for local steering code
 - **TSC** for trunk steering code

Note: A response is mandatory; otherwise, the error ESN128 is displayed.

Result: Your response is repeated on the screen.
 - 6 Press <Enter>.

Result: The information for this data block is printed.
 - 7 Repeat steps 2 to 6 for each steering code type.

Result: The information for the data block is printed.
 - 8 Complete the NWP-007, "Meridian 1 Network Information—CDP Steering Codes" form.

An example of the form follows this procedure.
 - 9 Go to "Network control (LD 87)" on page 2-67.
-

Form example:
NWP-007

The following is an example of the NWP-007, “Meridian 1 Network Information—CDP Steering Codes” form. For instructions on completing the form, see “Completing the Meridian 1 overlay forms” on page 2-26.

Meridian 1 Network Information—CDP Steering Codes

NWP-007

Site or NMS location information

Page of

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

CDP steering codes (LD 87, CDP)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
LSC	Local steering code		
DMI	Digit manipulation index for local steering code (LSC)		
DEL	Number of digits to be deleted for local steering code (LSC)		
DSC	Distant steering code		
DSP	Display (local steering code and DN)		
RLI	Route list index to be accessed for distant steering code (DSC)		
TSC	Trunk steering code		
FLEN	Flexible length number of digits		
ITOH	Inhibit time-out option		
RLI	Route list index to be accessed for trunk steering code (TSC)		

☐ printout attached

Network control (LD 87)

What this overlay is used for

On overlay 87, the NCTL feature is used to identify the class of service (NCOS) groups used by the switch.

NCOS groups are used to control access to trunks, call queuing, and to provide a caller with an “expensive route” warning tone.

Procedure

At the Meridian 1 terminal, do the following.

Starting Point: You are already logged in, and overlay 87 is loaded. The REQ prompt is displayed.

Step	Action
1	Type PRT and press <Enter>. Result: The CUST prompt is displayed.
2	Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, “Meridian 1 Network Information—Site Information” form. Result: The FEAT prompt is displayed.
3	Type NCTL and press <Enter>. Result: The NRNG prompt is displayed.
4	Type 0 99 and press <Enter>. Result: The information for this data block is printed.
5	Complete the NWP-009, “Meridian 1 Network Information—NCOS Groups” form. An example of the form follows this procedure.
6	Type **** to exit the overlay. Result: OVL000 is displayed.
7	Go to “Route list index (LD 86)” on page 2-69.

Form example:
NWP-009

The following is an example of the NWP-009, “Meridian 1 Network Information—NCOS Groups” form. For instructions on completing the form, see “Completing the Meridian 1 overlay forms” on page 2-26.

Meridian 1 Network Information—NCOS Groups

NWP-009

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Network Class of Service Groups (LD 87, NCTL)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
NRNG	Network class of service (NCOS) range		
SOHQ	Off-hook queuing option		
OHTL	Off-hook queue time limit		
SCBQ	Call-back queuing option		
CBTL	Call-back queue time limit		
RANE	RAN route number for CBQ to ESN stations		
RANC	RAN route number for CBQ offer to conventional main		
NCOS	Network class of service group number		
FRL	Facility restriction level		
RWTA	Expensive route warning tone		
NSC	Network speed call access allowed		
LIST	List numbers to which system speed call has access		
OHQ	Off-hook queuing eligibility		
CBQ	Call-back queuing eligibility		
ROUT	Call-back queuing on initial routes		
RADT	Route advance timer		
SPRI	Starting priority in CBQ		
MPRI	Maximum priority attainable in CBQ		
PROM	Priority promotion timer		

☐ printout attached

Route list index (LD 86)

What this overlay is used for

On overlay 86, the RLB feature is used to identify the route lists (and their associated route numbers) that are being used by the switch.

Route lists are associated with each Distant Steering Code (DSC) and Trunk Steering Code (TSC) that can be dialed at a switch.

Procedure

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 86 and press <Enter>. Result: The REQ prompt is displayed.
2	Type PRT and press <Enter>. Result: The CUST prompt is displayed.
3	Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. Result: The FEAT prompt is displayed.
4	Type RLB and press <Enter>. Result: The RLI prompt is displayed.
5	Press <Enter> to print all route lists. Result: The information for this data block is printed.
6	Complete the NWP-008, "Meridian 1 Network Information—Route List Index" form. An example of the form follows this procedure.
7	Go to "Digit manipulation index (LD 86)" on page 2-71.

Form example:
NWP-008

The following is an example of the NWP-008, “Meridian 1 Network Information—Route List Index” form. For instructions on completing the form, see “Completing the Meridian 1 overlay forms” on page 2-26.

Meridian 1 Network Information—Route List Index

NWP-008

Site or NMS location information

Page of

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Route list index (LD 86, RLB)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
RLI	Route list index to be accessed		
ENTR	Entry number for NARS/BARS route list		
LTER	Local termination entry		
ROUT	Route number		
TOD	Time-of-day schedule	0 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____	0 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____
CNV	Conversion to listed directory number (LDN)		
EXP	Expensive route		
FRL	Facility restriction level		
DMI	Digit manipulation index		
ISDM	ISL D-channel down digit manipulation index		
FCI	Free calling area screening index number		
OHQ	Off-hook queuing allowed		
CBQ	Call-back queuing		

☐ printout attached

Digit manipulation index (LD 86)

What this overlay is used for

On overlay 86, the DGT feature is used to identify the digit manipulation tables that are being used.

Digit manipulation tables are used to define

- how many leading digits of a dialed CDP DN will be deleted
 - what digits will be inserted before the dialed CPD DN
- Up to 24 different digits, including the asterisk (*) to indicate a dialing pause where required, can be inserted.

Procedure

At the Meridian 1 terminal, do the following.

Starting Point: You are already logged in, and overlay 86 is loaded. The REQ prompt is displayed.

Step	Action

1	Type PRT and press <Enter> Result: The CUST prompt is displayed.
2	Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. Result: The FEAT prompt is displayed.
3	Type DGT and press <Enter>. Result: The DMI prompt is displayed.
4	Press <Enter>. Result: The information for this data block is printed.
5	Complete the NWP-006, "Meridian 1 Network Information—Digit Manipulation Tables" form. An example of the form follows this procedure.
6	Go to "ESN data block (LD 86)" on page 2-73.

Form example:
NWP-006

The following is an example of the NWP-006, “Meridian 1 Network Information—Digit Manipulation Tables” form. For instructions on completing the form, see “Completing the Meridian 1 overlay forms” on page 2-26.

Meridian 1 Network Information—Digit Manipulation Tables

NWP-006

Site or NMS location information

Page of

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Digit manipulation tables (LD 86, DGT)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
DMI	Digit manipulation index number		
DEL	Number of leading digits to be deleted		
INST	Insert		
SCCI	Special Common Carrier index into the SCC data table		
CTYP	Call type to be used by the manipulated digits (INTL, NPA, NXX, LOC, CDP, SPN, UKWN)		
Next DMI			
DMI	Digit manipulation index number		
DEL	Number of leading digits to be deleted		
INST	Insert		
SCCI	Special Common Carrier index into the SCC data table		
CTYP	Call type to be used by the manipulated digits (INTL, NPA, NXX, LOC, CDP, SPN, UKWN)		
Next DMI			
DMI	Digit manipulation index number		
DEL	Number of leading digits to be deleted		
INST	Insert		
SCCI	Special Common Carrier index into the SCC data table		
CTYP	Call type to be used by the manipulated digits (INTL, NPA, NXX, LOC, CDP, SPN, UKWN)		
Next DMI			
DMI	Digit manipulation index number		
DEL	Number of leading digits to be deleted		
INST	Insert		
SCCI	Special Common Carrier index into the SCC data table		
CTYP	Call type to be used by the manipulated digits (INTL, NPA, NXX, LOC, CDP, SPN, UKWN)		

☐ printout attached

ESN data block (LD 86)

What this overlay is used for

On overlay 86, the ESN feature is used to identify

- the number of digits used in the coordinated dialing plan
- the maximum number of digit manipulation tables, route lists, and steering codes that can be defined

Procedure

At the Meridian 1 terminal, do the following.

Starting Point: You are already logged in, and overlay 86 is loaded. The REQ prompt is displayed.

Step	Action

1	Type PRT and press <Enter>. Result: The CUST prompt is displayed.
2	Type the customer number and press <Enter>. Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form. Result: The FEAT prompt is displayed.
3	Type ESN and press <Enter>. Result: The information for this data block is printed.
4	Complete the NWP-005, "Meridian 1 Network Information—ESN Data Block" form. An example of the form follows this procedure.
5	Type **** to exit the overlay. Result: OVL000 is displayed.
6	Go to "Route data block (LD 21)" on page 2-75.

Form example:
NWP-005

The following is an example of the NWP-005, “Meridian 1 Network Information—ESN Data Block” form. For instructions on completing the form, see “Completing the Meridian 1 overlay forms” on page 2-26.

Meridian 1 Network Information—ESN Data Block

NWP-005

Site or NMS location information

Page of

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

ESN data block (LD 86, ESN) (If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
MXLC	Maximum number of location codes		
MXSD	Maximum number of Supplemental Digit Restriction blocks		
MXIX	Maximum number of incoming trunk group exclusion tables		
MXDM	Maximum number of digit manipulation tables		
MXRL	Maximum number of route lists		
MXFC	Maximum number of free calling area screening tables		
CDP	Coordinated dialing plan is implemented for this customer		
MXSC	Maximum number of steering codes		
NCDP	Maximum number of digits in CDP DNs		
MSCC	Maximum number of Special Common Carrier entries		
AC1	NARS/BARS access code 1		
AC2	NARS/BARS access code 2		
DLTN	NARS/BARS dial tone after AC1 or AC2		
ERWT	Expensive route warning tone		
ERDT	Expensive route delay time		
TODS	Time-of-day schedules	0 to 1 to 2 to 3 to 4 to 5 to 6 to 7 to	0 to 1 to 2 to 3 to 4 to 5 to 6 to 7 to
RTCL	Routing controls		
NMAP	Network class of service (NCOS) map		
ETOD	Extended Time-of-day schedule		
TGAR	Check for trunk group access restrictions		

☐ printout attached

Route data block (LD 21)

What this overlay is used for

Overlay 21 is used to identify the type of trunks that are being used.

Note: Trunks are actually defined on overlay 16.

Printout is required

The route data block contains too much information for you to record manually. Therefore, a hard copy printout is required.

If you are unable to print the route data block yourself, you might want to ask your technical support representative to access your system remotely and print it for you.

Procedure

At the Meridian 1 terminal, do the following.

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

Step Action

- 1 Load overlay 21.
Result: The REQ prompt is displayed.
 - 2 Type **PRT** and press <Enter>.
Result: The TYPE prompt is displayed.
 - 3 Type **RDB** and press <Enter>.
Result: The CUST prompt is displayed.
 - 4 Type the customer number and press <Enter>.
Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form.
Result: The ROUT prompt is displayed.
 - 5 Do you want to view a specific route?
If yes, then type the route number you obtained from overlay 86, RLB feature.
If no, then press <Enter> to print all routes.
Result: The information for this data block is printed.
 - 6 Type ******** to exit the overlay.
 - 7 Go to "Site numbering plan" on page 2-76.
-

Site numbering plan

Introduction

The last task in gathering CDP information is to identify the numbering plan used on the Meridian 1. This information is obtained by printing the directory number block (DNB) on overlay 20.

Notes:

1. On older releases of Meridian 1 software, you may have to use overlay 22 to print the directory number block.
2. Directory numbers are actually configured by adding telephone sets in either overlay 10 or overlay 11 (depending on telephone set type).

If you followed the procedures in Section C, “Gathering ESN information from the Meridian 1,” and have gathered the site numbering plan information already, then ignore this topic. You do not have to gather the site numbering plan information again.

Two ways to identify the numbering plan

There are two ways to identify the numbering plan used in the Meridian 1. The method you use is your choice.

It may depend on how many directory numbers have been defined on the Meridian 1.

Method 1

Print the entire directory number block (DNB) by using overlay 20.

Method 2

Print only the unused directory numbers by using overlay 20 (available for Release 19 and later).

Procedure

When requesting the entire directory number block, you can

- specify a range of directory numbers, or print the entire directory number block
- filter the directory numbers by date or description
- specify printing on a per-page basis

When requesting unused directory numbers, you can specify a range of directory numbers.

For detailed instructions on both methods, see LD 20 in the *X11 input/output guide* (NTP 553-3001-400).

Recording the information

Most likely, there will be too much information to record manually. Nortel recommends that you print the information (if you can), and attach the printout to the rest of the information you have already gathered.

You can, however, summarize the numbering plan by recording some of the information in the “Used directory numbers” section of the NWP-017, “Meridian 1 Network Information—Site Numbering Plan”, form. An example of this form follows.

**Form example:
NWP-017**

The following is an example of the NWP-017, “Meridian 1 Network Information—Site Numbering Plan” form. For instructions on completing the form, see “Completing the Meridian 1 overlay forms” on page 2-26.

Meridian 1 Network Information—Site Numbering Plan

NWP-017

Site or NMS location information

Page of

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Used directory numbers (LD 20) (If necessary, complete and attach additional pages, or attach printout.)

Ranges (record all that apply)
Example: 1550 to 1599

☐ Starting with 0					
☐ Starting with 1					
☐ Starting with 2					
☐ Starting with 3					
☐ Starting with 4					
☐ Starting with 5					
☐ Starting with 6					
☐ Starting with 7					
☐ Starting with 8					
☐ Starting with 9					

☐ printout attached

Section E **Identifying the hardware and software requirements**

In this section

Overview of this section	2-80
Drawing a diagram of the network	2-82
Examples of network diagrams	2-85
Identifying the changes required for Meridian 1 configuration	2-93
Engineering guidelines	2-97

Overview of this section

Introduction

This section explains how to evaluate the information you gathered from each switch in the network.

The evaluation process consists of the following steps:

- drawing a network diagram that will help you to
 - identify any dialing plan conflicts
 - visualize your network
- comparing the information for all sites, in order to identify conflicts

These two steps will help you to determine if changes are required to the configuration of each Meridian 1 in the network.

Identifying other requirements

Before you proceed with the implementation of Meridian Networking, it is recommended that you read the *Networking Planning Guide* (NTP 555-7001-241). This NTP provides information about

- what hardware is required for the network
- what software packages are required on the switch
- data port configuration guidelines
- hardware spares planning

Other documents you may want to refer to are

- *Site and Installation Planning Guide* for your Meridian Mail system
 - for Modular Option: NTP 555-7041-200
 - for Modular Option GP: NTP 555-7051-200
 - for Modular Option EC: NTP 555-7061-200
- *MSM Planning and Engineering Guide* (NTP 557-7001-100)

Identifying other requirements (continued)

Note: There are no planning guides for the following platforms:

- Card Option
- EC11

Drawing a diagram of the network

Introduction	This topic explains how to use the information recorded on the Meridian 1 network information forms (and your notes) to create a diagram of the network.
Why a diagram is required	The diagram will help you to identify, at a glance, any conflicts in dialing plans. It will also help you to visualize the network.
Before you begin	Before you can draw a diagram of the network, you need to gather together the files for all sites including • any notes taken through the gathering process • Meridian 1 Network Information forms (NWP-004 through NWP-017) For examples of what your completed diagram should look like, see “Examples of network diagrams” on page 2-85.
Procedure	To draw a diagram of the network, refer to the Meridian 1 network information forms for each site and do the following.

Step	Action

1	Draw a rectangle that represents each site.
2	Label each site with its site number and name (and customer number if it is not 0). Refer to the NWP-004, “Meridian 1 Network Information—Site Information” form.
3	Beside each site, draw a rectangle that represents the Meridian Mail system to which the site is connected. Note: If the site is not directly connected to a Meridian Mail system, then indicate this on the diagram. Connect the site and Meridian Mail system with seven lines. The seven lines represent the voice ports and help distinguish the Meridian Mail system from switches in the network.

Step Action

- 4 Record the following on each site (only those that apply):
 - local steering codes
Refer to LSC on the NWP-007, "CDP Steering Codes" form (LD 87, CDP).
 - home location codes
Refer to HLOC on the NWP-016, "Network Translation—Home Location and Home Numbering Plan Area Codes" form (LD 90, NET).
 - numbering plan
Refer to the NWP-017, "Site Numbering Plan" form (LD 20, DNB).
- 5 Record beside each site, the access code used to reach other sites.

Access codes can be one or more of the following:

 - ESN access code
Refer to AC1 and AC2 on the NWP-005, "ESN Data Block" form (LD 86, ESN).
 - location code
Refer to LOC on the NWP-012, "Network Translation Location Codes" form (LD 90, NET).
 - distant steering code
Refer to DSC on the NWP-007, "CDP Steering Codes" form (LD 87, CDP)
 - public network access (for example, 9)
- 6 Draw an arrow beside each access code.

The arrow identifies the direction in which calls are going.
- 7 Connect sites with lines that represent the trunks used.

Step Action

- 8 Label each trunk connection with the route number.
Refer to the following forms.

IF	THEN refer to
CDP is being used	• RLI for DSC on the NWP-007, "Steering Codes" form (LD 87, CDP) • route number (for RLI) on the NWP-008, "Route List Index" form (LD 86, RLB)
ESN is being used	• RLI on forms NWP-012 through NWP-015 (LD 90, NET) • route number (for RLI) on the NWP-008, "Route List Index" form (LD 86, RLB)

- 9 Label the trunk connection with the trunk type.
Refer to the TYPE prompt for the route number on your LD 21, RDB printout.
- 10 See the following section, "What to do next", for the next step.

What to do next

The next step is to review both the diagram and the information for each site, to determine if there are any dialing plan conflicts.

Examples of network diagrams

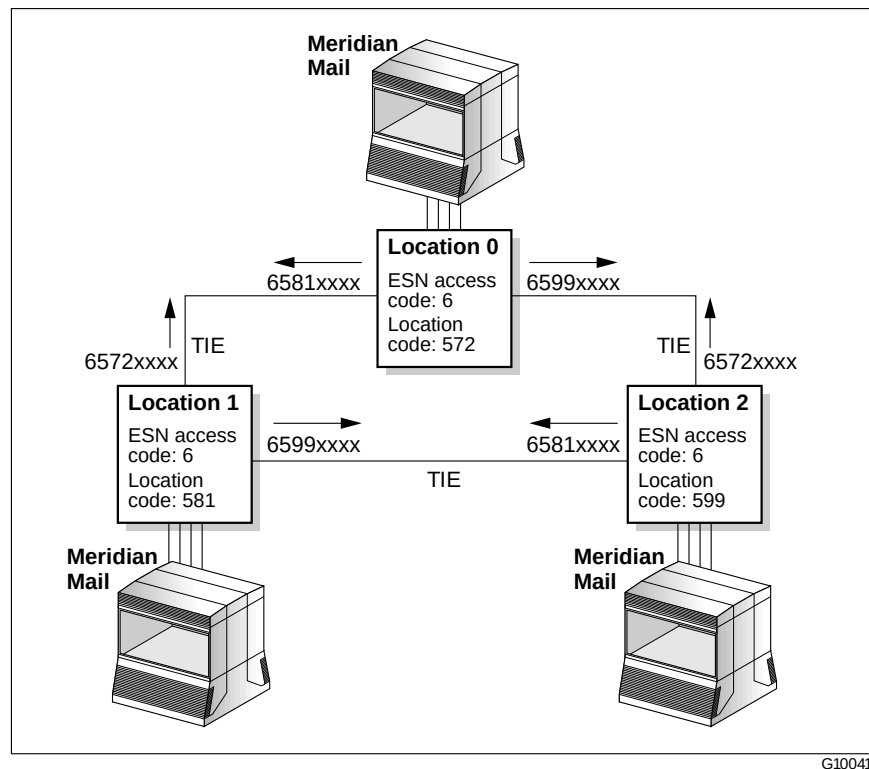
Introduction

This topic shows five examples of what the customer's network diagram should look like. The following types of networks are portrayed:

- typical ESN network
- an ESN network using Network Message Service
- typical CDP network
- hybrid network (a combination of CDP and ESN)
- network with no dialing plan

Example of a typical ESN network

The following diagram shows an example of a typical ESN network. For interpretation, see the description that follows.



**Description:
typical ESN network**

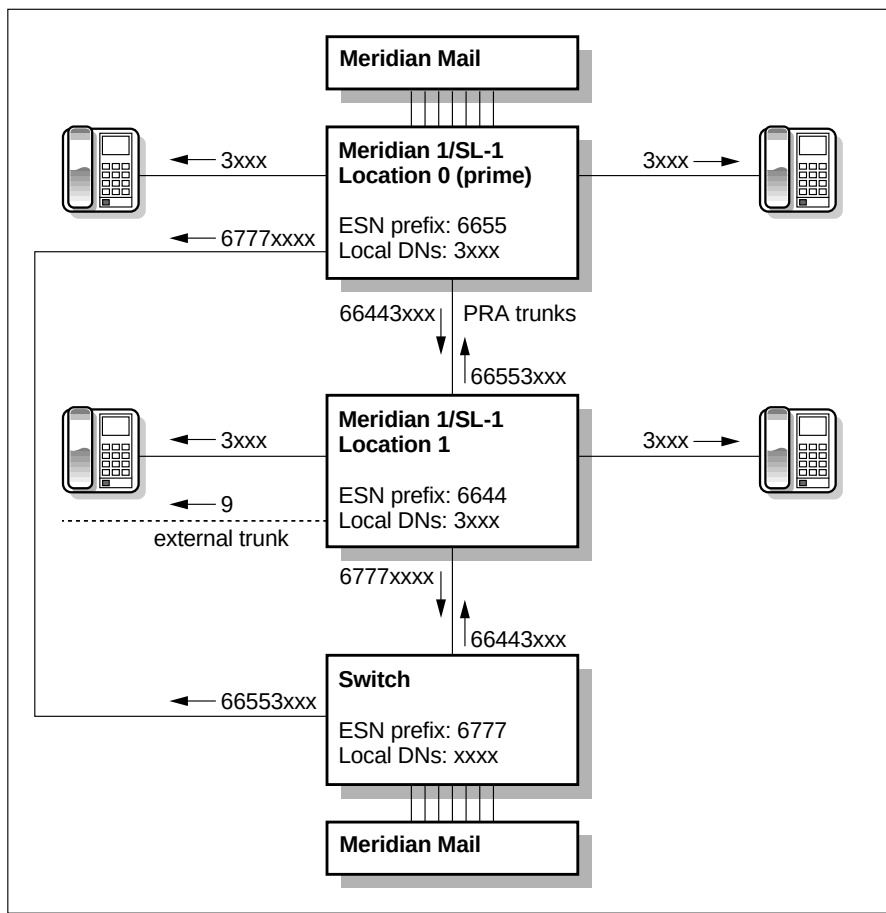
In this diagram, users at each location dial users at other locations with the following:

ESN access code 6 + location code + user's extension number

For example, to reach a user at location 1, a user at any other location dials 6-572-xxxx (where xxxx is the user's extension).

**Example of an ESN
network using
Network Message
Service**

The following diagram shows an example of a network that contains a site performing as a message center. For interpretation, see the description that follows.



G100320

Description:
ESN network using
Network Message
Service

In this diagram, location 0 (the prime location) is the message center providing messaging services to location 1 (the satellite location). Both locations use ESN to reach the other.

Example 1: Location 0 dials location 1 with 66443XXX.

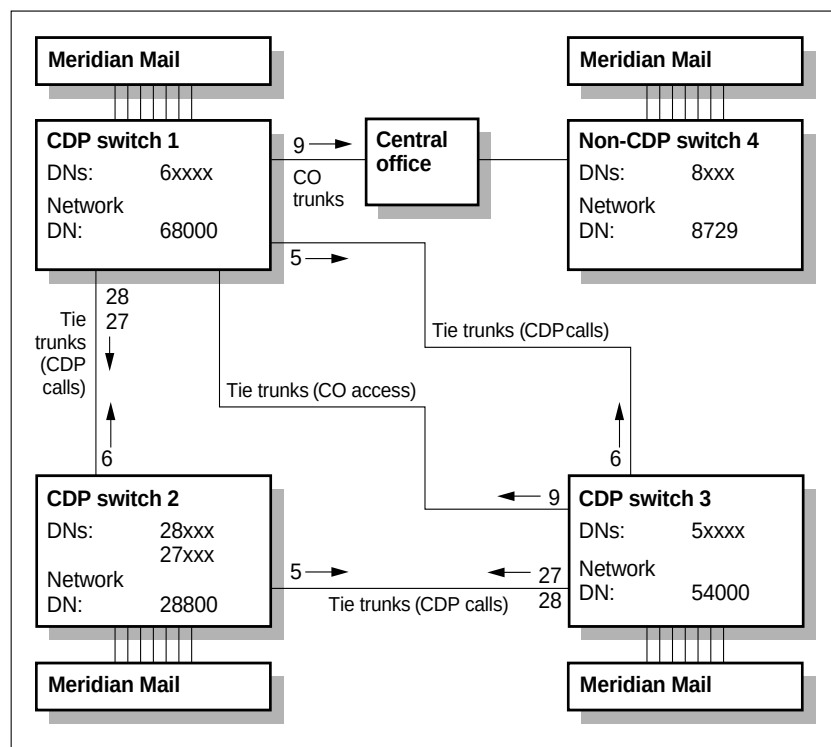
The ESN prefix is 6, the location number is 644, and the extension number starts with 3.

Example 2: Location 1 dials location 0 with 66553XXX.

The ESN prefix is 6, the location number is 655, and the extension number also starts with 3.

Example of a typical
CDP network

The following diagram shows an example of a typical CDP network. For interpretation, see the description that follows.



G100362

**Description:
typical CDP network**

In this diagram, the extensions at site 1 are numbered 60000 to 69999; the steering code is 6.

The extensions at site 2 are numbered 27000 to 28999; the steering codes are 27 and 28.

The extensions at site 3 are numbered 50000 to 59999; the steering code is 5.

Regardless of where the user placing the call is located, the same extension DN (for example, 27341) is dialed to reach the user at site 2. Therefore, users do not need to prefix remote mailbox numbers with additional codes because the first digit (or first two digits) in the DN is the steering code which identifies the site within the network.

This diagram also shows that switch 1 is arranged to provide centralized access to the public telephone network.

So that users at switch 3 can access the public telephone network, a separate tie trunk route is provided to switch 1. This tie trunk route is defined to insert the digit 9 on incoming calls from switch 3.

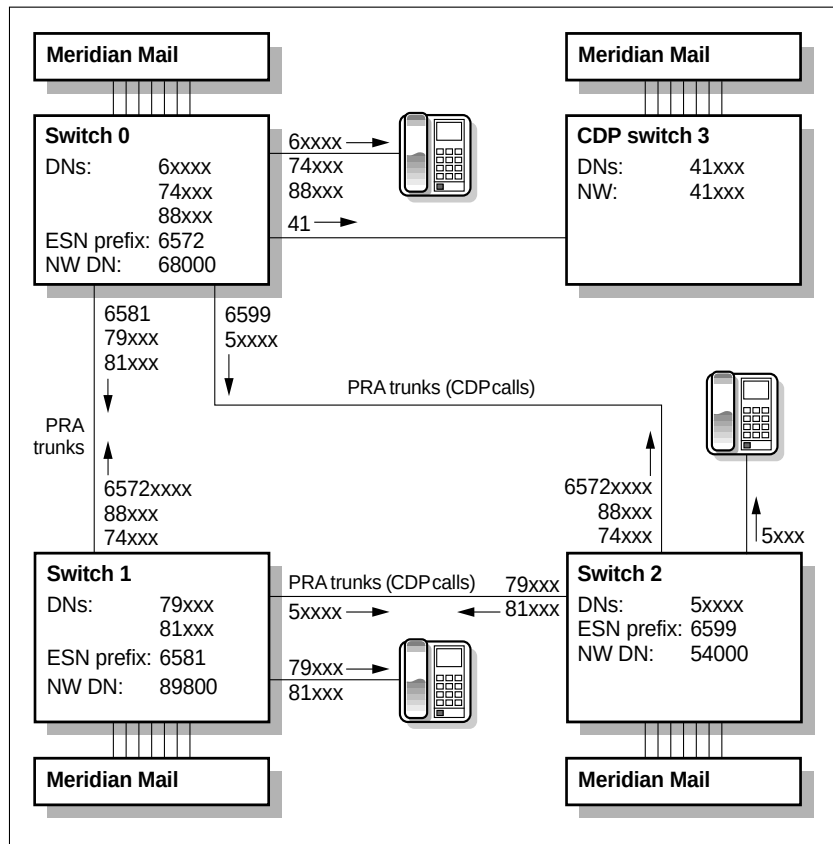
Note: A tie trunk has already been defined to handle CDP calls between switch 1 and switch 3.

**Example of a hybrid
network**

For simplicity, a description of the most direct dialing between each location follows. There are alternate routes using tandem switches. With tandem switches configured, routing restriction needs to be provisioned to prevent steering codes from looping back to the originating switch on facilities other than ISDN.

Example of a hybrid network (continued)

The following diagram shows an example of a network that uses both CDP and ESN.



G100361

**Description:
hybrid network**

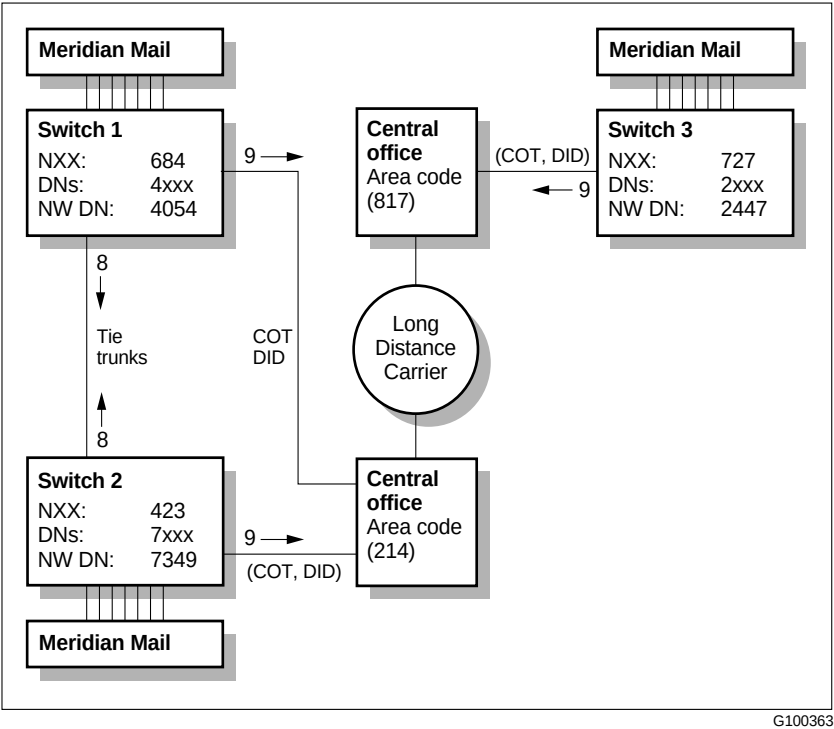
In this diagram, locations 0, 1, and 2 support both ESN and CDP; location 3 supports CDP only. The dialing between each location is described in the following table.

This location	dials location
0	1 with • 6581XXXXX using ESN. The ESN location code of location 1 is 581. • 79XXX, 81XXX, and 8XXXX using CDP. The distant steering codes are 79, 81, and 8 respectively.
	2 with • 6599XXXXX using ESN. The ESN location code of location 2 is 599. • 5XXXX using CDP. The distant steering code is 5.
	3 with 41XXX using CDP. The distant steering code is 41.
1	0 with • 6572XXXXX with ESN. The ESN location code of location 0 is 572. • 74XXX and 88XXX using CDP. The distant steering codes are 74 and 88 respectively.
	2 with • 6599XXXXX using ESN. The ESN location code of location 2 is 599. • 5XXXX using CDP. The distant steering code is 5.
	3 with 41XXX using CDP. The distant steering code is 41.
2	0 with • 6572XXXXX with ESN. The ESN location code of location 0 is 572. • 74XXX and 88XXX using CDP. The distant steering codes are 74 and 88 respectively.
	1 with • 6581XXXXX using ESN. The ESN location code of location 1 is 581. • 79XXX and 81XXX using CDP. The distant steering codes are 79 and 81 respectively.
	3 with 41XXX using CDP. The distant steering code is 41.

This location	dials location
3	0 with 74XXX and 88XXX using CDP. The distant steering codes are 74 and 88 respectively.
	1 with 79XXX and 81XXX using CDP. The distant steering codes are 79 and 81 respectively.
	2 with 5XXXX using CDP. The distant steering code is 5.

Example of a network with no dialing plan

The following diagram shows an example of a network that has no dialing plan. For interpretation, see the description that follows.



**Description:
network with no
dialing plan**

When there is no dialing plan (in Meridian Mail, this is referred to as None), sites may be configured to use different dialing prefixes to reach a specific remote site. However, Meridian Mail will not be able to represent the numbering plan.

A tie-line is an example of a network with no coordinated dialing plan. In this case, a mailbox prefix should be entered to allow users to compose to mailboxes at this remote site, as the mailbox numbering plan will be independent of the dialing plan.

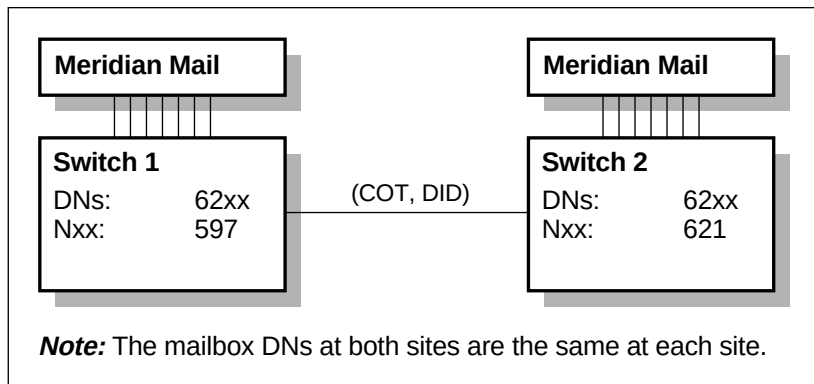
Where there is no specified dialing plan, Meridian Mail is required to enter the trunk access code followed by

- for long distance calls: NPA + NXX + XXXX
- for local calls: NXX + XXXX
- for tie line calls: XXXX

A provision must be made for this format when entering network connection DNs for remote sites.

**Example of another
network with no
dialing plan**

The following diagram shows another network with no dialing plan. In this network, each site uses the same extension DNS. The exchange code makes each site in the network unique.



G100473

Identifying the changes required for Meridian 1 configuration

Introduction

When you have the dialing plan information from all Meridian 1s in the network, you need to review it to determine if configuration changes are required.

Skills required

Dialing plan configuration on the switch is a complex task, which requires extensive experience in programming the switch.

If you do not have the required expertise and knowledge, then request the assistance of a switch technician. Switch technicians understand how switches work, and the impacts, when information is incorrect or incompatible.

Mandatory requirement

Dialing plans across all Meridian 1s in the network must be standardized in order to implement a working network.

Where to get more information

Refer to the following documents for detailed information:

- *Coordinated Dialing Plan description* (NTP 553-2751-102)
- *Electronic Switched Network Description* (NTP 309-3001-100)
- *Basic and Network Alternate Route Selection description* (NTP 553-2751-100)
- *X11 input/output guide* (NTP 553-3001-400) for descriptions and suggested responses to Meridian 1 prompts

Evaluating CDP information

The following table lists only some of the things that should be checked when reviewing CDP information. Use your personal knowledge and experience to think of others.

These are the rules	Check for these conditions
Steering codes must be unique on each switch.	Are any steering codes duplicated on two or more switches?
CDP DN must be unique on each switch. The CDP DN consists of the steering code and internal directory numbers.	Are any CDP DNs duplicated across two or more switches?
The length of CDP DNs is defined on LD 86, ESN data block (NCDP) and should be defined to the length that is required to process calls to each location.	• Will an insufficient length (too short) cause calls to other locations to be blocked? • Nortel strongly recommends that NCDP be defined as the same length on all Meridian 1s in the network. Example: If the maximum length is specified as 4 at one site, then the length should be 4 at all sites. If the CDP DNs are the same length for all sites, the network will be easier to support and maintain. As a result, you will save money.
Time-of-day schedules restrict calls to specific times.	Will the Meridian 1 time-of-day schedules conflict with planned Meridian Mail network scheduling parameters?
Route lists and routes determine which trunks will be used to process a call.	• Will the route list and route block calls that should not be blocked? • Have the most cost-effective routes been defined in route lists for steering codes?
Digits in steering codes and directory numbers may overlap.	Do any of the leading digits of user extensions conflict with any steering codes? • The Meridian 1 technician must be informed. • You need to know what the overlap is for Meridian Mail configuration.

These are the rules	Check for these conditions
Steering codes should be kept as simple and as short as possible. It takes longer for the system to recognize a 5-digit number than a 2-digit number; therefore it takes longer for the system to determine where the call should go.	Are any steering codes more than one or two digits in length?

Evaluating ESN information

The following table lists only some of the things that should be checked when reviewing ESN information. Use your personal knowledge and experience to think of others.

These are the rules	Check for these conditions
Location codes must be unique.	• Do multiple locations use the same location code? Include the home location code (HLOC) in your evaluation. • Are any location codes the same as the numbering plan area codes used in 1+ dialing?
Digit manipulation tables specify how many digits are to be inserted or deleted.	Will the insertion or deletion of digits convert the dialed number into a format that cannot be dialed by trunks at any site (including the local site)? Note: Digit manipulation is not supported for Network Message Service locations.
Time-of-day schedules restrict calls to specific times.	Will the Meridian 1 time-of-day schedules conflict with planned Meridian Mail network scheduling parameters?
FCAS tables restrict users from dialing to specific area or exchange codes.	Will any of the restricted area or exchange codes be required by network users?
Route lists and routes determine which trunks will be used to process calls.	• Will the route lists and routes block calls that shouldn't be blocked? • Have the most cost effective routes been defined in route lists for the following? - LOC - NPA - NXX - SPN

Engineering guidelines

Identifying other requirements

Before you proceed with the implementation of Meridian Networking, Nortel recommends that you read the *Networking Planning Guide* (NTP 555-7001-241). This NTP provides information about

- what hardware is required for the network
- what software packages are required on the switch
- hardware spares planning

Another document you may want to refer to is the *Site and Installation Planning Guide* for your Meridian Mail system:

- for Modular Option: NTP 555-7041-200
- Modular Option GP: NTP 555-7051-200
- for Modular Option EC: NTP 555-7061-200

For the Message Services Module (MSM), refer to the *MSM Planning and Engineering Guide* (NPT 557-7001-100).

Note: There are no planning guides for the following platforms:

- Card Option
- EC11

Chapter 3

Installing the hardware

In this chapter

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Section B Installing the networking modems	3-19

Overview of this chapter

Introduction

This chapter explains how to verify and install the hardware that is necessary for Meridian Networking.

Hardware requirements

Before you can implement Meridian Networking, you must ensure that the following are installed:

- on the switch
 - trunks
 - conference card
 - line card
- on Meridian Mail
 - data ports on Meridian Mail
 - 32K voice processor cards (Modular Option and Modular Option GP)
- modems

Switch hardware installation

This chapter explains what is required on the switch. You may need to consult your switch technician to ensure that the requirements are fulfilled.

Meridian Mail data port availability

You need to ensure that Meridian Mail data ports are available for networking. Usually, data ports are defined as networking data ports during system installation or modification.

Modem installation

Configuring and installing modems consists of the following tasks:

- setting DIP switches on the modem
- connecting the modem to the administration terminal
- configuring the modem (and verifying its configuration settings)
- connecting the modem to Meridian Mail

Section A **Verifying the hardware**

In this section

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Verifying the availability of networking data ports	3-10
Installing additional RSM cards (Modular Option and Modular Option GP)	3-17

Overview of this section

Introduction

Before you can implement Meridian Networking, you must ensure that the following hardware requirements are fulfilled on both the switch and on Meridian Mail.

Switch hardware requirements

The following hardware components are required on your switch:

- trunks
Additional trunks will be required if networking traffic will increase call blocking to an unacceptable level.
- conference card
The conference card is required so that Meridian Networking can conference the modems for the purpose of transmitting message data to remote sites.
- line card
The line card provides the ports to which the networking modems are connected.

Meridian Mail hardware requirements

The following hardware components are required on Meridian Mail:

- data ports on Meridian Mail
The data ports are connected to the networking modems and are used to transmit message data to remote sites. One data port is required for each modem you intend to install.
- modems
The following modems are supported:
 - US Robotics 33.6 modem (A0674453)
 - US Robotics 14.4 model 268
 - VenTel EC2400-33, rev 5.2 and 6.0
 - VenTel EC2400 Plus II, rev 4.53

Note: If you are a new customer and are installing Meridian Mail Networking for the first time, or are purchasing additional modems, the VenTel modems and the US Robotics 14.4 model 268 are not available.

**Meridian Mail
hardware
requirements
(continued)**

- The Modular Option and Modular Option GP platforms use either 16K or 32K voice processor cards. 32K voice processor cards are required for networking on these platforms.

The voice processor cards on the rest of the platforms support networking.

**What this section
contains**

This section explains

- the requirements
- how to verify networking data ports on Meridian Mail

Hardware requirements

Introduction

The following hardware components are required for Meridian Networking:

- trunks
- conference card
- line card
- data ports on Meridian Mail
- modems
- 32K voice processor cards (Modular Option and Modular Option GP)

Trunks

Additional trunks will be required if networking traffic will increase call blocking to an unacceptable level. The number of outgoing trunks required is based on the anticipated outgoing message traffic. If outgoing trunks will also be used for incoming calls, then the incoming call traffic must also be considered.

For instructions on installing trunks, consult a switch technician. For guidelines on configuring trunks for networking, see one of the following:

- Chapter 4, “Configuring the Meridian 1 for systems using AML”
- Chapter 5, “Configuring the PBX/DMS for systems using SMDI”

Data pathways

A data pathway is required to support each active incoming or outgoing Meridian Networking connection. Control data used in the Meridian Mail message transfer protocol is transmitted over this pathway.

Each pathway requires the following:

- a conference card and conference loops
- a port on a line card on the switch

**Data pathways
(continued)**

- a data port on Meridian Mail
- a modem

For instructions on installing conference cards and loops and line cards, consult a switch technician. For guidelines on configuring them for networking, see one of the following:

- Chapter 4, “Configuring the Meridian 1 for systems using AML”
- Chapter 5, “Configuring the PBX/DMS for systems using SMDI”

Conference card

The following table identifies the conference card required on the switch for each Meridian Mail platform.

Platform	Conference card required
Card Option	not needed
Modular Option	NT8D17 or QPC444
Modular Option EC	
EC 11	not needed
Modular Option GP	3X67
Message Services Module (MSM)	Note: This card can be configured as either a 2-to-3 or 1-to-6 party conference.

Line card

The following table identifies the line card required on the switch for each Meridian Mail platform.

Platform	Line card required
Card Option	500/2500
Modular Option	
Modular Option EC	
EC 11	
Modular Option GP	6X17
Message Services Module (MSM)	

Data ports

Data ports reside on the RSM or Utility cards (or for MSM, the RS-232 Transition Module) on Meridian Mail. They are used to connect the modems.

The following table identifies where the data ports are located.

Platform	Location of data port
Card Option	RSM card
Modular Option	
Modular Option EC	Utility card (with or without onboard modem)
EC 11	Utility card
Modular Option GP	RSM card
Message Services Module (MSM)	RS-232 Transition Module

For more information about which data ports can be configured for networking, see “Verifying the availability of networking data ports” on page 3-10.

Supported modems

The following modems are supported for networking:

- US Robotics 33.6 modem (A0674453)
- US Robotics 14.4 model 268
- VenTel EC2400-33, rev 5.2 and 6.0

Note: To check the revision number of the modem, open the cover and check the sticker on the memory chip.

- VenTel EC2400 Plus II, rev 4.53

Note: The VenTel modems and the US Robotics 14.4 model 268 are supported on existing Meridian Mail systems only. If you are a new customer and are installing Meridian Mail Networking for the first time, or are purchasing additional modems, the VenTel modems and the US Robotics 14.4 model 268 are not available.

Voice processor card requirements

The voice processor cards on the following Meridian Mail platforms support Meridian Networking:

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

On the Modular Option and Modular Option GP platforms, 32K voice processor cards are required.

Verifying the availability of networking data ports

Introduction

Networking modems are

- connected to RS-232 ports on the Meridian Mail system
- configured as networking modem ports in Meridian Mail

The ports are usually defined during system installation or hardware modification.

Before you can configure and install the networking modems, you need to confirm that networking data ports do exist. This topic explains how to do this.

Number of modems required

The following table identifies the minimum number of modems that can be used for each Meridian Mail platform.

The maximum number of modems is equal to the maximum number of RS-232 ports that are dedicated to networking.

Platform	Minimum number of modems required	Maximum number of modems allowed
Card Option	Note: Two modems are required in order to perform the loop-back test to verify that the network is working correctly.	4
Modular Option		20 (4 per node)
Modular Option GP		8
Modular Option EC		8
EC 11		20
Message Services Module		

Ports that can be defined for networking modems

Networking ports can be configured on any of the ports identified in the following table.

Note: Networking ports are automatically set to 2400 bps during system installation or hardware modification.

Platform	Position in system	Port name
Card Option	RSM assembly	DP1
		DP2
		DP3
		DP4
Modular Option Modular Option GP	Node 1, RSM card	DP3
		DP4
		DP5
		DP6
	Node 2, RSM card	DP9
		DP10
		DP11
		DP12
	Node 3, RSM card	DP15
		DP16
		DP17
		DP18
	Node 4, RSM card	DP21
		DP22
		DP23
		DP24
	Node 5, RSM card	DP27
		DP28
		DP29
		DP30

Platform	Position in system	Port name
Modular Option EC	Module 0, Node 1, Utility card (with or without on-board modem)	1 2 3 4
	Last module, Utility card 2 (with or without on-board modem) Note: The position of the card in the node depends on whether system is shadowed or unshadowed.	1 2 3 4
EC 11	Node 1, Utility card	1 2 3 4
	Node 2, Utility card	1 2 3 4
MSM	Nodes 3 through 10 (SPNs 1 through 8)	RS-232-C ports 1 through 4 Note: A maximum of 20 ports can be used.

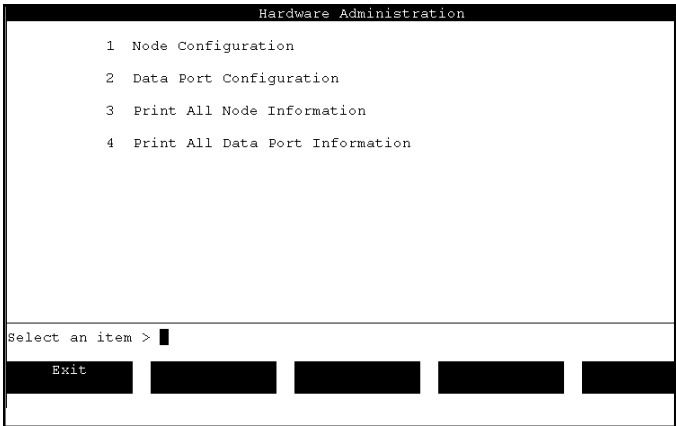
Procedure

To verify that networking data ports are available on your system, do the following.

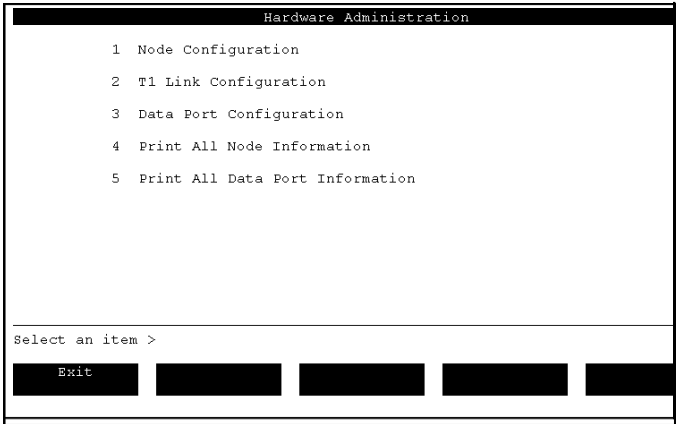
Starting Point: The Main Menu

Step Action

- 1
- Select Hardware Administration.
Result: The Hardware Administration menu is displayed.
For all platforms except MSM:



For the MSM platform:



Step Action

- 2 Select Data Port Configuration.
- Result:** The Data Port Configuration screen is displayed.
- Note:** The fields on this screen are described after this procedure.

For Card Option, Modular Option, and Modular Option GP:

Hardware Administration			
Data Port Configuration			
Port Location	Description	Device Type	Status
1-3-1	Node 1 MMP40 Port 1	Terminal	InService
1-3-2	Node 1 MMP40 Port 2	AML/CSL	InService
1-8-1	Node 1 RSM Port 1	Printer	InService
1-8-2	Node 1 RSM Port 2	MMLink	InService
1-8-3	Node 1 RSM Port 3	NWModem	Faulty
1-8-4	Node 1 RSM Port 4	NWModem	InService
Move the cursor to the data port location and press the space bar to select.			
Exit		View/Modify	

For Modular Option EC and EC 11:

Hardware Administration			
Data Port Configuration			
Port Location	Description	Device Type	Status
1-6-1	Node 1 UTIL Port 1	MMLink	InService
1-6-2	Node 1 UTIL Port 2	AdminPlus	InService
1-6-3	Node 1 UTIL Port 3	NWModem	InService
1-6-4	Node 1 UTIL Port 4	NWModem	InService
1-7-1	Node 1 MMP40 Port 1	Terminal	InService
1-7-2	Node 1 MMP40 Port 2	AML/CSL	InService
2-1-1	Node 2 MMP40 Port 1	Printer	InService
2-1-2	Node 2 MMP40 Port 2	Printer	InService
3-6-1	Node 3 UTIL Port 1	Terminal	InService
3-6-2	Node 3 UTIL Port 2	Printer	InService
3-6-3	Node 3 UTIL Port 3	NWModem	InService
3-6-4	Node 3 UTIL Port 4	NWModem	InService
3-7-1	Node 3 MMP40 Port 1	Printer	InService
3-7-2	Node 3 MMP40 Port 2	Printer	InService
4-1-1	Node 4 MMP40 Port 1	Printer	InService
Move the cursor to the data port location and press the space bar to select.			
Exit		View/Modify	

Step Action

- 2
- (continued)
- For MSM:

Hardware Administration			
Data Port Configuration			
Port Location	Description	Device Type	Status
1-2-1	Node 1 SBC Port 1	Terminal	InService
1-2-2	Node 1 SBC Port 2	Terminal	InService
1-2-3	Node 1 SBC Port 3	Printer	InService
1-2-4	Node 1 SBC Port 4	Printer	InService
2-3-1	Node 2 SBC Port 1	Terminal	InService
2-3-2	Node 2 SBC Port 2	Terminal	InService
2-3-3	Node 2 SBC Port 3	Terminal	InService
2-3-4	Node 2 SBC Port 4	Printer	InService
3-1-1	Node 3 SBC Port 1	MMLink	InService
3-1-2	Node 3 SBC Port 2	Terminal	InService
3-1-3	Node 3 SBC Port 3	Terminal	InService
3-1-4	Node 3 SBC Port 4	AdminPlus	InService
4-3-1	Node 4 SBC Port 1	MMLink	InService
4-3-2	Node 4 SBC Port 2	Printer	InService
4-3-3	Node 4 SBC Port 3	NWModem	InService

Move the cursor to the data port location and press the space bar to select.

Exit

View/Modify

- 3
- Review the screen.
- Do any ports show NWModem in the Device Type column?
- If yes, then networking modem ports are available on your system. Go to step 4.
- If no, then networking modem ports are not available. You must do a hardware modification (Comprehensive upgrade) to define them. For instructions, refer to your *System Installation and Modification Guide* (NTP 555-7001-215).
- 4
- Count the number of NWModem ports.
- Do you have enough ports?
- Note:** You need one port for each modem you intend to install.
- If yes, then configure them with the modem directory numbers. For instructions, see "Installing the networking modems" on page 3-19.
- If no, then you must do a hardware modification to define more networking modem ports. For instructions, refer to your *System Installation and Modification Guide* (NTP 555-7001-215).
- Note:** You may need to install additional RSM cards if your system is a Modular Option or Modular Option GP. For more information, see "Installing additional RSM cards (Modular Option and Modular Option GP)" on page 3-17.

Field descriptions

The following table describes the fields on the Data Port Configuration screen. All fields are display fields only.

Note: For more information about these fields, see your *System Administration Guide* (NTP 55x-7001-30x).

Port Location	
Description	This is the port’s physical location in the system (node-card-port).
Description	
Description	This is the node and card type on which the port resides. For nodes and cards that contain ports that can be used for networking, see “Ports that can be defined for networking modems” on page 3-11.
Device Type	
Description	This is the port’s function as defined during system installation or hardware modification. Networking modem ports are labeled as “NWModem.”
Status	
Description	This is the current operational state of the port. The status can be one of the following: • InService • OutOfService • Faulty • Unequipped

Installing additional RSM cards (Modular Option and Modular Option GP)

Why you would install more RSM cards If you are using a Modular Option or Modular Option GP system, and do not have enough data ports to dedicate to the networking modems, you can install additional RSM cards.

If you do install additional RSM cards, you must also do a hardware modification (by using the install tape) so that Meridian Mail will recognize the new cards.

Reference For instructions on installing RSM cards, refer to your *System Installation and Maintenance Guide* (NTP 555-70x1-250).

For instructions on doing a hardware modification, refer to your *System Installation and Modification Guide* (NTP 555-7001-215).

Section B **Installing the networking modems**

In this section

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Connecting the modem to the administration terminal	3-24
Configuring the US Robotics modem—all platforms except the MSM	3-26
Configuring the US Robotics modem—MSM platform	3-29
Configuring the VenTel modem—all platforms	3-32
Connecting the modem to Meridian Mail—all platforms except Card Option and MSM	3-34
Connecting the modem to Meridian Mail—Card Option platform	3-37
Connecting the modem to Meridian Mail—MSM platform	3-41

Overview of this section

Introduction

Configuring and installing modems consists of the following tasks:

- setting DIP switches on the modem
- connecting the modem to the administration terminal
- configuring the modem (and verifying its configuration settings)
- connecting the modem to Meridian Mail

Supported modems

The following modems are supported for networking:

- US Robotics 33.6 modem (A0674453)
- US Robotics 14.4 model 268
- VenTel EC2400-33, rev 5.2 and 6.0

Note: To check the revision number of the modem, open the cover and check the sticker on the memory chip.

- VenTel EC2400 Plus II, rev 4.53

Note: The VenTel modems and the US Robotics 14.4 model 268 are supported on existing Meridian Mail systems only. If you are a new customer and are installing Meridian Mail Networking for the first time, or are purchasing additional modems, the VenTel modems and the US Robotics 14.4 model 268 are not available.

**Modem settings:
US Robotics 33.6 and
14.4 modems**

This section provides two sets of modem settings for the US Robotics modems as shown in the following table.

For Meridian Mail platform(s)	See
Card Option EC11 Modular Option Modular Option EC Modular Option GP	“Configuring the US Robotics modem—all platforms except the MSM” on page 3-26
Message Services Module (MSM)	“Configuring the US Robotics modem—MSM platform” on page 3-29

Setting the modem DIP switches

Introduction

The first step in configuring the networking modem is to set the DIP switches.

This topic explains how to set the DIP switches for both US Robotics and VenTel modems.

Procedure: US Robotics 33.6 and 14.4 modems

The US Robotics modem DIP switches are located at the back of the modem. To set the DIP switches, refer to the following table.

Note: Down is ON for these switch settings.

Switch	Setting	Function
1	OFF	Sets DTR to normal.
2	OFF	Sets the modem to verbal results code.
3	ON	Sets the modem to display results code.
4	OFF	Sets the modem to echo offline commands.
5	ON	Suppresses auto answer.
6	OFF	Sets carrier detect to normal.
7	ON	Loads factory defaults.
8	ON	Sets the modem to smart mode.

Note: After you configure the modem, you will change the following:

- DIP switch 4 to ON (down)
- DIP switch 7 to OFF (up)

Procedure:
VenTel modems

The VenTel modem has one DIP switch pack (SW2).

Note: Older versions, (that is, the VenTel EC2400-33, revs 5.2 and 6.0) may have two DIP switch packs (SW2 and SW3). SW3 settings remain OFF (factory default).

For instructions on how to locate and access the DIP switches, refer to the *VenTel 2400 User's Manual*.

To set the DIP switches, refer to the following table.

Switch	Setting	Function
SW2-1	OFF	Follows DTR status.
SW2-2	OFF	Enables word result codes for AT commands.
SW2-3	ON	Enables generation of AT command result codes.
SW2-4	ON	Disables AT command echo from modem.
SW2-5	ON	Disables modem Auto Answer If this is not disabled, the modem will answer the call in receiver mode.
SW2-6	OFF	Carrier Detect responds to carrier.
SW2-7	ON	Turns the speaker on. Speaker control may be on or off. During installation, it is recommended that the speaker be ON in order to hear the operation of the modem. After verifying operation, the speaker may be turned off.
SW2-8	ON	The modem will respond to AT commands.
SW2-9	OFF	Disables the VenTel NVRAM mode command set.
SW2-10	OFF	Disables the VenTel dialer feature.

Connecting the modem to the administration terminal

Introduction

To configure the modem, the modem must be connected to the Meridian Mail administration terminal.

Once the modem is configured, it is disconnected from the terminal and connected to the Meridian Mail data port.

Before you begin

Before you connect the modem to the administration terminal, you should

- change the administration terminal speed to 2400 bps
- turn off the modem and the terminal
- set the modem's DIP switches

For instructions, see "Setting the modem DIP switches" on page 3-22.

Setting the terminal speed

To configure the modem, the terminal must be set to 2400 bps. To change the setting, use the SetUp key on your administration terminal keyboard.

For instructions, refer to the following:

- your *Installation and Maintenance Guide* for the following platforms:
 - Card Option (NTP 555-7071-210)
 - Modular Option (NTP 555-7041-250)
 - Modular Option GP (NTP 555-7051-250)
 - Modular Option EC (NTP 555-7061-250)
 - EC 11 (NTP 555-7081-250)
- for the MSM: *Routine Maintenance and Card Replacement Procedures* (NTP 557-7001-502)

Procedure:
Connecting the modem

To connect the modem to the administration terminal, do the following.

Step	Action
1	Connect one end of an RS-232 cable (NTND91AA/AB) to the 25-pin modem connector. Note: For the Card Option platform, the part number for the RS-232 cable is NT3M20AQ.
2	Connect the modem's power cord to the modem.
3	Connect the other end of the power cord to an AC receptacle.
4	Disconnect the Meridian Mail administration terminal from the A/B switch box.
5	Connect the modem's RS-232 cable to the administration terminal.
6	Turn the modem on.
7	Use the <Setup> key on the administration terminal to clear the screen.

What to do next

The next step is to configure the modem. For instructions, see the following:

- *For US Robotics modems*, see one of the following:
 - “Configuring the US Robotics modem—all platforms except the MSM” on page 3-26
 - “Configuring the US Robotics modem—MSM platform” on page 3-29
- *For the VenTel modems*: see “Configuring the VenTel modem—all platforms” on page 3-32.

Configuring the US Robotics modem—all platforms except the MSM

Introduction

This topic explains how to configure the US Robotics 33.6 and 14.4 modems for the following Meridian Mail platforms:

- Card Option
- Modular Option
- Modular Option GP
- Modular Option EC
- EC11

Before you begin

Before you begin, you must

- set the modem's DIP switches
For instructions, see "Setting the modem DIP switches" on page 3-22.
- connect the modem to the Meridian Mail terminal
For instructions, see "Connecting the modem to the administration terminal" on page 3-24.

Procedure: Configuring the modem

To configure the modem, do the following at the Meridian Mail terminal.

Note: The terminal must be set to 2400 bps before you configure the modem.

Step	Action
1	Type AT&F1 and press <Return>. Result: OK is displayed.
2	Type AT&N3 and press <Return>. Result: OK is displayed.
3	Type AT&K0 and press <Return>. Result: OK is displayed.
4	Type ATX3 and press <Return>. Result: OK is displayed.

Step	Action
5	Type ATS0=0 and press <Return>. Result: OK is displayed.
6	Type ATY0 and press <Return>. Result: OK is displayed.
7	Type ATE0 and press <Return>. Result: There is no response from the modem.
8	Type AT&W0 and press <Return>. Result: There is no response from the modem.
9	Type AT&W1 and press <Return>. Result: There is no response from the modem.
10	Set DIP switch 4 to ON (down).
11	Set DIP switch 7 to OFF (up).

Note: DIP switches 3, 4, 5, and 8 should be ON (down); all other switches are OFF (up).

Procedure:
Verifying the settings

After you configure the modem, you need to verify that the settings have been successfully saved. Do the following.

Step	Action
1	Turn the modem off and wait ten seconds.
2	Turn the modem on.
3	Type ATi4 and press <Return>. Result: The modem responds by printing the configuration.
4	Verify the configuration on the terminal screen with the following: B0 E0 F1 M1 Q0 V1 X3 Y0 BAUD = 2400 PARITY=N WORDLEN=8 &A3 &B1 &C1 &D2 &G0 &H1 &I0 &K0 &M4 &N3 &P0 &R2 &S0 &T5 &Y1 S00=000 . . .

What to do next

The next step is to connect the modem to the data port. For instructions, see the following:

- *For Card Option*, see “Connecting the modem to Meridian Mail—Card Option platform” on page 3-37.
- *For all other platforms*, see “Connecting the modem to Meridian Mail—all platforms except Card Option and MSM” on page 3-34.

Configuring the US Robotics modem—MSM platform

Introduction	This topic explains how to configure the US Robotics 33.6 and 14.4 modem for the MSM platform.
Before you begin	Before you begin, you must • set the modem’s DIP switches For instructions, see “Setting the modem DIP switches” on page 3-22. • connect the modem to the Meridian Mail terminal For instructions, see “Connecting the modem to the administration terminal” on page 3-24.
Procedure: Configuring the modem	To configure the modem for the MSM platform, do the following at the Meridian Mail terminal. Note: The terminal must be set to 2400 bps before you configure the modem.

Step	Action
1	Type AT&F0 and press <Return>. Result: OK is displayed.
2	Type ATX3 and press <Return>. Result: OK is displayed.
3	Type AT&B1 and press <Return>. Result: OK is displayed.
4	Type AT&K0 and press <Return>. Result: OK is displayed.
5	Type AT&M0 and press <Return>. Result: OK is displayed.
6	Type AT&N3 and press <Return>. Result: OK is displayed.
7	Type ATS0=0 and press <Return>. Result: OK is displayed.

Step	Action
8	Type ATS13=1 and press <Return>. Result: OK is displayed.
9	Type ATY0 and press <Return>. Result: OK is displayed.
10	Type ATE0 and press <Return>. Result: There is no response from the modem.
11	Type AT&W0 and press <Return>. Result: There is no response from the modem.
12	Type AT&W1 and press <Return>. Result: There is no response from the modem.
13	Set DIP switch 4 to ON (down).
14	Set DIP switch 7 to OFF (up).

Note: DIP switches 3, 4, 5, and 8 should be ON (down); all other switches are OFF (up).

Procedure:
Verifying the settings

After you configure the modem, you need to verify that the settings have been successfully saved. Do the following.

Step	Action
1	Turn the modem off and wait ten seconds.
2	Turn the modem on.
3	Type ATi4 and press <Return>. Result: The modem responds by printing the configuration.
4	Verify the configuration on the terminal screen with the following: B0 E0 F1 M1 Q0 V1 X3 Y0 BAUD = 2400 PARITY=N WORDLEN=8 &A1 &B1 &C1 &D2 &G0 &H0 &I0 &K0 &M0 &N3 &P0 &R1 &S0 &T5 &Y1 S00=000 . . . S13=1 . . .

What to do next

The next step is to connect the modem to the data port. For instructions, see “Connecting the modem to Meridian Mail—all platforms except Card Option and MSM” on page 3-34.

Configuring the VenTel modem—all platforms

Introduction This topic explains how to configure the VenTel modems for all platforms of Meridian Mail.

Procedure: To configure a VenTel modem, do the following at the Meridian Mail terminal.
Configuring the modem

Step	Action
1	Type AT&F and press <Return>. Result: The modem settings are set to factory default, and the screen displays OK.
2	Type AT&D3 and press <Return>. Result: DTR initiated reset is enabled and the screen displays OK.
3	Type AT&W and press <Return>. Result: The configuration is saved and the screen displays OK.

Procedure: After you configure the modem, you need to verify that the settings have been saved successfully. Do the following.
Verifying the settings

Step	Action
1	Turn the modem off and wait ten seconds.
2	Turn the modem on.
3	Type ATIS and press <Return>. Result: The modem responds by printing the configuration.
4	Verify the configuration on the terminal screen with the configuration shown in the table following this procedure.
5	When you are satisfied that the modem is correctly configured, press <Ctrl-R> to refresh the screen.

What the configuration should be

The following table shows what the configuration should be for your VenTel modem model.

For	The configuration should be
EC2400-33, rev 5.2	<code>\A0, %A0, B0, &C1, \C0, %C1, &D3, \D0, E0, F1, &G0, \G0, \J0, &L0, M1, &M0, \N1, &P0, Q0, \Q0, &R0, \T0, &T4, V1, \V0, X4, &X0, \X0, Y0, *N0</code>
EC2400-33, rev 6.0	<code>\A0, %A0, B0, &C1, \C0, %C1, &D3, \D0, E0, F1, &G0, \G0, \J0, &L0, M1, &M0, \N1, &P0, Q0, \Q0, &R0, \T0, &T4, V1, \V0, X4, &X0, \X0, Y0, *N0</code>
EC2400 Plus II, rev 4.53	<code>\A0, %A0, B0, *B0, &C1, \C0, %C1, &D3, \D0, E0, F1, &G0, \G0, \J0, &L0, M1, &M0, \N1, *N0, &P0, Q0, \Q0, #R0, &R0, *S3, #S0, \T0, &T4, V1, \V0, X4, &X0, \X0, Y0, *A=018, 015, 001, 004</code>

Connecting the modem to Meridian Mail—all platforms except Card Option and MSM

Introduction This topic explains how to install the US Robotics 33.6 or 14.4 modems or VenTel modems for the following Meridian Mail platforms:

- Modular Option
- Modular Option GP
- Modular Option EC
- EC11

Procedure To install the modem, do the following.

Note: A wiring diagram follows this procedure.

Step	Action
1	Turn the modem off.
2	Disconnect the RS-232 modem cable from the administration terminal.
3	Connect this cable to the required port cable on Meridian Mail: • <i>on Modular Option and Modular Option GP:</i> on the RSM card Note: On the RSM fanout cable, port 1 is labeled as A, port 2 is B, port 3 is C, and port 4 is D. • <i>on the Modular Option EC and EC11:</i> on the Utility card Note: Check the hardware configuration to confirm which port you should use.
4	Reconnect the administration terminal to the A/B switch box.

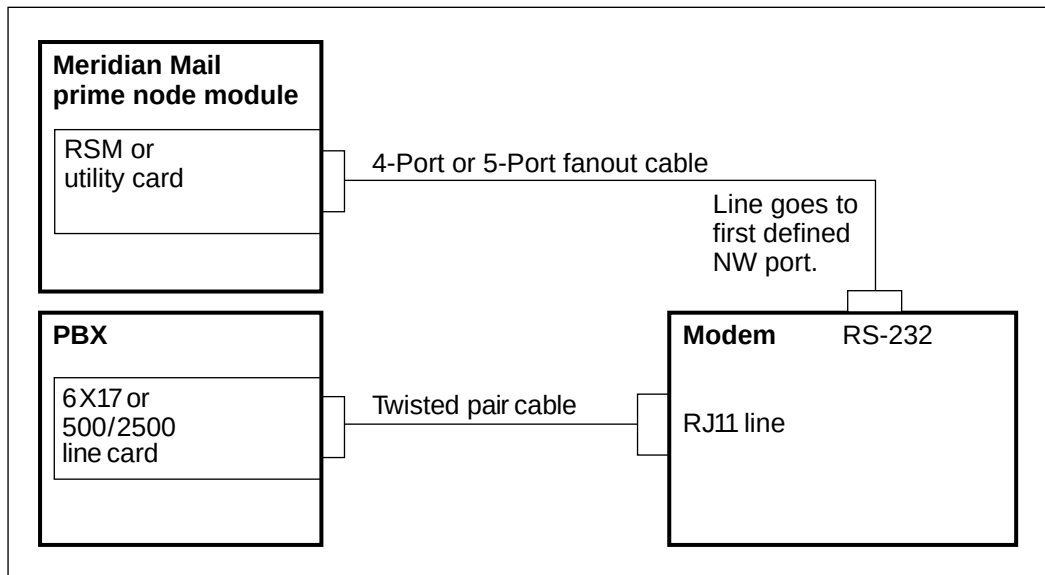
Step Action

- 5 Reset the terminal speed back to the speed used for Meridian Mail administration.
 - 6 Connect the modem's telephone port to the port associated with the line card on the switch:
 - *for Modular Option, Modular Option EC, and EC 11:*
 500/2500 port on the Meridian 1
 - *for Modular Option GP:* 6X17 port on the DMSUse a twisted pair cable.
 - 7 Turn the modem on.
-

Wiring diagram

The following diagram shows how the modem is connected to the following platforms:

- Modular Option
- Modular Option GP
- Modular Option EC
- EC11



G100200

What to do next

The next step is to test the modem to ensure that it is properly configured and connected.

For instructions, see Chapter 7, “Testing the network”.

Connecting the modem to Meridian Mail—Card Option platform

Introduction This topic explains how to install networking modems for the Card Option platform. The networking modem is provided as part of a networking hardware kit.

Networking hardware kit contents The following table lists the contents of the networking hardware kit.

Part	Part number
RSM breakout assembly	NTAK18AA or NTAK18BA
25-pair MDF male to male voice cable <i>Note:</i> This cable is used to connect the RSM breakout assembly to a BIX Pack.	NEA25D-DE
25-pair MDF male to bare wire voice cable <i>Note:</i> This cable is used to connect the RSM breakout assembly to a BIX or similar modular distribution frame.	NEA25D-SE
DB25 male to bare wire peripheral cable <i>Note:</i> This cable is used to connect the modem to the BIX.	NTAK37AA
US Robotics 33.6 modem	A0674453

Note: If you need additional modems, you will need to order them separately.

Before you begin

Before you install the modem, you must

- install the RSM breakout assembly
For instructions, see the “Hardware Installation” chapter of the *Meridian Mail Card Option Installation and Maintenance* manual (NTP 555-7071-210).
Note: The RSM breakout assembly is also used by other features of Meridian Mail.
- connect the modem to the administration terminal
For instructions, see page 3-24.
- configure the modem
For instructions, see one of the following:
 - “Configuring the US Robotics modem—all platforms except the MSM” on page 3-26
 - “Configuring the VenTel modem—all platforms” on page 3-32

Procedure:
Installing the modem
(Card Option platform)

To install the modem, do the following.
Note: A wiring diagram is shown following this procedure.

Step	Action
1	Turn the modem off.
2	Disconnect the RS-232 modem cable from the administration terminal.
3	Connect this cable to Meridian Mail.
4	Reconnect the administration terminal to the A/B switch box.
5	Reset the terminal speed back to the speed used for Meridian Mail administration.
6	Connect one end of the DB25 peripheral cable to the modem.
7	Connect the other end of the DB25 peripheral cable to an available port position on the BIX.
8	Turn the modem on.

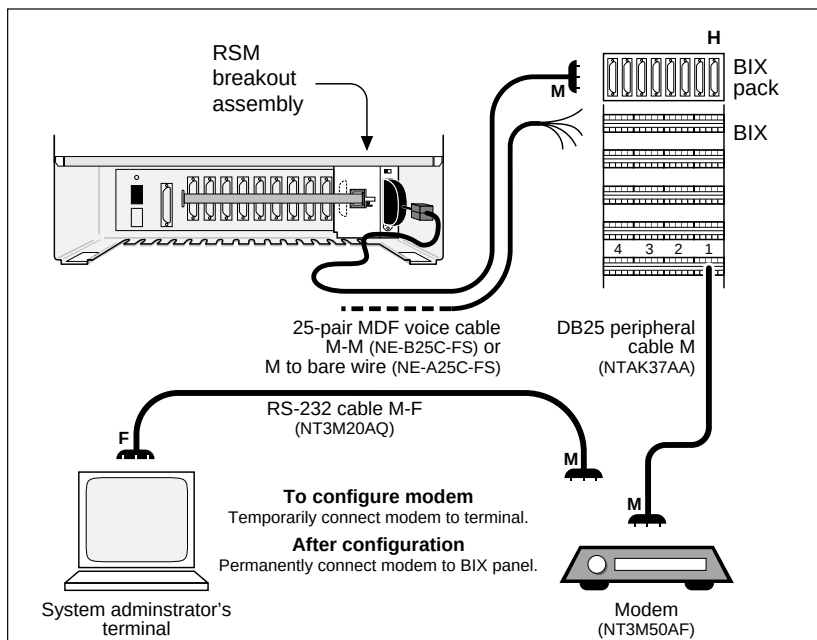
Wiring diagram

The following diagram shows the cabling between

- the RSM breakout assembly and the BIX or BIX Pack
- the modem and the port 1 position on the BIX

The table following the diagram shows how the cables are connected to the BIX.

Note: A new “octopus” cable will be released soon that will eliminate the need for the BIX block. The cable is NTDK58AA (CPC A0649076). An additional illustration will be added to show how it is connected.



CARD-051

MDF and DB25 cable to BIX wiring

The following table shows how the MDF and DB25 cables are connected to the BIX.

Wires from MDF cable			Wires from DB25 cable		
Pair #	Colors	BIX position #	Colors	DB25 Pin #	Signal
20	YE/SL	39	RD/BK	8	DCD1
	SL/YE	40	—	—	—
21	VI/BL	41	WH/BK	6	DSR1
	BL/VI	42	BK	20	DTR1
22	VI/OR	43	BL	5	CTS1
	OR/VI	44	OR	4	RTS1
23	VI/GR	45	RD	3	RXD1
	GR/VI	46	WH	2	TXD1
24	VI/BR	47	—	—	—
	BR/VI	48	GR	7	SG
25	VI/SL	49	—	—	—
	SL/VI	50	SHLD	1	FG

What to do next

The next step is to test the modem to ensure that it is properly configured and connected.

For instructions, see Chapter 7, “Testing the network”.

Connecting the modem to Meridian Mail—MSM platform

Introduction This topic explains how to install the US Robotics 33.6 or 14.4 modems or VenTel modems for the MSM platform.

The networking modem is connected to one of the RS-232-C data ports on Nodes 3 through 10 (SPNs 1 through 8).

Cabling required The following cables are required for connecting the networking modems to the MSM.

Cable	Purpose
RS-232 external cable (NT0X96JD)	This cable is routed from the input/output panel to the modem. It has four DB25 male connectors to connect to modems.
twisted pair cable	This cable connects the modem to the 6X17 line card port on the PBX.

Configuration and engineering The RS-232 networking enhancement is only available with signal processing nodes (SPN) configured as RS-232-D serial ports, and the multiserver processor (MSP) nodes remain as current loop interfaces.

In a fully configured system, three new RS-232-C input/output panels and one existing current loop input/output panel will be used.

Mixed combinations of SPNs with RS-232 serial ports or current-loop interfaces or both, are neither configured nor available.

Supported peripheral device configurations The supported RS-232-D connections are full-duplex. The following table shows the supported signals for the asynchronous (ASYNC) and synchronous (SYNC) ports.

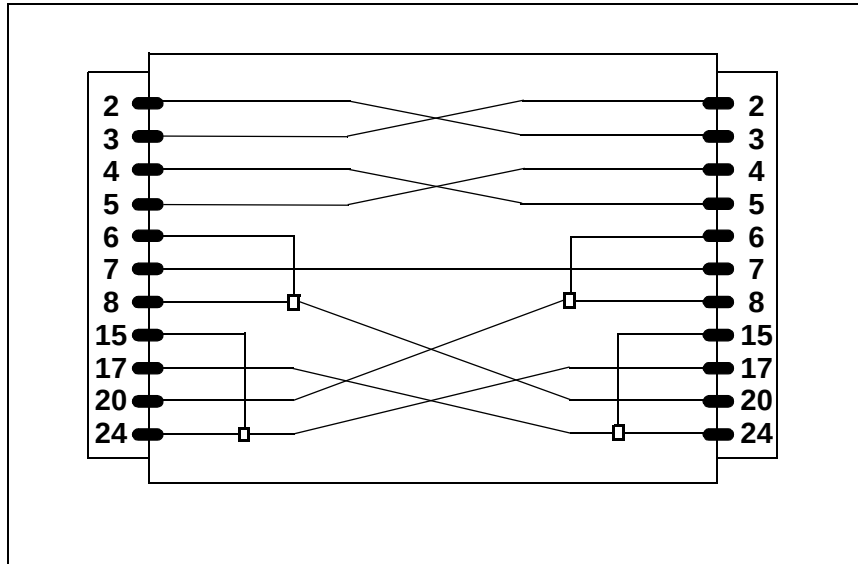
Clear to send (CTS) and ready to send (RTS) signals are not supported due to their primary use of half-duplex signaling.

Also, secondary transmit data (TXD) or receive data (RXD) and RTS, CTS, and DCD signals are not supported.

Male RS-232-D connector pin number *	Signal name	Port type (SYNC, ASYNC, or both)	Port number
2	TXD	Both	1, 2, 3, 4
3	RXD	Both	1, 2, 3, 4
6	DSR	Both	1, 2, 3, 4
7	GND	Both	1, 2, 3, 4
8	DCD	Both	1, 2, 3, 4
15	TXCLK	SYNC	2, 4
17	RXCLK	SYNC	2, 4
20	DTR	Both	1, 2, 3, 4
24	EXTCLK	SYNC	2, 4
* Note: Male RS-232-D connector pin number is configured as data terminal equipment (DTE), connecting to a data communications equipment (DCE) device.			

Supported DCE to DTE converter

The following diagram shows the recommended null modem (A0376505) configuration in the case where a DCE to DTE converter is required. This must be used if a DTE device is being connected to the external serial cable (NT0X96JD).



Procedure:
Installing the modem
(MSM platform)

To install the modem, do the following.

Note: A wiring diagram is shown following this procedure.

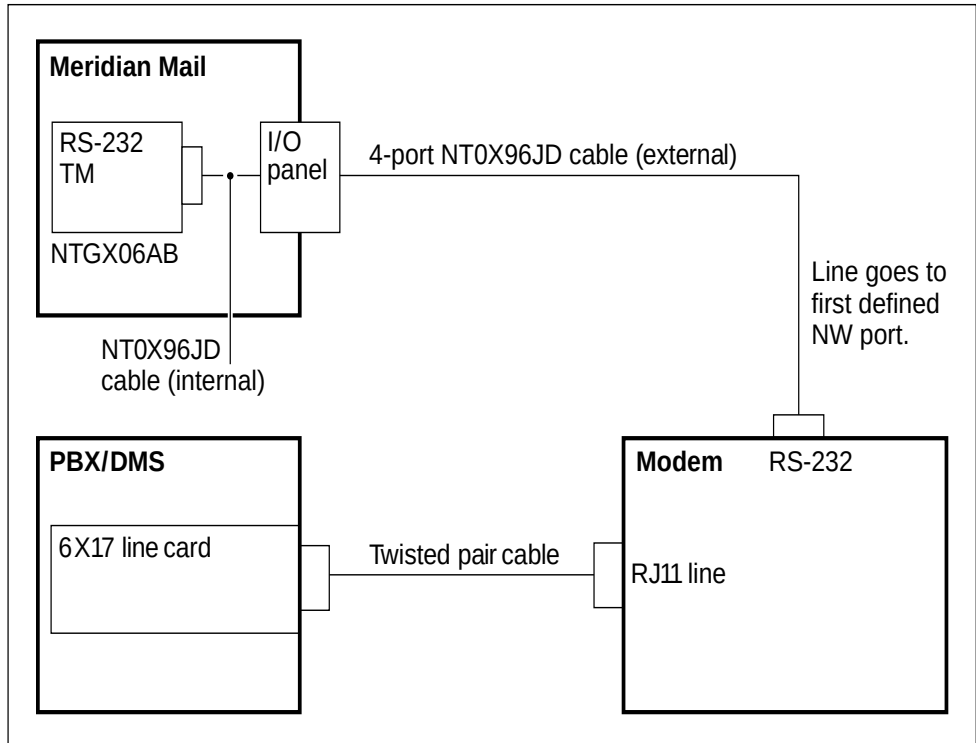
Step	Action

1	Turn the modem off.
2	Disconnect the RS-232 modem cable from the administration terminal.
3	Connect this cable to the appropriate port cable on the Meridian Mail RS-232 transition module. Check the hardware configuration to confirm which port you should use.
4	Reconnect the administration terminal to the A/B switch box.
5	Reset the terminal speed back to the speed used for Meridian Mail administration.
6	Connect the modem's telephone port to the 6X17 port on the PBX. Use a twisted pair cable.
7	Turn the modem on.
-

Note: If the modem is installed as instructed and it does not work, try using a null modem connector. If you have already used a null modem connector and the modem does not work, remove the null modem connector.

Wiring diagram

The following diagram shows how the modem is connected to the MSM.



G100409

What to do next

The next step is to test the modem to ensure that it is properly configured and connected.

For instructions, see “Testing the modem connection” in Chapter 7, “Testing the network.”

Chapter 4

Configuring the Meridian 1 for systems using AML

In this chapter

Overview of this chapter	4-2
Section A: Setting up ACD queues	4-5
Section B: Configuring the hardware	4-13
Section C: Modifying the dialing plan information	4-25

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
Meridian 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 include the following:
 - trunks
 - trunk routes
 - data pathways
- modify CDP and ESN dialing plans, if required
- CDP and ESN dialing plans are modified according to the changes identified in Chapter 2, “Gathering information for the network”.

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 5, “Configuring the PBX/DMS for systems using SMDI”.

Section A **Setting up ACD queues**

In this section

Overview of this section	4-6
Defining the ACD DN	4-7
Dedicating ACD agents to Meridian Networking	4-9
Verifying TGAR and NCOS on ACD agents	4-10

Overview of this section

Introduction

This topic explains the following:

- how to define an ACD service queue for Meridian Networking
The ACD DN is later defined in the Voice Service Directory Number (VSDN) table in Meridian Mail.
- 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 Meridian 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 Meridian Networking

Skills required

Defining ACD DN's on the Meridian 1 requires some basic knowledge about Meridian 1 programming. If you are a Meridian Mail administrator who is implementing Meridian 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 Meridian 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.

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 Meridian Networking, see Chapter 6, “Configuring Meridian Mail”.

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 <Enter>. Result: The REQ prompt is displayed.
2	Type NEW and press <Enter>. Result: The CUST prompt is displayed.
3	Type the customer number and press <Enter>. 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 <Enter>. 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 <Enter>. Result: The AST prompt is displayed.
6	Press <Enter> at this and the prompts that follow, until the MAXP prompt is displayed. Result: The MAXP prompt is displayed.

Step Action

- 7 Type **1** and press <Enter>.
 Result: The SDNB prompt is displayed.
 - 8 Press <Enter> 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.
 - 10 Press <Enter> 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 Meridian 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 Meridian 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 Meridian 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 Meridian Networking, then you may want to consult a Meridian 1 technician for advice.

Procedure:
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 <Enter>. Result: The REQ prompt is displayed.
2	Type PRT and press <Enter>. Result: The TYPE prompt is displayed.
3	Type SL1 and press <Enter>. Result: The TN prompt is displayed.
4	Leave this prompt blank and press <Enter>. Result: The CUST prompt is displayed.
5	Leave this prompt blank and press <Enter>. 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 4-18.

Section B **Configuring the hardware**

In this section

Overview of this section	4-14
Defining the trunks	4-15
Verifying TGAR (access to trunks)	4-18
Setting up data pathways	4-20

Overview of this section

Introduction

This section explains the following:

- Meridian Networking requirements for trunks
- how to verify that TGAR and NCOS settings on trunks are compatible with TGAR and NCOS settings on ACD agents
- how to set up the data pathways required for Meridian Networking

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 Meridian 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 Meridian 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 Meridian 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 Meridian 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 Meridian Networking, you must define the following:

- ACD DN in the Meridian 1
For instructions, see “Defining the ACD DN” on page 4-7.
- ACD DN in the Voice Services Directory Number table in Meridian Mail

For instructions, see “Adding a Meridian Networking DN” on page 6-23.

When to add trunks

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

Defining trunks for incoming access

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

If central office trunks are used, they can be auto-terminated on the Meridian Networking ACD 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 Meridian 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

Outgoing calls can go on the public network, if required. However, if Meridian 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 Meridian Networking needs at least a 56-kbyte clear channel to work properly.

Defining trunks for outgoing access (continued)

If the Meridian 1 is a satellite ESN site (that is, it has access to ESN, but does not run ESN software), and you wish to set up Meridian Networking so that the outgoing trunk call will not be routed off ESN to the public network, define the trunk in one of the two following ways:

- Define a new trunk to the main ESN site. If Meridian Networking calls are only used within the ESN network, set NCOS at the main ESN site so that calls will not be routed off the ESN network to the public network.
- Define the trunk as a central office (CO) trunk that is connected directly to the satellite ESN site, with “auto-terminate” specified so that calls go directly to the networking ACD DN.

Specific settings

The following table identifies the settings required for Meridian 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 Meridian 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 4-10.
- identify which trunks are being used by the ACD agents

Procedure: 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 <Enter>. Result: The REQ prompt is displayed.
2	Type PRT and press <Enter>. Result: The TYPE prompt is displayed.
3	Specify the trunk type and press <Enter>. Result: The TN prompt is displayed.
4	Press <Enter>. Result: The CDEN prompt is displayed.

Step Action

- 5 Press <Enter>.
Result: The CUST prompt is displayed.
 - 6 Type the customer number and press <Enter>.
Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form.
Result: The DATE prompt is displayed.
 - 7 Press <Enter>.
Result: The PAGE prompt is displayed.
 - 8 Type one of the following and press <Enter>.
 - **YES** if you want to print information for each trunk on a separate page
Result: You are prompted to adjust the paper, then press <Enter>. Once you press <Enter>, 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 Meridian 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.

Setting up data pathways

Introduction

A data pathway is required to support each active incoming or outgoing Meridian Networking connection. Control data used in the Meridian Mail message transfer protocol is transmitted over this pathway.

Each pathway requires the following:

- a conference card and conference loops
- a port on a 500/2500-line card on the Meridian 1
- a data port on Meridian Mail
- a modem

Note: For instructions on verifying that a Meridian Mail data port is available for networking, and for installing the modem, see Chapter 3, “Installing the hardware.”

Procedure: Verifying the presence of conference loops

A Meridian 1 conference card is required for conferencing the control data and voice components from Meridian Mail onto an outgoing trunk to the remote site. This card is usually installed as part of the Meridian 1 base feature set.

To verify that conference loops have been defined, do the following at the Meridian 1 terminal.

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

Step	Action
1	Type LD 22 and press <Return>. Result: The REQ prompt is displayed.
2	Type PRT and press <Return>. Result: The TYPE prompt is displayed.
3	If you are using Release 20 or higher software, type CEQU and press <Return>; otherwise, type CFN and press <Return>. Result: The information for this data block is printed.
4	Type *** to exit the overlay. Result: OVL000 is displayed.
5	Review the CONF section of the printout.

-

**Configuring a 500/
2500-line card port**

When you configure the line card port, you are also defining the directory number that is used to contact the modem. The directory number is a system-internal number only. It is not actually dialed by any network users.

Note: The directory number you enter is also entered on the View/Modify Data Port screen in Meridian Mail.

Before you begin

Before you can configure the 500/2500-line card port, you must identify the following:

- terminal number to be used by the port (loop, shelf, card, unit)
- card density (single, double, or quadruple)
- directory number to be used by the modem

Procedure

To configure the 500/2500-line card port, do the following at the Meridian 1 terminal.

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

Step Action

Step	Action
1	Type LD 10 and press <Return>. Result: The REQ prompt is displayed.
2	Type NEW and press <Return>. Result: The TYPE prompt is displayed.
3	Type 500 and press <Return>. Result: The CFTN prompt is displayed.
4	Press <Return> at this and the prompts that follow, until the TN prompt is displayed. Result: The TN prompt is displayed.
5	Type the terminal number of the port and press <Return>. Result: The next prompt is displayed.
6	Press <Return> at this and the prompts that follow, until the CDEN prompt is displayed. Result: The CDEN prompt is displayed.

Step Action

- 7 Type one of the following and press <Return>.
- **SD** for single density
 - **DD** for double density
 - **4D** for quadruple density
- Result:** The DES prompt is displayed.
- 8 Type a description of the port and press <Return>.
- Result:** The CUST prompt is displayed.
- 9 Type the customer number and press <Return>.
- Obtain the customer number from the NWP-004, "Meridian 1 Network Information—Site Information" form.
- Result:** The next prompt is displayed.
- 10 Press <Return> at this and the prompts that follow, until the DN prompt is displayed.
- Result:** The DN prompt is displayed.
- 11 Type the modem directory number and press <Return>.
- Note:** This directory number is entered in the View/Modify Data Port screen in Meridian Mail.
- Result:** The next prompt is displayed.
- 12 Press <Return> at this and the prompts that follow, until the CLS prompt is displayed.
- Result:** The CLS prompt is displayed.
- 13 Type the following each time the CLS prompt is displayed, then press <Return>.
- **DTN** (digitone service)
 - **MWD** (message waiting indication denied)
 - **FND** (forward no answer denied)
 - **HTD** (hunting denied)
 - **WTD** (warning tone denied)
- Result:** The CLS prompt is displayed again.

Step Action

- 14 Press <Return>.
Result: The next prompt is displayed.
- 15 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 line card port configuration was created.
- 16 Type **** to exit the overlay.
Result: OVL000 is displayed.
-

Section C **Modifying the dialing plan information**

In this section

Overview of this section	4-26
Entering ESN changes	4-27
Entering CDP changes	4-29

Overview of this section

Introduction

During your review of the CDP and ESN information from each Meridian 1 in the network, you may decide that changes are required.

The required changes should already have been

- identified in Chapter 2, “Gathering information for the network”
- manually recorded (on the Meridian 1 Network Information forms, or on the Meridian 1 overlay printouts)

The next step is to enter the changes into the system.

Skills required

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

Where to get more information

For information about how to respond to Meridian 1 overlay prompts, see the *X11 input/output guide* (NTP 553-3001-400).

Entering ESN changes

What you need

In order for you to enter the changes required for ESN, you need either the Meridian 1 Network Information forms, or the Meridian 1 overlay printouts listed in the following table.

Data block type	Meridian 1 Network Information forms	Meridian 1 overlay printouts
ESN	NWP-005	ESN data block (LD86)
Digit manipulation tables	NWP-006	DGT data block (LD 86)
CDP steering codes	NWP-007	CDP data block (LD 87)
Route list index	NWP-008	RLB data block (LD 86)
Network class of service groups	NWP-009	NCTL data block (LD 87)
Free calling area screening tables	NWP-010	FCAS data block (LD 87)
Incoming trunk group exclusions	NWP-011	ITGE data block (LD 86)
Network translation—location codes	NWP-012	LOC data block (LD 90)
Network translation—numbering plan area codes	NWP-013	NPA data block (LD 90)
Network translation—exchange codes	NWP-014	NXX data block (LD 90)
Network translation—special number translation codes	NWP-015	SPN data block (LD 90)
Network translation—home location codes	NWP-016	HLOC data block (LD 90)
Network translation—home numbering plan area codes		HNPA data block (LD 90)

Note: The required changes should already have been

- identified in Chapter 2, “Gathering information for the network”
- manually recorded (on the forms, or on the Meridian 1 overlay printouts)

Procedure

Using your printouts or the manually completed forms, enter the ESN changes into the Meridian 1.

ATTENTION

Changes must be entered in the order stated below.

Step Action

- 1 Modify the ESN data block in overlay 86.
 Data entry form: NWP-005 or ESN data block printout
- 2 Modify the digit manipulation index in overlay 86.
 Data entry form: NWP-006 or DGT printout
- 3 Modify the free calling area screening table in overlay 87.
 Data entry form: NWP-010 or FCAS printout
- 4 Modify the incoming trunk group exclusion table in overlay 86.
 Data entry form: NWP-011 or ITGE printout
- 5 Modify network control information in overlay 87.
 Data entry form: NWP-009 or NCTL printout
- 6 Modify the route list index in overlay 86.
 Data entry form: NWP-008 or RLB printout
- 7 Modify the translation tables (NET) in overlay 90.
 Data entry forms:
 - NWP-012 or LOC printout
 - NWP-013 or NPA printout
 - NWP-014 or NXX printout
 - NWP-015 or SPN printout
 - NWP-016 or HLOC and HNPA printouts
- 8 Modify CDP steering codes in overlay 87.
 Data entry form: NWP-007 or CDP printout

Entering CDP changes

What you need

In order for you to enter the changes required for CDP, you need either the Meridian 1 Network Information forms, or the Meridian 1 overlay printouts listed in the following table.

Data block type	Meridian 1 Network Information forms	Meridian 1 overlay printouts
ESN	NWP-005	ESN data block (LD86)
Digit manipulation tables	NWP-006	DGT data block (LD 86)
CDP steering codes	NWP-007	CDP data block (LD 87)
Route list index	NWP-008	RLB data block (LD 86)
Network class of service groups	NWP-009	NCTL data block (LD 87)

Note: The required changes should already have been

- identified in Chapter 2, “Gathering information for the network”
- manually recorded (on the forms, or on the Meridian 1 overlay printouts)

Procedure

Using your printouts or the manually completed forms, enter the CDP changes into the Meridian 1.

ATTENTION

Changes must be entered in the order stated in the following table.

Step Action

1	Modify the ESN data block in overlay 86. <i>Data entry form:</i> NWP-005 or ESN data block printout
2	Modify the digit manipulation table in overlay 86. <i>Data entry form:</i> NWP-006 or DGT printout
3	Modify network control information in overlay 87. <i>Data entry form:</i> NWP-009 or NCTL printout
4	Modify the route list index table in overlay 86. <i>Data entry form:</i> NWP-008 or RLB printout
5	Modify CDP steering codes in overlay 87. <i>Data entry form:</i> NWP-007 or CDP printout

Chapter 5

Configuring the PBX/DMS for systems using SMDI

In this chapter

Overview of this chapter	5-2
Setting up UCD DNs or hunt groups	5-4
Dedicating UCD agents to Meridian Networking	5-6
Defining the trunks	5-7
Setting up data pathways	5-10
Modifying dialing plan information	5-13

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
Meridian Networking requires a UCD queue without agents (service queue). Agents may need to be defined if Meridian Mail ports will be dedicated to Meridian Networking.
- descriptive information for configuring the DMS hardware
DMS hardware that needs to be configured for Meridian Networking includes trunks and data pathways.
- a suggestion to modify CDP and ESN dialing plans
CDP and ESN dialing plans are modified according to the changes identified in Chapter 2, “Gathering information for the network”.

If your system uses the AML between the Meridian Mail system and the switch, you can ignore this chapter.

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 4, “Configuring the Meridian 1 for systems using AML”.

Setting up UCD DNs or hunt groups

Introduction

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

Note: In Meridian Mail, the UCD DN is defined in the Voice Services Directory Number (VSDN) table. For instructions on defining the VSDN for Meridian Networking, see Chapter 6, “Configuring Meridian Mail”.

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.

Prompt	Response	Description
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. <i>Example:</i> CFD N 2326050 A
OPTION	CFB N XXXX A	Call Forward—busy to Meridian Mail voice service DN. <i>Example:</i> CFB N 2326050 A

Dedicating UCD agents to Meridian Networking

Meridian 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 that will be dedicated to Meridian Networking, you may need to add UCD 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 Meridian 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 Meridian Networking, then you may want to consult a switch technician for advice.
What this topic covers	This topic discusses only the Meridian 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 Meridian Networking, you must define the following: • UCD DN in the DMS For instructions, see “Setting up UCD DN’s or hunt groups” on page 5-4. • UCD DN in the Voice Services Directory Number table in Meridian Mail For instructions, see “Adding a Meridian Networking DN” on page 6-23.
When to add trunks	Add additional trunks if the anticipated Meridian 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 Meridian Networking UCD DN without attendant intervention. You can also use Direct Inward System Access (DISA) to access the Meridian Networking UCD DN.

If central office trunks are used, they can be auto-terminated on the Meridian 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 Meridian 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

Outgoing calls can go on the public network, if required. However, if Meridian 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 Meridian 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), and you wish to set up Meridian Networking so that the outgoing trunk call will not be routed off ESN to the public network, define the trunk in one of the two following ways:

- Define a new trunk to the main ESN site. If Meridian Networking calls are only used within the ESN network, set NCOS at the main ESN site so that calls will not be routed off the ESN network to the public network.
- Define the trunk as a central office (CO) trunk that is connected directly to the satellite ESN site, with “auto-terminate” specified so that calls go directly to the Meridian Networking UCD DN.

Setting up data pathways

Introduction

A data pathway is required to support each active incoming or outgoing Meridian Networking connection. Control data used in the Meridian Mail message transfer protocol is transmitted over this pathway.

Each pathway requires the following:

- a conference card and conference loops
- a port on a 6X17 line card on the DMS
- a data port on Meridian Mail as follows:
 - *on the MSM*: RS-232 Transition Module (NTGX06AB)
 - *on the Modular Option GP*: on the RSM card
- a modem

Note: For instructions on verifying that a Meridian Mail data port is available for networking, and for installing the modem, see Chapter 3, “Installing the hardware”.

Conference card requirement

A three-party conference card is required for conferencing the control data and voice components from Meridian Mail onto an outgoing trunk to the remote site. This card is usually installed as part of the DMS base feature set.

Card number 3X67 is configured as either a 2-3 party or a 1-6 party conference.

Creating a service order for a modem line

When you configure the 6X17 line card port, you are also defining the directory number that is used to contact the modem. The directory number is a system-internal number only. It is not actually dialed by any network users.

Note: The directory number you enter is also entered on the View/Modify Data Port screen in Meridian Mail.

Creating a service order for a modem line (continued)**Before you begin**

Before you can configure the 6X17 line card port, you must identify the following:

- line equipment number
- directory number to be used by the modem

Procedure

To configure the 6X17 line card port, do the following.

Starting Point: Maintenance and Administration position

Step Action

-
1	Type servord and press Enter. Result: You are prompted to enter a command.
2	Respond to the prompts as indicated in the table following this procedure.
3	When the system prompts you to save the changes, type Y and press Enter. Result: The service order is saved and you are returned to the command level.
4	Repeat steps 1 to 3 for each modem DN.
-

Prompts and responses

The following table identifies the prompts and responses for defining a modem line.

Prompt	Response	Description
SO	NEW	Adds a new DN.
DN	xxxxxxx	Modem directory number This DN must be entered on the View/Modify Data Port screen in Meridian Mail.
LCC	IBN	Defines the line class code as IBN (integrated business network)
GROUP	aaaaaaa	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)

Prompt	Response	Description
LATANAME	aaaaaaa	LATA name definition in table LATANAME <i>Example:</i> NILLATA
LTG	x	Line treatment group number (0–63)
LEN	x x xx xx	Line equipment number of line
OPTION	DGT	Digitone service
OPTION	COD	Cut off on disconnect
OPTION	\$	
OPTION	PADGRP	10L Refer to the modem parameter setting in the Table PADDATA.

Modifying dialing plan information

Introduction

During your review of the CDP and ESN information from each PBX/DMS in the network, you may decide that changes are required.

The required changes should already have been identified in Chapter 2, “Gathering information for the network”.

Skills required

Defining dialing plans on the PBX/DMS requires some basic knowledge about PBX/DMS programming. If you are a Meridian Mail administrator who is implementing Meridian Networking, and you have received basic training for PBX/DMS programming, then you may proceed. Otherwise, you may want to consult someone with more PBX/DMS experience.

Where to get more information

For information about how to respond to PBX/DMS system prompts, see the documentation for your switch model.

Chapter 6

Configuring Meridian Mail

In this chapter

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Overview of this chapter

Introduction

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

It explains how to enable Meridian Mail Networking, dedicate ports, assign a voice service DN to Meridian Networking, and add local and remote sites.

Other topics explained in this chapter include

- accessing the Customer Administration menu
- entering Network Message Service sites and locations
- defining the number of modems used by Meridian Networking
- converting remote sites to Meridian 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 Meridian Networking	This section explains how to • enable Meridian Mail Networking for a specific customer on a multi-customer system • dedicate ports to Meridian Networking • add a Meridian Networking DN • configure the networking data ports • specify the number of networking modems that are being used
Section B: Adding the local site	This section shows you how to add and configure the local site with the following dialing plans: • Hybrid (combination of ESN and CDP) • ESN (Electronic Switched Network) • CDP (Coordinated Dialing Plan) • “None”

Section	Description
Section C: Adding remote sites	This section explains how to add and configure remote sites with the following dialing plans: • Hybrid • ESN • CDP • “None”
Section D: Adding remote Network Message Service (NMS) satellite locations	This section explains how to add and configure remote Network Message Service (NMS) locations (also known as satellite locations) with the following dialing plans: • Hybrid • ESN • CDP • “None” This section is applicable to Meridian 1 (or Meridian 1 with SL-100) networks only.

Multi-customer system users

Introduction

If you are using a multi-customer system, you need to access the Customer Administration menu to administer your system.

Procedure: Accessing the Customer Administration menu

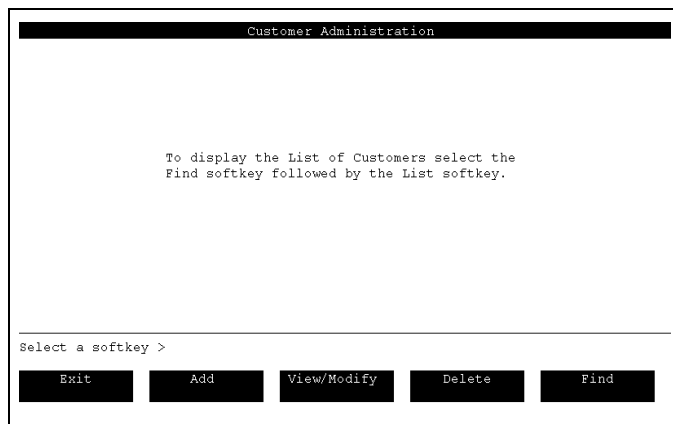
To access the Customer Administration menu, follow these steps.

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 <Enter>.

Result: The Customer Administration menu appears.

```
Hollywood Tours      Customer Administration Menu

1 User Administration
2 General Administration
3 Voice Administration
4 SEER Retrieval
5 Operational Measurements
6 Network Administration
7 Class of Service Administration

Select an item > █

Exit  View/Modify  Delete  █  █
```


Section A **Setting up Meridian Networking**

In this section

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Dedicating ports to Meridian Networking	6-14
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Specifying the maximum number of networking ports	6-32

Overview of this section

Introduction

This section explains how to

- enable Meridian Mail Networking for a specific customer
- dedicate ports to Meridian Networking
- define the Meridian Networking DN in the VSDN table
- configure the networking data ports
- specify the maximum number of ports used by Meridian Networking for outgoing sessions

Enabling Meridian Mail Networking

The Meridian Mail feature known as Meridian Mail Networking provides both Meridian Networking and Enterprise Networking. You have the option of using either one or both networking services.

Enabling Meridian Mail Networking works differently for single- and multi-customer systems. On a multi-customer system, you need to enable Meridian Mail Networking for a specific customer because only one customer is allowed to use the network database. However, on a single-customer system, Meridian Mail Networking is automatically enabled for the customer.

Dedicating ports

You can dedicate ports to Meridian Networking for single- and multi-customer systems

- if you expect networking to generate a high level of traffic
- if you need to ensure that some ports are always available for networking

The Channel Allocation Table (CAT) is used to dedicate ports.

Note: Dedicating ports to Meridian Networking is an optional procedure and, in most cases, is not required.

ATTENTION

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

Defining the Meridian Networking DN

You need to define a Meridian Networking DN in the Voice Services Directory Number (VSDN) table. This table lists the directory numbers (DNs) associated with specific Meridian Mail services. The VSDN table maps this DN to Meridian Networking when Meridian Mail receives an incoming call. Remote sites use the Meridian Networking VSDN to deliver messages to this site.

Configuring the networking data ports

When you configure the networking data port, you are actually defining the modem's directory number. Ensure that networking data ports are available for use first. (For instructions, see Chapter 3, "Installing the hardware.")

Specifying the maximum number of networking ports

You need to modify the networking configuration to specify the maximum number of ports used by Meridian Networking for outgoing sessions.

For other networking configuration changes that are not part of the necessary initial setup, see Section F on page 10-87.

Enabling Meridian Mail Networking

Introduction

The Meridian Mail feature known as Meridian Mail Networking provides both Meridian Networking and Enterprise Networking. You have the option of using either one or both networking services.

Only one customer can use Meridian Mail Networking. Therefore, on a multi-customer system, you need to specify which customer will use networking.

This topic explains how to enable Meridian Mail Networking for a specific customer.

Single-customer system

On a single-customer system, Meridian Mail Networking is automatically enabled for the customer. Therefore, you can ignore this topic.

Multi-customer system

On a multi-customer system, by default, Meridian Mail Networking is disabled for all customer groups. To enable it, the General Options screen on the Customer Administration menu is used.

When you enable Meridian Mail Networking for a customer on this screen, the following occurs:

- The Meridian Mail Networking Customer field on the system level General Options screen is updated automatically.
- The Meridian Mail Networking feature field is set to Disabled and is read-only for all other customers.

Notes:

1. Meridian, Enterprise, and Virtual Node AMIS Networking must all use the same customer.
2. Meridian Mail Networking is not supported for VMUIF customers.

Softkey descriptions

The following table describes the softkeys that appear on the General Options screen.

Softkey	Description
[Save]	Press this key to save any changes you make.
[Cancel]	Press this key to cancel any changes you make.

Procedure: Specifying the customer

To specify the customer that is to use networking, do the following.

Starting Point: The Customer Administration menu

Step Action

- 1 Select General Administration.
Result: The General Administration menu appears.
- 2 Select General Options.
Result: The General Options screen, similar to the following, appears.

```

Ispep Fire Inc.          General Administration
General Options

System Name:             Aloc-Acroc Fuels Inc.
System Number:           1
System Addressing Length: 0
Supervised Transfer Delay (CS): 200
ACCESS Default Customer Number: 1
Integrated Mailbox Administration
Default Customer Number: 1
Customer Name:           Ispep Fire Inc.
Customer Number:         2
MORE BELOW
Select a softkey >
Save Cancel
  
```

- 3 Use the arrow or the [Page Down] keys to move the cursor to the Meridian Mail Networking field in the list of Available features.

Result: A screen, similar to the following, appears.

Step	Action
4	Enable Meridian Mail Networking.
5	Do you want to save your change? If yes, press [Save]. Result: The system saves your changes and returns to the General Administration menu. If no, press [Cancel]. Result: The system discards your changes and returns to the General Administration menu.

Field descriptions

The following table describes the field that is required to enable Meridian Mail Networking.

Note: Throughout this manual, only the fields that are directly related to the implementation of Meridian Mail Networking are discussed. This screen is described in greater detail in your *System Administration Guide* (NTP 55x-70x1-30x).

Available Features

Description	This list displays features that can be used by or enabled for the customer currently displayed. For more information on enabling and disabling these features, see your <i>System Administration Guide for Multi-Customer Systems</i>. You can enable Meridian Mail Networking for one customer group only. If Meridian Mail Networking is currently enabled and you want to disable it, you must delete the following features from the system: • remote voice users • Meridian Networking or Enterprise Networking, or both VSDNs Notes: 1. Meridian Mail Networking is not available for VMUIF customer groups. 2. This field is read-only if another customer group already has this feature enabled.
Default	Disabled

Dedicating ports to Meridian Networking

Introduction

This section explains how to dedicate ports to Meridian 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 Meridian Networking is an optional procedure. It is *not* recommended unless Meridian 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 Meridian Networking cannot be used for any other outgoing call. If the port is not required by Meridian 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

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 doing one of the following:

- limiting the number of active networking ports with the Maximum Networking Ports parameter on the Networking Configuration screen
- increasing the number of channels on the system

Impact of dedicating ports to networking

When a port is dedicated to Meridian Networking, this feature is restricted to those ports (that is, outgoing Meridian 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

Meridian 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.
[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.

Procedure:
Enabling or 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.

- 3 Do one of the following:

IF you have a	THEN
single-node system	go to step 5.
multi-node system	the system asks you to enter a node number.

- 4 Enter the node number and press <Enter>.
- 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.

Step Action

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

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).

- 7 Press [Exit].

Result: The System Status and Maintenance menu appears.

- 8 Go to "Procedure: Dedicating ports" on page 6-20.
-

Procedure:
Enabling or disabling multiple ports

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.

The screenshot shows a terminal window titled "System Status and Maintenance". Below the title, it says "DSP Port Status for Node 1 (C=Card D=DSP P=Port)". The screen displays the following information:

```
System Status: InService      Alarm Status: Critical=Off Major=Off Minor=Off
C-D-P      DSP Port Status
4-1-*      1-Idle      2-Idle
5-1-*      3-Idle      4-Idle
```

At the bottom of the screen, there is a prompt "Select a softkey >" followed by a cursor. Below the prompt are five softkey buttons: "Exit", "Enable Port", "Disable Port", "Courtesy Disable Port", and "Change to Range Mode".

- 3 If the [Change to Range Mode] 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.
 - 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.
-

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.

System Status and Maintenance

Channel Allocation Table (C=Card D=DSP P=Port)

Choice of Services:

ALL All Services

AN AMIS Networking

AS Announcement Service

EN Enterprise Networking

EM Express Messaging

GS Greetings Service

NW Meridian Networking

PM Prompt Maintenance

RA Remote Activation

OC RN/DNU Outcalling

TS Thru-Dial Service

TR Transcription Service

VF Voice Forms Service

MS Voice Menu Service

VM Voice Messaging

VS Voice Softkey

Limit; MaxVoice MinMulti; MaxFull;

4

4

0

4

-----Allocated-----

M/F: 0

V/F: 4

V/B: 0

#

C-D-P

TN

ACD DN

SCN

Type

Capability

Cust

Outbound

1

4-1-1

008-0-02-00

7000

7800

Voice

Full

Basic

ALL

ALL

2

4-1-2

008-0-02-08

7000

7801

Voice

Full

Basic

ALL

ALL

3

5-1-1

008-0-02-01

7000

7802

Voice

Full

Basic

ALL

ALL

4

5-1-2

008-0-02-09

7000

7803

Voice

Full

Basic

ALL

ALL

Select a softkey >

Save

Cancel

Hide Choice of Services

- 2 Move the cursor to the port you want to dedicate.
- 3 Ensure that the Type field is set to Voice and the Capability field is set to Full because Meridian 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 NW for Meridian Networking.

Step Action

- 6 Do you want to save your changes?
If yes, press [Save].

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. Meridian 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: Meridian 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 Meridian Networking (NW).
Default	None

Adding a Meridian Networking DN

Introduction

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

What is the VSDN table?

The VSDN table lists the directory numbers (DNs) associated with specific Meridian Mail services. The VSDN table maps this DN to Meridian 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 Meridian 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 4, “Configuring the Meridian 1 for systems using AML”
- Chapter 5, “Configuring the PBX/DMS for systems using SMDI”

How the VSDN is used

The VSDN defined for Meridian Networking must be communicated to the administrator at each remote site in the network. The VSDN that you define on your system is entered, along with required dialing prefixes, into the Connection DN field on Remote Site Maintenance screens at each remote site. Other sites in the network use this DN to connect to your site.

Softkey descriptions The following table describes the softkeys that are displayed on 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.

Procedure To add a Meridian Networking DN to the VSDN table, follow these steps.

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.
3	Select Voice Services-DN Table. Result: The Voice Services-DN Table screen appears.

Voice Services Administration		
Voice Services-DN Table		
DN	Service	Comment
3650	HM	Guest Msg Service
3651	EM	Express Messaging
3652	MS 101	Main service menu
3653	AS 212	voice order instructi
3654	FI 7766	fax order instructi
3655	TS 399	through dial serv.
3656	VF 9901	new cust voice form
Move the cursor to the item and press the space bar to select.		
Exit	Add	View/Modify
Delete	Find	

Step Action

- 4 Press [Add].

Result: The Add DN Information screen appears.

The screenshot shows a terminal window titled "Voice Services Administration". Inside, the "Add DN Information" screen is displayed. It features a list of services under the heading "Choice of Services:". The services are arranged in three columns: AN (AMIS Networking), EM (Express Messaging), ACC (Meridian ACCESS), RA (Remote Activation), TR (Transcription Service), and VM (Voice Messaging) in the first column; AS (Announcement Service), FI (Fax Info Service), NW (Meridian Networking), TS (Thru-Dial Service), and VF (Voice Forms Service) in the second column; and EN (Enterprise Networking), FIM (Fax Item Maintenance), PM (Prompt Maintenance), TD (Time-of-Day Control), and MS (Voice Menu Service) in the third column. Below the list, there are three input fields: "Access DN:" with a long underline, "Service:" with a short underline, and "Comment:" with a medium-length underline. At the bottom, there is a prompt "Select a softkey >" followed by five buttons: "Save", "Cancel", and three unlabeled buttons.

- 5 Enter the Access DN. (See the following field descriptions.)
- 6 Enter NW (for Meridian Networking) for the service. (See the following field descriptions.)
- 7 Enter any comments that you may have.
- 8 Do you want to save your changes?

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 in 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. NW Meridian Networking is one of the available voice services. If this option does not appear, either Meridian Mail Networking is not installed on the system, or it is not enabled for this customer. See "Enabling Meridian Mail Networking" on page 6-10.
Access DN	
Description	This is the DN for the voice service. 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, you must configure it on the switch for Meridian Networking. This DN is entered, along with dialing prefixes into the Connection DN field on Remote Site Maintenance screens at each remote site. Remote sites use this DN to connect to your site. 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. The DN is used to establish an incoming network connection for message transmission. For Meridian Networking, enter NW in this field.
Default	None

Comment	
Description	This field is optional and can be used for descriptive purposes. Note: 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).

Configuring the networking data ports

Introduction

When you configure the networking data port in Meridian Mail, you are actually defining the modem's directory number.

Before you begin

Before you can define a modem's directory number in Meridian Mail, you need to do the following:

1. Identify what the directory number will be.

If you have not already done so, you will also need to define the directory number in the switch.

For instructions on defining the directory number in the switch, see the following:

- Chapter 4, "Configuring the Meridian 1 for systems using AML"
 - Chapter 5, "Configuring the PBX/DMS for systems using SMDI"
2. Obtain the necessary materials for labeling the modem with its directory number and Meridian Mail port location.
 3. Install the modem. For instructions, see Chapter 3, "Installing the hardware".

Procedure

To configure the networking data port, do the following.

Notes:

1. Repeat this procedure for each data port you need to configure.
2. This procedure activates the data port. If Meridian Mail Networking is active (that is, the local site has been defined), then calls can be made to this port. If a modem is not connected to the port, networking calls will not be answered.

Starting Point: The Data Port Configuration screen

Step Action

1. Use the cursor keys to move to the NWModem port you want to modify, then press <Space Bar> to select it.

Result: Your selection is highlighted.

2. Press [View/Modify].

Result: The Modify Data Port screen for that port is displayed.

Hardware Administration

Modify Data Port

Data Port Location: 1-6-4

Device Type: NWModem

Device Name: MOD0164

Network Modem DN: _____

Select a softkey >

Save Cancel [] [] []

3. Enter the directory number for the modem you are installing.
4. Record the modem's directory number and port location on the label you will put on the modem.
5. Apply the label to the modem.

Step Action

6 Do you want to save the modification to the networking port?

If yes, press [Save].

Result: The system saves your changes and returns you to the Data Port Configuration screen.

If no, press [Cancel].

Result: The system discards your changes and returns you to the Data Port Configuration screen.

Field descriptions

The following table describes the fields on the Modify Data Port screen for networking modems.

Data Port Location

Description	This is a display field only. It displays the physical location of the port in the Meridian Mail system (node-card-port) which was defined during system installation.

Device Type

Description	This is a display field only. It should display NWModem for networking modems.

Device Name

Description	This is a display field only. It displays the name assigned by the system during system installation or hardware modification.

Network Modem DN

Description	This is the modem's local directory number as defined in the switch. Example: If the DN is 4165557000, enter 5557000 or 7000 if this is how to dial the port DN.
Maximum length	8 digits

Specifying the maximum number of networking ports

Introduction

This topic explains how to set the maximum number of ports used for outgoing Meridian Networking sessions. This number is specified on the Networking Configuration screen.

ATTENTION

It is recommended that you do not change any other fields in the Networking Configuration screen until you are comfortable with the way your network is functioning.

For information about the other networking configuration parameters, see Section F, “Modifying the networking configuration,” on page 10-87.

Procedure

To specify the maximum number of networking ports, follow these steps.

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

Step Action

- 1 Select Networking Administration.
Result: The Networking Administration menu appears.
- 2 Do one of the following:

IF you	THEN
have AMIS Networking	select Meridian Mail Networking Administration from the submenu that appears, then go to step 3.
do not have AMIS Networking	go to step 3.

Step Action

- 3 Select Networking Configuration.

Result: The Networking Configuration screen appears.

Network Administration	
Networking Configuration	
Networking Scheduling Parameters	
Economy class initiation time	(hh:mm): 18:00
Economy class stale time	(hh:mm): 06:00
Standard class holding time	(hh:mm): 03:00
Standard class stale time	(hh:mm): 09:00
Urgent class holding time	(hh:mm): 00:30
Urgent class stale time	(hh:mm): 01:30
Batch threshold:	20
Wakeup interval (mins) :	5
Network Broadcast Mailbox: 627865555	
Meridian Networking Configuration	
MORE BELOW	
Save	Cancel

Press the Page Down key to see the next screen.

Network Administration		MORE ABOVE
Networking Configuration		
Batch threshold:	20	
Wakeup interval (mins) :	5	
Network Broadcast Mailbox: 627865555		
Meridian Networking Configuration		
Maximum number of ports for Meridian Networking:	4	
Enterprise Networking Configuration		
Maximum number of ports for Enterprise Networking:	4	
Receive the message text information:	No	Yes
Add/Update Remote Voice Users:	No	Yes
Remote Voice User Default Settings		
Name dialable by external callers:	No	Yes
Maximum number of temporary remote voice users:	1000	
Save	Cancel	

- 4 Move your cursor to the “Maximum number of ports for Meridian Networking” field and change the field to the number of networking modems that you have installed.
- For more information on this field, refer to the field descriptions that follow this procedure.

Step Action

- 5 Do you want to save this configuration?
 If yes, press [Save].
 Result: The system saves your configuration.
 If no, press [Cancel].
 Result: The system does not keep your configuration.
-

Field descriptions

The following table describes the “Maximum number of ports for Meridian Networking” field.

Maximum number of ports for Meridian Networking

Description	This field controls the maximum number of voice ports that can be used simultaneously by outgoing Meridian Networking sessions. Since each voice port used for Meridian Networking requires one modem, Nortel recommends that you set this field to the number of modems configured on the system. Note: Once you are satisfied that your network is working properly, you may want to reduce this number to a value less than the number of modems (if you have more than three). This will guarantee that a modem will always be available for incoming calls. (However, since Meridian Networking can send and receive message during the same outgoing session, this is probably not required.) If the value in this field is different from the actual number of modems configured on the system, the maximum number of outgoing Meridian Networking sessions at any one time will be equal to the lower value. For example, suppose there are three modems on the system, and you set the “Maximum number of ports for Meridian Networking” field to 4. The maximum number of outgoing Meridian Networking calls at one time will be three (the lesser of four and three). On the other hand, if you set the “Maximum number of ports for Meridian Networking” field to 2, the maximum number of outgoing sessions at one time will be two (the lesser of three and two). In this case, one of the modems will always be idle.

Default	4
	This means that if four voice ports are already in use, no more outgoing Meridian Networking calls are initiated.

Section B **Adding the local site**

In this section

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Entering local site ESN dialing plan information	6-66
Entering local site CDP dialing plan information	6-71
Entering “None” dialing plan information for the local site	6-75

Overview of this section

Introduction	This section shows you how to add and configure the local site with the following dialing plans: • Hybrid (combination of ESN and CDP) • ESN (Electronic Switched Network) • CDP (Coordinated Dialing Plan) • “None”
Enterprise and Virtual Node AMIS Networking users	If you are also using Enterprise or Virtual Node AMIS Networking, or both, and you have already defined the local site, you can ignore this section. You do not need to define the local site again.
Where this is done	You add and configure the local site in the Add Local Site screen.
Fields	Certain fields in the Add Local Site screen are common to all dialing plans. Other fields change according to the dialing plan you use.
Before you begin	To prepare for defining the local site, you need to obtain one of the following: • the Meridian 1 Network Information forms • ESN or CDP overlay printouts, or both These are obtained from Chapter 2, “Gathering information for the network”.

IF you are	THEN you
defining the local site for the first time	need the NWP-004, “Meridian 1 Network Information—Site Information” form. For more information, see “Accessing the Add Local Site screen” on page 6-52.

IF you are	THEN you
entering Hybrid dialing plan information	need the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or ESN (LD 86) printout • NWP-007, “Meridian 1 Network Information—CDP Steering Codes” or CDP (LD 87) printout • NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” or NET (LD 90) printout For more information, see “Entering local site Hybrid dialing plan information” on page 6-59.
entering ESN dialing plan information	need the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or ESN (LD 86) printout • NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” or NET (LD 90) printout For more information, see “Entering local site ESN dialing plan information” on page 6-66.
entering CDP dialing plan information	need the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or ESN (LD 86) printout • NWP-007, “Meridian 1 Network Information—CDP Steering Codes” or CDP (LD 87) printout For more information, see “Entering local site CDP dialing plan information” on page 6-71.
entering “None” dialing plan information	do not need any data entry forms. For more information, see “Entering “None” dialing plan information for the local site” on page 6-75.

Filling out data entry forms

Introduction

This topic explains how to complete the data entry forms that are recommended for defining the local site.

Data entry forms required

Before you define the local site, you should complete the following Meridian Mail Network Information forms:

- NWP-024, “Meridian Mail Network Information—Local Site Maintenance” (two pages)
Samples are shown on pages 6-42 and 6-43.
- NWP-027, “Meridian Mail Network Information—CDP Steering Codes” (if you choose the Hybrid or CDP dialing plan)

A sample is shown on page 6-44.

Full-size versions of these forms are in Appendix A, “Networking implementation forms”, at the back of this manual. They may be photocopied.

How to complete the forms

The Meridian Mail Network Information forms are basically hard copies of the Meridian Mail local site maintenance screens. Therefore, the instructions for completing the forms are the same as for entering the information into Meridian Mail.

Information for the local site is obtained from the

- Meridian 1 Network Information forms
or
- the ESN or CDP overlay printouts, or both

These were completed in Chapter 2, “Gathering information for the network”.

How to complete the forms (continued)

The following table identifies where you can find instructions for completing these forms (and for completing the fields on the screens).

For instructions on entering	See the field description table in
fields common to all dialing plans	“Accessing the Add Local Site screen” on page 6-52.
Hybrid dialing plan information	“Entering local site Hybrid dialing plan information” on page 6-59.
ESN dialing plan information	“Entering local site ESN dialing plan information” on page 6-66.
CDP dialing plan information	“Entering local site CDP dialing plan information” on page 6-71.
“None” dialing plan information	“Entering “None” dialing plan information for the local site” on page 6-75.

Form sample:
NWP-024 (page 1)

The following is a sample of form NWP-024, page 1.

Meridian Mail Network Information—Local Site Maintenance

NWP-024
Page 1 of 2

Site Information

Site number:	Site name:
Site is network message center? ☐ Yes (Complete NWP-026 for each NMS satellite location) ☐ No	Message transfer ☐ Enabled ☐ Disabled

Dialing Plan

(Check one of these boxes to choose the dialing plan.)

☐ ESN	☐ CDP	☐ Hybrid	☐ None
Maximum number of digits in local mailbox:			

Hybrid dialing plan information

(Complete this section if you have selected both the ESN and CDP dialing plans.)

ESN access codes:
Number of overlapping digits between ESN prefixes and local extension:
ESN prefixes:
Number of overlapping digits between CDP steering code and local extension:
CDP Steering Codes: (Complete and attach NWP-027, "CDP Steering codes" form.)
Mailbox numbering follows the dialing plan: ☐ Yes ☐ No (Complete the Mailbox prefixes field.)
Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan.)

ESN dialing plan information

(Complete this section if you have selected the ESN dialing plan.)

ESN access codes:
Number of overlapping digits between ESN prefixes and local extension:
ESN prefixes:
Mailbox numbering follows the dialing plan: ☐ Yes ☐ No (Complete the Mailbox prefixes field.)
Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan.):

Form sample:
NWP-024 (page 2)

The following is a sample of form NWP-024, page 2.

Meridian Mail Network Information—Local Site Maintenance

NWP-024
Page 2 of 2

CDP dialing plan information

(Complete this section if you have selected the CDP dialing plan.)

Number of overlapping digits between CDP steering code and local extension:

CDP Steering Codes: (complete and attach NWP-027, "CDP Steering codes" form)

Mailbox numbering follows the dialing plan:

☐ Yes

☐ No (Complete the Mailbox prefixes field.)

Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan):

None dialing plan information

(Complete this section if you have selected the None dialing plan.)

Mailbox numbering equals local extension:

☐ Yes

☐ No

Mailbox prefixes: (This field appears whether or not mailbox numbering equals the local extension.)

Completed by

Administrator:

Date:

Form sample:
NWP-027

If the local site will be using the CDP or Hybrid dialing plans, complete the NWP-027, “Meridian Mail Network Information—CDP Steering Codes” form and attach it to form NWP-024.

The following shows a sample of form NWP-027.

Meridian Mail Network Information—CDP Steering codes

NWP-027

Complete and attach this form to NWP-024, NWP-025 or NWP-026.

Site/Location Information

Site/Location number:

Site/Location name:

CDP Steering codes

(You can enter up to 50 steering codes for the CDP dialing plan or the Hybrid dialing plan.)

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Completed by

Administrator:

Date:

Calculating the number of overlapping digits in the ESN prefixes

Introduction

When you are entering dialing plan information for the local site, you need to define the number of digits in the ESN prefixes that overlap the digits in the local extensions.

For more information on this field, see the field descriptions on page 6-67.

Definition: overlap

An overlap is the number of right-most digits in the ESN prefixes that are not removed when digit deletion is performed by the switch. If the digits that remain after digit deletion are the same as leading digits in mailbox numbers, then these are considered to be overlaps.

Digit manipulation tables

The Meridian 1 uses digit manipulation tables to define how many leading digits of a dialed number will be deleted. (They are also used to define how many digits are to be inserted before a dialed number. However, digit insertion is not supported by Meridian Networking.)

Digit manipulation tables are associated with trunks and are used by ESN to convert a dialed number into a format that can be used by the trunk.

In contrast, the number of overlapping digits (on Meridian Mail) gives the number of digits to leave on the number.

The following procedure shows how to use the “number of digits to delete” value from the Meridian 1 (DEL on a DMI) to determine how many digits in the ESN prefixes overlap with digits in mailbox numbers.

Procedure

To calculate the number of digits in the ESN prefixes that overlap the digits in the local extensions, follow these steps.

Step Action

-
1	Using form NWP-016, determine the number of digits in the Home Location Code (HLOC). Example: If the HLOC is 338, there are three digits in the HLOC.
2	Use the DMI from form NWP-016 to locate the appropriate DMI in the Digit Manipulation Tables (form NWP-006). Find the number of leading digits to be deleted (DEL field). Note: Meridian Networking does not support digit insertion.
3	Subtract the DEL number (found in step 2) from the number of digits in the HLOC (found in step 1). Result: This calculation provides the number of overlapping digits. Example: If the ESN HLOC is 338 and the DEL number is 1, the number of overlapping digits is $3 - 1 = 2$. This means that ESN 338-1234 is translated into local DN 381234.
4	Repeat the above steps for each ESN prefix. Note: ESN prefixes must have the same “number of overlapping digits” values.
-

Example

Meridian Networking supports only equal “number of overlapping digits” values for each ESN prefix. Below are examples of how to calculate the number of overlapping digits.

Only one ESN prefix (simple case)

If the HLOC is 338 and the DEL number is 1, then the number of overlapping digits is $3 - 1 = 2$. This means that ESN 338-1234 is translated into local DN 381234.

Multiple ESN prefixes

In this example, the first HLOC = 754 with DEL = 2. The number of overlapping digits is $3 - 2 = 1$.

The second HLOC = 66 with DEL = 1. The number of overlapping digits is $2 - 1 = 1$.

Example (continued)

Since the number of overlapping digits for both HLOCs is the same (1), ESN 754-1234 becomes local DN 41234, and ESN 66-1234 becomes local DN 61234.

Calculating the number of overlapping digits in CDP steering codes

Introduction

When you are entering dialing plan information, you need to calculate the number of digits in the CDP steering code that overlap the digits in the local extensions.

For more information on this field, see the field descriptions on page 6-72.

Definition: overlap

An overlap is the number of right-most digits in the CDP steering code that are not removed when digit deletion is performed by the switch. If the digits that remain after digit deletion are the same as leading digits in mailbox numbers, then these are considered to be overlaps.

Digit manipulation tables

The Meridian 1 uses digit manipulation tables to define how many leading digits of a dialed number will be deleted. (They are also used to define how many digits are to be inserted before a dialed number. However, digit insertion is not supported by Meridian Networking.)

Digit manipulation tables are associated with trunks and are used by CDP to convert a dialed number into a format that can be used by the trunk.

In contrast, the number of overlapping digits (on Meridian Mail) gives the number of digits to leave on the number.

The following procedure shows how to use the “number of digits to delete” value from the Meridian 1 (DEL on a DMI) to determine how many digits in CDP steering codes overlap with digits in mailbox numbers.

Procedure

To calculate the number of digits in the CDP steering code that overlap the digits in the local extensions, follow these steps.

Step Action

- 1 Using form NWP-007, determine the number of digits in the Local Steering Code (LSC).
Example: If the LSC is 21, then there are two digits in the LSC.
 - 2 Use the DMI from form NWP-007 to locate the appropriate DMI in the Digit Manipulation Tables (form NWP-006). Find the number of leading digits to be deleted (DEL field).
Note: Meridian Networking does not support digit insertion.
 - 3 Subtract the DEL number (found in step 2) from the number of digits in the LSC (found in step 1).
Result: This calculation provides the number of overlapping digits.
 - 4 Repeat the above steps for each steering code.
Note: Meridian Networking does not support steering codes if they have different "number of overlapping digits" values.
-

Example

Meridian Networking supports only equal “number of overlapping digits” values for each steering code. Below are examples of how to calculate the number of overlapping digits.

Only one steering code (simple case)

If the LSC is 21 and the DEL value is 1, then the number of overlapping digits is $2 - 1 = 1$. This means that 211234 is translated into local DN 11234.

Multiple codes

In this example, the first LSC = 754 with DEL = 2. The number of overlapping digits is $3 - 2 = 1$.

The second LSC = 66 with DEL = 1. The number of overlapping digits is $2 - 1 = 1$.

Since the number of overlapping digits for both codes is the same (1), 7541234 becomes local DN 41234, and 661234 becomes local DN 61234.

Unsupported codes

Meridian Networking does not support different “number of overlapping digits” values for each steering code. For example, if there are some codes that require two digits to be removed, some with three digits to be removed, and others with none, this cannot be supported.

Unsupported multiple codes

In this example, the first LSC = 754 with DEL = 1. The number of overlapping digits is $3 - 1 = 2$.

The second LSC = 66 with DEL = 1. The number of overlapping digits is $2 - 1 = 1$.

Since the number of overlapping digits is different, Meridian Networking cannot support this.

Exception to unsupported multiple codes

In this example, the first LSC = 754 with DEL = 1. The number of overlapping digits is $3 - 1 = 2$.

The second LSC = 66 with DEL = 0. The number of overlapping digits is $2 - 0 = 2$.

The third LSC = 8 with DEL = 0. The number of overlapping digits is $1 - 0 = 1$.

Meridian Networking supports setups where the number of overlapping digits is different if *all* of the shorter values remove the entire code—for example, LSC = 66 and DEL = 0.

In this case, the number of overlapping digits is 2, 2, and 1 respectively, and

- 7541234 becomes 541234
- 661234 becomes 661234
- 81234 becomes 81234

However, for the last case, the entire code overlaps the local number—for example, 81234 translates to local DN 81234. Thus, when the lower numbers map to DEL = 0, you can ignore them.

For this scenario, set the “Number of overlapping digits between CDP steering code and local ext:” to 2. Then 7541234 becomes 541234 (because the last two digits of the steering code 754 overlap), 661234 becomes 661234 and 81234 correctly becomes 81234 (because the last two digits of eight overlap, but since there is only one digit, you just include it).

Accessing the Add Local Site screen

Introduction

This topic explains how to access the Add Local Site screen. It also explains how to enter information that is common to all dialing plans.

Meridian 1 Network Information forms required

You will need the NWP-004, “Meridian 1 Network Information—Site Information” form that was completed in Chapter 2, “Gathering information for the network”.

Enterprise and AMIS Networking users

If you are also using Enterprise or AMIS Networking, or both, and you have already defined the local site, you can ignore this section. You do not need to define the local site again.

Softkey descriptions

The following table describes the softkeys on the Add Local Site screen that are common to all dialing plans.

Softkey	Description
[Save]	Press this softkey to add the local site. Once the local site is saved, the system provides access to the Network Administration menu.
[Cancel]	Press this softkey if you do not want to add the local site.
[More CDP fields]	This softkey appears if you choose the CDP or Hybrid dialing plan. Press this softkey if you want to add more CDP steering codes.

Procedure

To add the local site, follow these steps.

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

Step Action

- 1 Select Network Administration.
- 2 Do one of the following:

IF you	THEN
have AMIS Networking	select Meridian Mail Networking Administration from the submenu that appears, then go to step 3.
do not have AMIS Networking	go to step 3.

- 3 Enter the local site number. This number must be in the range of 1 to 500.
Choose a number that is not used by any remote site in the network. If possible, obtain a site number from the Network Administrator.

Note: Two sites cannot share the same number.

Result: The Add Local Site screen appears.

Network Administration

Add Local Site

Site number: 1

Site name: _____

Message transfer: ☒ Enabled ☐ Disabled

Site is network message center? ☒ No ☐ Yes

Dialing plan: ESM CDP ☒ HYBRID ☐ NONE

Max number of digits in local mailbox: 4

ESM access codes: _____

Number of overlapping digits between ESN prefix and local ext: 0

ESN prefixes (they must begin with): _____

Number of overlapping digits between CDP steering code and local ext: 10

[MORE BELOW](#)

- 4 Complete the common fields as required. (See the field descriptions following this procedure.)

Step Action

- 5 Once the common fields have been completed, enter the dialing plan information. The following table identifies where to find the instructions.

IF your dialing plan is	THEN
Hybrid	see "Entering local site Hybrid dialing plan information" on page 6-59.
ESN	see "Entering local site ESN dialing plan information" on page 6-66.
CDP	see "Entering local site CDP dialing plan information" on page 6-71.
"None"	see "Entering "None" dialing plan information for the local site" on page 6-75.

- 6 Do you want to save the local site?
If yes, press [Save].

Result: The system adds the local site, then allows you to access the Network Administration menu.

Network Administration

- 1 Network Status
- 2 Local Site Maintenance
- 3 Remote Site Maintenance
- 4 Networking Configuration
- 5 Modem Verification Test

Select an item > █

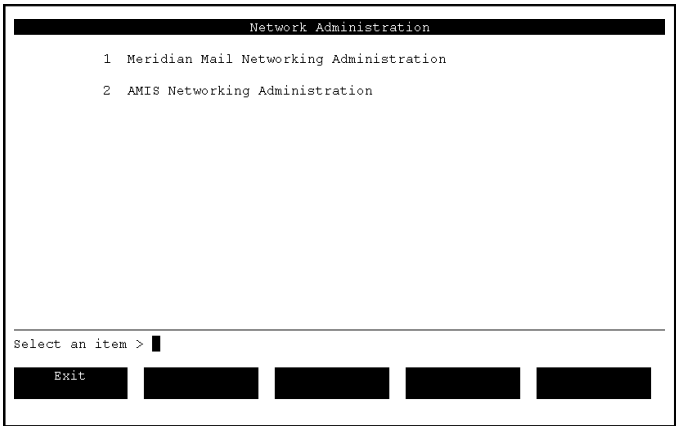
Exit Print Network Data Clear All Error Sites

If you do not want to save the local site, press [Cancel].

Result: The system discards your changes and returns you to the previous menu.

Step Action

6 (continued)



Field descriptions

The following table describes the fields in the Add Local Site screen that are common to all dialing plans.

Site number	
Description	This field is read-only. The site number uniquely identifies the local site in the Meridian Mail network.
Valid range	1 to 500
Site name	
Description	This field is mandatory. The site name identifies the local site. You should enter a descriptive name for the local site.
Maximum length	32 alphanumeric characters
Default	None

Message transfer: Enabled/Disabled

Description	Set this field to Enabled to allow local users to send messages to the remote sites. Set this field to Disabled to temporarily disable message delivery to all remote sites.
Default	Enabled

Site is network message center? No/Yes

Description	This field appears only if the Network Message Service feature is installed. Set this field to Yes only if you want to implement the Network Message Service feature at the local site (on this Meridian Mail system). To determine if the site is a network message center, see the site type section on the NWP-004, “Meridian 1 Network Information—Site Information” form. For more information, refer to the <i>Network Message Service Installation and Administration Guide</i> (NTP 555-7001-243).
Default	No

Dialing plan

Description	Select the dialing plan for the local site. There are four dialing plans: To determine which dialing plan to use, see the “Dialing plan table” on page 6-58. • Hybrid Both the ESN and CDP dialing plans are configured on the switch. To set up this dialing plan, see “Entering local site Hybrid dialing plan information” on page 6-59. • ESN This dialing plan is configured on the switch. To set up this dialing plan, see “Entering local site ESN dialing plan information” on page 6-66. • CDP This dialing plan is configured on the switch. To set up this dialing plan, see “Entering local site CDP dialing plan information” on page 6-71. • None The switch does not have a configured dialing plan. To set up this dialing plan, see “Entering “None” dialing plan information for the local site” on page 6-75.
Default	Hybrid

Max number of digits in local mailbox	
Description	Enter the maximum length of mailbox numbers used at the local site. For example, if some mailbox numbers have four digits (for example, 8050) and other mailbox numbers have seven digits (for example, 5551234), enter seven digits in this field. Note: The value of this field is used to determine the value of “The maximum length of network mailboxes is” field, which is found on the Networking Configuration screen and is used for the Network Broadcast Messaging feature.
Default	4
Maximum length	18 digits

Dialing plan table

The following table will help you to identify which dialing plan you should define for the local site.

IF the dialing plan used to call remote sites from the local site is	AND the dialing plan used to call the local site from remote sites is	THEN set the dialing plan field to
ESN	ESN	ESN
ESN	CDP	Hybrid
ESN	ESN and CDP	Hybrid
ESN	None	ESN
CDP	ESN	Hybrid
CDP	CDP	CDP
CDP	ESN and CDP	Hybrid
CDP	None	CDP
ESN and CDP	ESN, CDP, Hybrid, or None	Hybrid
None	not applicable	None

Entering local site Hybrid dialing plan information

Introduction

This topic explains how to enter Hybrid dialing plan information for the local site on the Add Local Site screen.

Definition: Hybrid dialing plan

A hybrid network combines the ESN and CDP dialing plans. Each site in the network can support one or both of these dialing plans.

Meridian 1 Network Information forms required

You will need the following Meridian 1 Network Information forms that were completed in Chapter 2, “Gathering information for the network”:

- NWP-005, “ESN Data Block” or ESN (LD 86) printout
- NWP-007, “CDP Steering Codes” or CDP (LD 87) printout
- NWP-012, “Network Translation Location Codes” or NET (LD 90) printout

Calculating the number of overlapping digits

When entering Hybrid dialing plan information, you need to calculate the following:

- the number of digits in the ESN prefixes that overlap the digits in the local extensions
For more information, see page 6-45.
- the number of digits in the CDP steering codes that overlap the digits in the local extensions
For more information, see page 6-48.

For more information on these fields, see the field descriptions on page 6-60.

Entering Hybrid dialing plan information

To enter Hybrid dialing plan information, follow these steps.

Starting Point: You should have already completed the common fields in the Add Local Site screen.

Step Action	
1	Complete the fields as required. (See the field descriptions following this procedure.)
2	Do you want to save the local site? If yes, press [Save]. If no, press [Cancel].

Field descriptions

The following table describes the additional fields that appear when you choose the Hybrid dialing plan.

ESN access codes	
Description	This field is mandatory. This code is used to access the ESN network from the local site’s switch. You can enter two different ESN access codes, each with up to three digits. A typical access code is 6. Usually only one access code is required. To determine the ESN access codes, see the AC1 and AC2 fields on the NWP-005, “Meridian 1 Network Information—ESN Data Block” form. Note: The ESN access code cannot match the left-most digits of any local mailbox number. For example, if there is a local mailbox number 6122, the access code cannot be 6. If there is a conflict, you must either • change the access code • change the mailbox numbers for the conflicting mailboxes
Default	None

Number of overlapping digits between ESN prefix and local ext

Description	This field indicates the number of digits in the ESN prefixes that overlap with extensions at the local site. For example: Users' extensions at the local site are five digits long and all begin with 8, and the local ESN prefix is 6338. Enter 0 (no overlap) in this field if users at other sites have to dial the nine-digit DN to call users at this site (such as 633883000). Enter 1 in this field, indicating that the last digit of the prefix and the first digit of the extension overlap, if users have to dial an eight-digit DN (63383000). The selection you make here must conform with the local site's dialing plan. For information about calculating the overlap, see "Calculating the number of overlapping digits in the ESN prefixes" on page 6-45. Note: You must enter a value in this field. If you leave this field blank, it reverts to the previous value. If there are no numbers in common between the ESN prefixes and the local extensions, use the default setting of 0.
Default	0

ESN prefixes (they must begin with)

Description	The starting digits of the ESN prefixes must be the same as the digits in the first ESN access code (as described earlier). The ESN prefixes are the ESN location prefixes that identify mailboxes at the local site within the network. Therefore, the prefixes must be unique within the ESN network. Remote users must precede the mailbox numbers of local users with the appropriate ESN prefix.
Multiple ESN prefixes	If a site has more than one ESN prefix, then you may be required to define the number of overlapping digits in order for Call Sender to work properly.
Maximum number	You can define up to 10 ESN prefixes for one site.
Determining the ESN prefixes	To determine the ESN prefixes, see the • AC1 field on the NWP-005, “Meridian 1 Network Information—ESN Data Block” form • LOC field on the NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” form The ESN prefixes are made up of the AC1 field followed by the LOC field. For example, if the AC1 field is 6 and the LOC field is 338, enter 6338 in this field. Note: The value “they must begin with” in the ESN prefixes is the AC1 from this screen.
Default	None

Number of overlapping digits between CDP steering code and local ext

Description	This field indicates the number of digits in the CDP steering code that overlap with the local users' extensions. These codes need not overlap. Refer to your dialing plan. Example: Say that the steering code is 22 and the local extension is 22345. If remote users call the extension by dialing • 22 22345, then the full steering code precedes the extension Thus, there is no overlap and this field is set to 0. • 2 22345, then the last digit of the steering code overlaps the extension number Set this field to 1. • 22345, then the entire code overlaps the extension In this case, the steering code is the first digit of the local extension, which is normally the case. Set the field to 2 or greater. Normally, the CDP code is the first few digits of the local extension. If this is the case, set this field to or leave this field as, 10. For information about calculating the overlap, see "Calculating the number of overlapping digits in CDP steering codes" on page 6-48. Meridian Mail Networking does not support multiple steering codes with differing overlaps (for example, 7231 with 2 overlap and 667 with no overlap).
Default	10 Note: The default of 10 means that all codes overlap the extension.

CDP steering codes

Description	CDP steering codes are site prefixes that identify the local site within the network. Therefore, this prefix must be unique within all sites in the network. If the local site is part of a CDP network, the CDP steering code may already be part of the mailbox number as far as users are concerned. (Even though this is the case, the CDP steering codes must still be defined here because the system must be able to identify the steering code in the mailbox number in order to determine the site.) To define CDP steering codes, see the NWP-007, “Meridian 1 Network Information—CDP Steering Codes” form. Hint: It may be possible to reduce the number of codes. For example, if you have three codes (774, 775, and 776) and there are no other sites that use 77x in their CDP dialing plan, simply enter 77 as the code instead.
Maximum number	You can enter up to 50 steering codes.
Default	None

Mailbox numbering follows dialing plan? Yes/No

Description	This field indicates whether the local users' mailbox numbers are the same as their telephone extensions. Set this field to Yes if a user can be dialed by combining the ESN prefix/CDP steering code with their mailbox number. For example, if the local ESN prefix is 6222 and the local mailbox is 1234, remote users can dial the local user with the numbers 62221234 (ESN prefix and mailbox number). Set this field to No if the mailbox numbering does not follow the dialing plan of the local site. Note: If you set this field to No, the Mailbox prefixes field appears (see next field).
Default	Yes

Mailbox prefixes

Description	This field appears if the “Mailbox numbering follows dialing plan” field is set to No. Mailbox prefixes are placed in front of the mailbox number to send networking messages to the local site. For example, if the mailbox prefix is 22 and a remote user needs to compose a message to local mailbox 4444, the user must enter 224444 as the address. These prefixes do not have any overlap with local mailbox numbers and are independent of the ESN location prefix and CDP steering codes. You can enter up to two prefixes. Either prefix can be used to address any mailbox at the local site. Normally, however, only one prefix is required. Ensure that these prefixes do not conflict with other network data.
Default	None

Entering local site ESN dialing plan information

Introduction

This topic explains how to enter ESN dialing plan information for the local site in the Add Local Site screen.

Meridian 1 Network Information forms required

You will need the following Meridian 1 Network Information forms that were completed in Chapter 2, “Gathering information for the network”:

- NWP-005, “ESN Data Block” or ESN (LD 86) printout
- NWP-012, “Network Translation Location Codes” or NET (LD 90) printout

Before you begin

Before you can enter the ESN dialing plan information, you need to calculate how many digits in the ESN prefixes overlap with digits in mailbox numbers. For instructions, see “Calculating the number of overlapping digits in the ESN prefixes” on page 6-45.

Procedure

To enter ESN dialing plan information, follow these steps.

Starting Point: You should have already defined the common fields in the Add Local Site screen.

Step	Action
1	Enter the ESN dialing plan information. For more information, see the following field descriptions.
2	Do you want to add the local site? If yes, press [Save]. If no, press [Cancel].

Field descriptions

The following table describes the additional fields that appear when you choose the ESN dialing plan.

For a description of the fields common to all dialing plans, see “Accessing the Add Local Site screen” on page 6-52.

ESN access codes

Description	This field is mandatory. This code is used to access the ESN network from the local site’s switch. You can enter two different ESN access codes, each with up to three digits. A typical access code is 6. Usually, only one access code is required. To determine the ESN access codes, see the AC1 and AC2 fields on the NWP-005, “Meridian 1 Network Information—ESN Data Block” form. Note: The ESN access code cannot match the left-most digits of any local mailbox number. For example, if there is a local mailbox number 6122, the access code cannot be 6. If there is a conflict, you must either • change the access code • change the mailbox numbers for the conflicting mailboxes
Default	None

Number of overlapping digits between ESN prefix and local ext

Description	This field indicates the number of digits in the ESN prefixes that overlap with extensions at the local site. Example: If users’ extensions at the local site are five digits long and all begin with 8, and the local ESN prefix is 6338, enter 0 (no overlap) in this field if users at other sites have to dial the nine-digit DN to call users at this site (such as 633883000).

Description	(continued) Enter 1 in this field, indicating that the last digit of the prefix and the first digit of the extension overlap, if users have to dial an eight-digit DN (63383000). The selection you make here must conform with the local site's dialing plan. For information about calculating the overlap, see "Calculating the number of overlapping digits in the ESN prefixes" on page 6-45. Note: You must enter a value in this field. If you leave this field blank, it reverts to the previous value. If there are no numbers in common between the ESN prefixes and the local extensions, use the default setting of 0.
Default	0

ESN prefixes (they must begin with)

Description	The starting digits of the ESN prefixes must be the same as the digits in the first ESN access code (as described earlier). The ESN prefixes are the ESN location prefixes that identify mailboxes at the local site within the network. Therefore, the prefixes must be unique within the ESN network. Remote users must precede the mailbox numbers of local users with the appropriate ESN prefix.
Multiple ESN prefixes	If a site has more than one ESN prefix, then you may be required to define the number of overlapping digits in order for Call Sender to work properly.
Maximum number	You can define up to 10 ESN prefixes for one site.
Determining the ESN prefixes	To determine the ESN prefixes, see the • AC1 field on the NWP-005, “Meridian 1 Network Information—ESN Data Block” form • LOC field on the NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” form The ESN prefixes are made up of the AC1 field followed by the LOC field. For example, if the AC1 field is 6 and the LOC field is 338, enter 6338 in this field. Note: The value “they must begin with” in the ESN prefixes is the AC1 from this screen.
Default	None

Mailbox numbering follows dialing plan? Yes/No

Description	This field indicates whether the local users' mailbox numbers are the same as their telephone extensions. Set this field to Yes if a user can be dialed by combining the ESN prefix with their mailbox number. For example, if the local ESN prefix is 6222 and the local mailbox is 1234, remote users can dial the local user with the numbers 62221234 (ESN prefix and mailbox number). Set this field to No if the mailbox numbering does not follow the dialing plan of the local site. Note: If you set this field to No, the Mailbox prefixes field appears (see next field).
Default	Yes

Mailbox prefixes

Description	This field appears if the “Mailbox numbering follows dialing plan” field is set to No. Mailbox prefixes are placed in front of the mailbox number to send networking messages to the local site. For example, if the mailbox prefix is 22 and a remote user needs to compose a message to local mailbox 4444, the user will need to enter 224444 as the address. These prefixes do not have any overlap with local mailbox numbers and are independent of the ESN location prefix. You can enter up to two prefixes. Either prefix can be used to address any mailbox at the local site. Normally, however, only one prefix is required. Ensure that these prefixes do not conflict with other network data.
Default	None

Entering local site CDP dialing plan information

Introduction

This topic explains how to enter CDP dialing plan information for the local site in the Add Local Site screen.

Meridian 1 Network Information forms required

You will need the NWP-007, “Meridian 1 Network Information—CDP Steering Codes” form or the CDP (LD 87) printout that were completed in Chapter 2, “Gathering information for the network”.

Before you begin

Before you can enter the CDP dialing plan information, you need to calculate how many digits in the CDP steering code overlap with digits in mailbox numbers. For instructions, see “Calculating the number of overlapping digits in CDP steering codes” on page 6-48.

Procedure

To enter CDP dialing plan information, follow these steps.

Starting Point: You should have already completed the common fields in the Add Local Site screen.

Step	Action
1	Enter the CDP dialing plan information. For more information, see the field descriptions on page 6-72.
2	Do you want to add the local site? If yes, press [Save]. If no, press [Cancel].

Field descriptions

The following table describes the additional fields that appear when you choose the CDP dialing plan.

For a description of the fields common to all dialing plans, see “Accessing the Add Local Site screen” on page 6-52.

Number of overlapping digits between CDP steering code and local ext

Description	This field indicates the number of digits in the CDP steering code that overlap with the local users’ extensions. These codes need not overlap. Refer to your dialing plan. For example, if the steering code is 22 and the local extension is 22345, and remote users call the extension by dialing • 22 22345, then the full steering code precedes the local extension Thus, there is no overlap and this field is set to 0. • 2 22345, then the last digit of the steering code overlaps the extension number Set this field to 1. • 22345, then the entire code overlaps the extension In this case, the steering code is the first digit of the local extension, which is the normal case. Set the field to 2 or greater. Normally, the steering code is the first few digits of the local extension. If this is the case, set this field to or leave it as 10. For information about calculating the overlap, see “Calculating the number of overlapping digits in CDP steering codes” on page 6-48.

Description	(continued)
	Note: Meridian Mail Networking does not support multiple steering codes with differing overlaps (for example, 7231 with 2 overlap, and 667 with no overlap).
Default	10
	Note: This means that all codes overlap the extension.
CDP steering codes	
Description	CDP steering codes are site prefixes that identify the local site within the network. Therefore, this prefix must be unique within all sites in the network. If the local site is part of a CDP network, the CDP steering code may already be part of the mailbox number as far as users are concerned. (Even though this is the case, the CDP steering codes must still be defined here because the system must be able to identify the steering code in the mailbox number in order to determine the site.) To define CDP steering codes, see the NWP-007, “Meridian 1 Network Information—CDP Steering Codes” form. Hint: It may be possible to reduce the number of codes. For example, if you have three codes (774, 775, and 776) and there are no other sites that use 77x in their CDP dialing plan, simply enter 77 as the code instead.
Maximum number	You can enter up to 50 steering codes.
Default	None

Mailbox numbering follows dialing plan? Yes/No

Description	This field indicates whether the local users' mailbox numbers are the same as their telephone extensions. Set this field to Yes if a user can be dialed by combining the CDP steering code with the user's mailbox number. For example, if the CDP steering code is 22 and the local mailbox is 1234, remote users can dial the local user with the numbers 221234 (steering code and mailbox number). Set this field to No if the mailbox numbering does not follow the dialing plan of the local site. Note: If you set this field to No, the Mailbox prefixes field appears (see next field).
Default	Yes

Mailbox prefixes

Description	This field appears if the "Mailbox numbering follows dialing plan" field is set to No. Mailbox prefixes are placed in front of the mailbox number to send networking messages to the local site. For example, if the mailbox prefix is 22 and a remote user needs to compose a message to local mailbox 4444, the user will need to enter 224444 as the address. These prefixes do not have any overlap with local mailbox numbers and are independent of CDP steering codes. You can enter up to two prefixes. Either prefix can be used to address any mailbox at the local site. Normally, however, only one prefix is required. Ensure that these prefixes do not conflict with other network data
Default	None

Entering "None" dialing plan information for the local site

Introduction

This topic explains how to enter "None" dialing plan information for the local site in the Add Local Site screen.

Meridian 1 Network Information forms required

There are no Meridian 1 Network Information forms for systems using no dialing plan.

Procedure

To enter "None" dialing plan information, follow these steps.

Starting Point: You should have already completed the common fields in the Add Local Site screen.

Step	Action
1	Enter the "None" dialing plan information. For more information, see the following field descriptions.
2	Do you want to add the local site? If yes, press [Save]. If no, press [Cancel].

Field descriptions

The following table describes the additional fields that appear when you choose the "None" dialing plan.

For a description of the fields common to all dialing plans, see "Accessing the Add Local Site screen" on page 6-52.

Mailbox number equals local extension? Yes/No	
Description	In this field, specify whether mailbox numbering equals the local extension at the local site. If local users' extension DNs match their mailbox numbers, set this field to Yes. Otherwise, set this field to No.
Default	Yes
Mailbox prefixes	
Description	These prefixes are used by users at remote sites to address local users. For example, if the mailbox prefix is 22 and the local user's mailbox number is 6565, remote users address the local user by dialing 226565. These prefixes do not have any overlap with local mailbox numbers. You can enter up to two prefixes. Either prefix can be used to address any mailbox at the local site. Normally, however, only one prefix is required. The mailbox prefixes can be any number provided that they do not conflict with other network data.
Default	None

Section C **Adding remote sites**

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Overview of this section

Introduction

This section explains how to add and configure remote sites with the following dialing plans:

- Hybrid (combination of ESN and CDP)
- ESN (Electronic Switched Network)
- CDP (Coordinated Dialing Plan)
- “None”

This section also explains how to convert existing remote sites to Meridian Networking.

Maximum number of sites

You can define up to 150 remote sites on the system.

This number can be less if you add NMS locations or dialing translations. For more information, see Appendix C at the end of this manual.

Before you begin

To prepare for defining remote sites, you need to obtain one of the following:

- the Meridian 1 Network Information forms
- ESN or CDP overlay printouts, or both

These are located in Chapter 2, “Gathering information for the network”. To identify the forms you need, see the following table.

IF you are	THEN you
adding a new remote site	need the NWP-004, “Meridian 1 Network Information—Site Information” form. For more information, see “Accessing the Add Remote Site screen” on page 6-92.
entering Hybrid dialing plan information for the remote site	need the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-007, “Meridian 1 Network Information—CDP Steering Codes” or the CDP (LD 87) printout • NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” or the NET (LD 90) printout For more information, see “Entering remote site Hybrid dialing plan information” on page 6-103.
entering ESN dialing plan information for the remote site	need the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” or the NET (LD 90) printout For more information, see “Entering remote site ESN dialing plan information” on page 6-112.
entering CDP dialing plan information for the remote site	need the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-007, “Meridian 1 Network Information—CDP Steering Codes” or the CDP (LD 87) printout For more information, see “Entering remote site CDP dialing plan information” on page 6-118.
entering “None” dialing plan information for the remote site	do not need any data entry forms. For more information, see “Entering “None” dialing plan information for the remote site” on page 6-123.

How sites communicate

Introduction

Meridian Mail uses the following to initiate and establish network calls:

- site numbers
- message transfer protocol
- networking connection DN
- network passwords

If any of these elements are invalid, then a network connection to a remote site will be dropped.

This topic describes each element and provides examples of how two sites (Toronto and Ottawa) are defined in each other's network databases. A more complex example (with Montreal as a third site) is shown at the end of this topic.

For a detailed description of how the elements all work to establish a network session, see Chapter 9, "Really understanding how Meridian Networking works".

Obtaining the correct information

You need to contact the remote site administrator for each site in order to identify the correct information (or to coordinate the information) for each of these elements.

Site numbers

The site number uniquely identifies each site in the Meridian Mail network.

The site number that you define for a remote site in your network database must be the same as the local site ID that is defined at the remote site (in its network database).

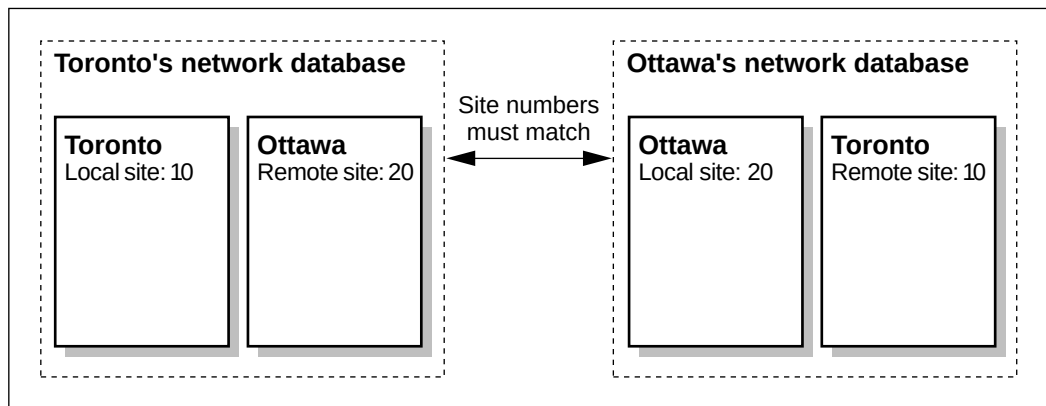
If these do not match, the receiving site will drop the call.

Example

A Meridian Mail site in Toronto has defined its local site ID as 10.

A Meridian Mail site in Ottawa has defined its local site ID as 20.

If Ottawa adds Toronto as a remote site, the remote site number must be 10. Similarly, if Toronto adds Ottawa as a remote site, the remote site number must be 20. See the following diagram.



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If the remote sites are not correctly defined in both network databases, then Toronto and Ottawa will not be able to send messages to each other.

Message transfer protocol

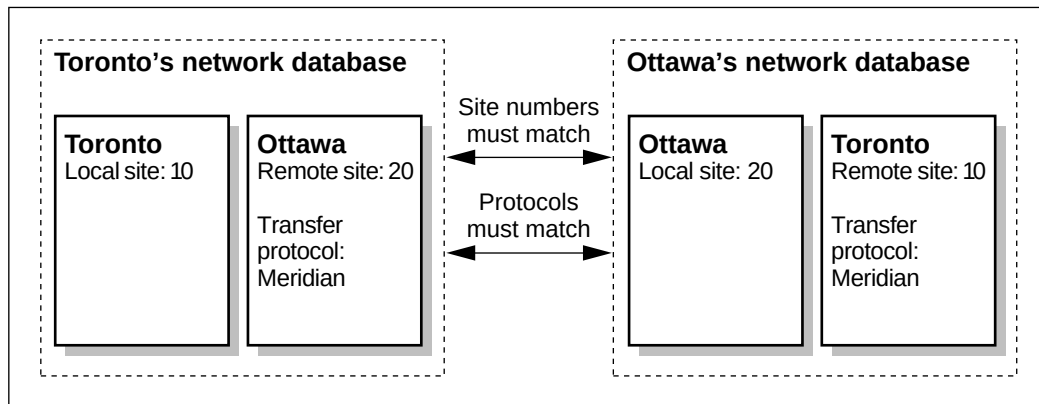
The message transfer protocol is defined on remote sites only, and identifies which networking service is used to transmit messages to and from a remote site. The same protocol must be used for both incoming and outgoing messages on both sites.

If they do not match, the following occurs:

- Messages are not delivered.
- A SEER is generated.
- The call is dropped.
- The remote site is put into error status.

Example

The Toronto site has defined (in its network database) the Ottawa remote site as using the Meridian message transfer protocol. This means that Ottawa must define, in its own network database, the Toronto remote site as using the same message transfer protocol.



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Networking connection DNs

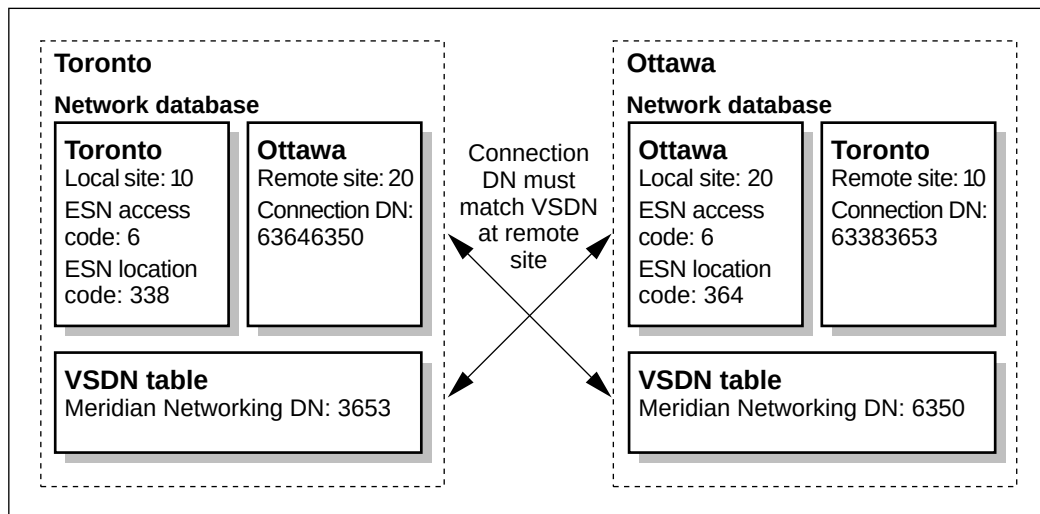
When Meridian Mail initiates a call to a remote site, it uses the networking connection DN that is specified for the remote site in your network database.

The networking connection DN is the Meridian Networking DN that is defined in the VSDN table at the remote site (in a dialable format).

Example

The following diagram shows the DNs (in an ESN dialing plan) that the Toronto and Ottawa sites would use to connect to each other. Note that the networking connection DN must be defined for the remote site in a format that is dialable from the local site.

Toronto uses ESN 6364 to dial Ottawa. Since Ottawa's Meridian Networking VSDN is 6350, Toronto enters 63646350 as the connection DN for Ottawa.



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Network passwords

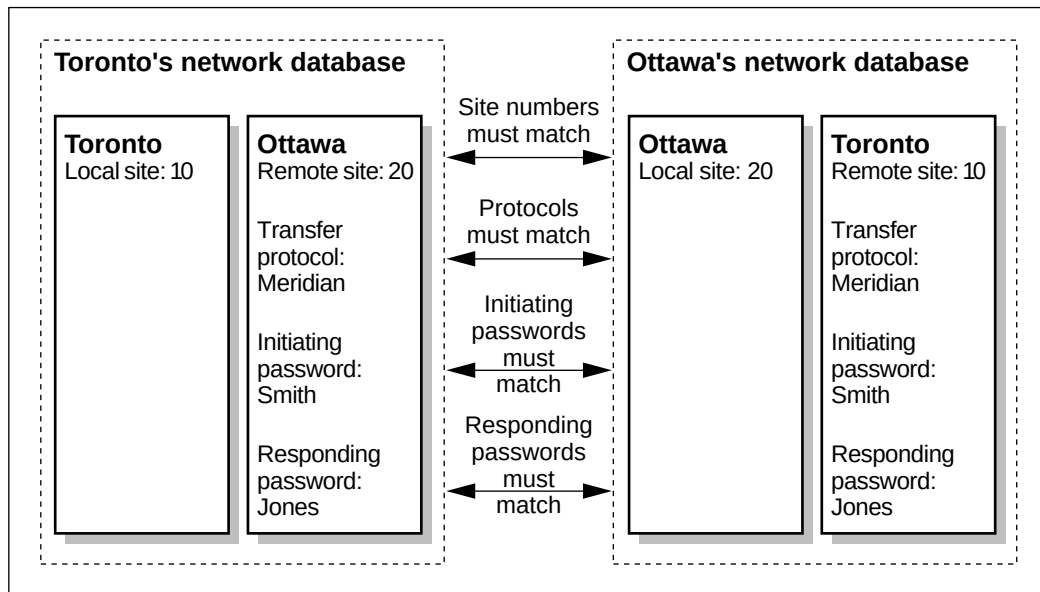
Network passwords are used to secure the network. Two passwords are used to verify that any two sites may communicate with each other. They are

- initiating password
- responding password

The passwords on your site must match the site you are calling or from which you are receiving messages.

Example

The Toronto site has defined (in its network database) the Ottawa remote site's initiating password to be Smith, and the responding password to be Jones. Ottawa must define, in its own network database, the same passwords for the Toronto remote site. See the following diagram.



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How it works

1. After the connection between the two sites is established, the initiating password is sent by the calling site to the receiving site.
2. The receiving site checks the initiating password.
3. If the initiating password is valid, the receiving site sends the responding password back to the calling site.
4. The calling site checks the responding password before sending any messages.

If either password is incorrect, the call is dropped.

How a more complex network would look

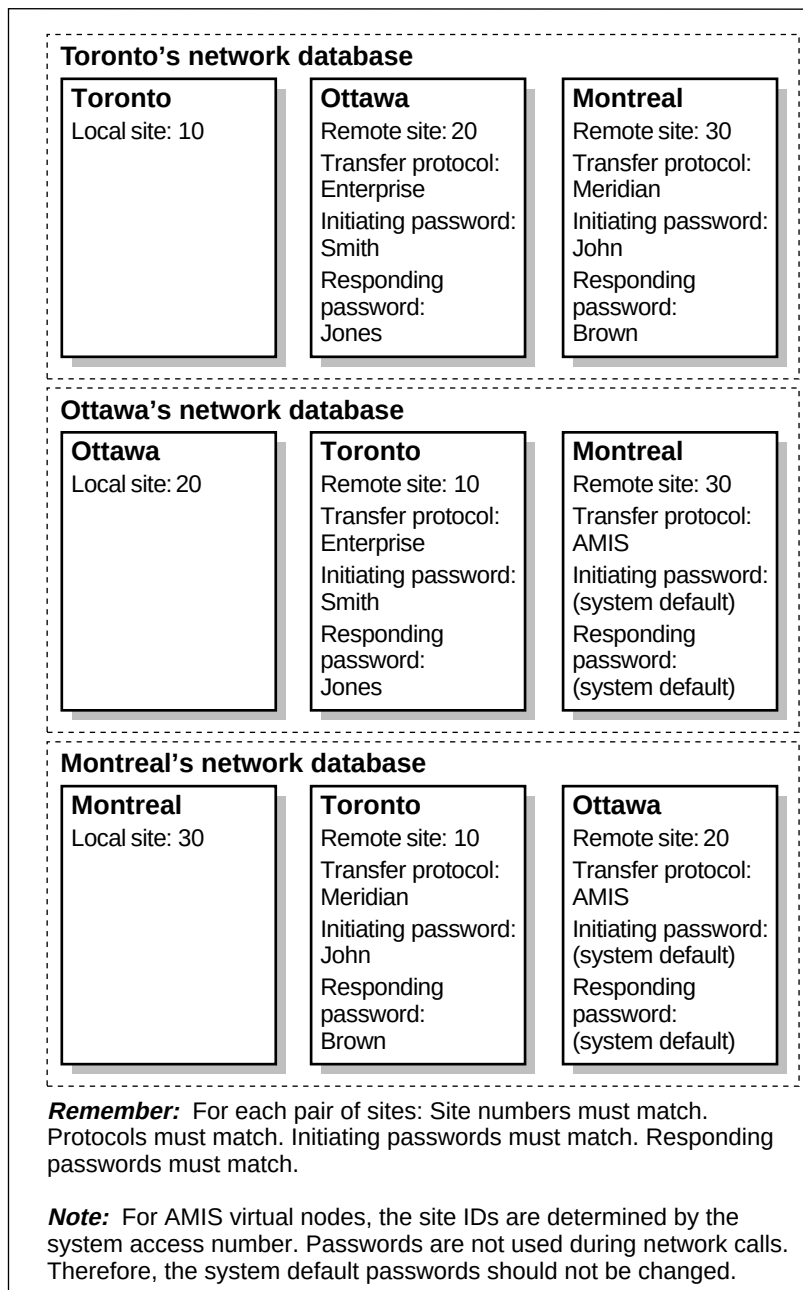
Now that you have seen how two sites are defined, here is how a network with more than two sites could look. The following diagram shows three sites, each using a different message transfer protocol.

When reviewing the diagram, compare each pair of remote sites for

- Toronto and Ottawa
- Toronto and Montreal
- Ottawa and Montreal

Notes:

1. In order for the Montreal and Ottawa sites to be defined with the AMIS message transfer protocol, AMIS Networking (as well as Meridian Mail Networking) must be installed at both the Montreal and Ottawa sites. AMIS Networking is not required at the Toronto site.
2. For Virtual Node AMIS sites, the site IDs are determined by the system access number.
3. Passwords are not used for Virtual Node AMIS Networking. Therefore, the system default passwords should not be changed.



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Filling out data entry forms

Introduction

This topic explains how to complete the data entry forms that are recommended for defining remote sites.

Data entry forms required

Before you define any remote sites, you should complete the following Meridian Mail Network Information forms:

- NWP-025, “Meridian Mail Network Information—Remote Site Maintenance” (two pages)
Samples are shown on pages 6-89 and 6-90.
- NWP-027, “Meridian Mail Network Information—CDP Steering Codes” (if you choose the Hybrid or CDP dialing plan)

A sample is shown on page 6-91.

Full-size versions of these forms are in Appendix A, “Networking implementation forms”, at the back of this manual. They may be photocopied.

How to complete the forms

The Meridian Mail Network Information forms are basically hard copies of the Meridian Mail remote site maintenance screens. Therefore, the instructions for completing the forms are the same as for entering the information into Meridian Mail.

Information for each remote site is obtained from the

- Meridian 1 Network Information forms
or
- the ESN or CDP overlay printouts, or both

These were completed in Chapter 2, “Gathering information for the network”.

How to complete the forms (continued)

The following table identifies where you can find instructions for completing these forms (and for completing the fields on the screens).

For instructions on entering	See the field description table in
fields common to all dialing plans	“Accessing the Add Remote Site screen” on page 6-92.
Hybrid dialing plan information	“Entering remote site Hybrid dialing plan information” on page 6-103.
ESN dialing plan information	“Entering remote site ESN dialing plan information” on page 6-112.
CDP dialing plan information	“Entering remote site CDP dialing plan information” on page 6-118.
“None” dialing plan information	“Entering “None” dialing plan information for the remote site” on page 6-123.

Form sample:
NWP-025 (page 1)

The following is a sample of form NWP-025, page 1. Complete this form for each remote site in the network.

Meridian Mail Network Information—Remote Site Maintenance		NWP-025 Page 1 of 2
Site Information		
Site number: _____		Site name: _____
Message transfer protocol: ☐ Enterprise ☐ Meridian ☐ AMIS	Message transfer: ☐ Enabled ☐ Disabled	Site is network message center? ☐ Yes ☐ No
Password: Initiating password: _____ Responding password: _____		Networking Connection: DN 1: _____ DN 2: _____ DN 3: _____
Maximum number of digits in local mailbox: _____		Do you want to record a spoken name for the site? (Applies to ESN, Hybrid, or None dialing plans.) ☐ Yes (Use the [Voice] softkey to record it.) ☐ No
Enterprise Networking Options		
(Complete this section if you have selected Enterprise as the message transfer protocol.)		
Send the message text information? ☐ Yes ☐ No		Send the sender's text name and personal verification? ☐ Yes ☐ No
Dialing Plan		
(Check one of these boxes to choose the dialing plan.)		
☐ ESN ☐ CDP ☐ Hybrid ☐ None		
Maximum number of digits in local mailbox: _____		
Hybrid dialing plan information		
(Complete this section if you have selected both the ESN and CDP dialing plans.)		
ESN access codes: _____		
Number of overlapping digits between ESN prefixes and local extension: _____		
ESN prefixes: _____		
Number of overlapping digits between CDP steering code and local extension: _____		
CDP Steering Codes: (Complete and attach NWP-027, "CDP Steering codes" form.)		
Mailbox numbering follows the dialing plan: ☐ Yes ☐ No (Complete the Mailbox prefixes field.)		
Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan.)		

Form sample:
NWP-025 (page 2)

The following is a sample of form NWP-025, page 2. Complete this form for each remote site in the network.

Meridian Mail Network Information—Remote Site Maintenance

NWP-025
Page 2 of 2

ESN dialing plan information

(Complete this section if you have selected the ESN dialing plan.)

ESN access codes:

Number of overlapping digits between ESN prefixes and local extension:

ESN prefixes:

Mailbox numbering follows the dialing plan:
☐ Yes
☐ No (Complete the Mailbox prefixes field.)

Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan.)

CDP dialing plan information

(Complete this section if you have selected the CDP dialing plan.)

Number of overlapping digits between CDP steering code and local extension:

CDP Steering Codes (Complete and attach NWP-027, "CDP Steering codes" form.)

Mailbox numbering follows the dialing plan:
☐ Yes
☐ No (Complete the Mailbox prefixes field.)

Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan.)

None dialing plan information

(Complete this section if you have selected the None dialing plan.)

Mailbox numbering equals local extension:
☐ Yes (Complete the Dial Prefix field.)
☐ No

Dial prefix: (This field appears if the mailbox numbering is the same as local extensions.)

Mailbox prefixes: (This field appears whether or not mailbox numbering equals the local extension.)

Completed by

Administrator:

Date:

**Form sample:
NWP-027**

If the remote site will be using the CDP or Hybrid dialing plans, complete the NWP-027, “Meridian Mail Network Information—CDP Steering Codes” form and attach it to form NWP-025.

The following is a sample of form NWP-027.

Meridian Mail Network Information—CDP Steering codes	NWP-027			
Complete and attach this form to NWP-024, NWP-025 or NWP-026.				
Site/Location Information				
Site/Location number:	Site/Location name:			
CDP Steering codes (You can enter up to 50 steering codes for the CDP dialing plan or the Hybrid dialing plan.)				
Completed by				
Administrator:			Date:	

Accessing the Add Remote Site screen

Introduction

This topic explains how to access the Add Remote Site screen. It also explains how to enter fields that are common to all dialing plans.

Meridian 1 Network Information forms required

You will need the NWP-004, “Meridian 1 Network Information—Site Information” form that was completed in Chapter 2, “Gathering information for the network”.

What to do if the site is a message center

If the remote site is using Network Message Service (NMS) to provide voice messaging service to other Meridian 1s, you need to add those Meridian 1 locations as remote NMS satellite locations.

For instructions on how to add those locations, see Section D on page 6-131.

Softkey descriptions

The following table describes the softkeys on the Add Remote Site screen.

Softkey	Description
[Save]	Press this softkey to add the remote site. The system returns you to the List of Remote Sites screen.
[Cancel]	Press this softkey if you no longer want to add the remote site.
[More CDP fields]	Press this softkey if you want to add another row of five CDP steering codes.
[Voice]	Press this softkey to record or delete a spoken name for this site. Note: The softkey does not appear if you define the “Dialing plan” field to CDP and the “Mailbox numbering follows dialing plan” field to Yes.

Before you begin

If you have not yet defined the local site, you cannot access the Remote Site Maintenance screen.

To add the local site, see “Accessing the Add Local Site screen” on page 6-52.

Procedure

To add a remote site, follow these steps.

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

Step Action

- 1 Select Network Administration.
- 2 Do one of the following:

IF you	THEN
have AMIS Networking	select Meridian Mail Networking Administration from the submenu that appears, then go to step 3.
do not have AMIS Networking	go to step 3.

Step Action

- 2 (continued)
Result: The Network Administration menu appears.

Network Administration

1 Network Status

2 Local Site Maintenance

3 Remote Site Maintenance

4 Networking Configuration

5 Modem Verification Test

Select an item >

Exit

Print Network Data

Clear All Error Sites

- 3 Select Remote Site Maintenance.
Result: The Find Remote Sites screen appears.

Network Administration

Find Remote Sites

Site Id:

Site Name:

Message Transfer Protocol: Enterprise Meridian AMIS

Dialing Plan: ESN CDP Hybrid None

Network Message Center: No Yes

Spoken Name Recorded: No Yes

Select a softkey>

Exit

List

Print

Step	Action

- 4 Press the [List] softkey.

Result: The List of Remote Sites screen appears.

Network Administration			
List of Remote Sites			
Site	Site Name	Protocol	Message Center
7	Winnipeg	Enterprise	NO

This is a read-only screen. It lists the site number, site name, protocol, and dialing plan, and indicates whether the site is a message center and if the spoken name has been recorded for that site.

Note: If you do not have any remote sites on your system, the List Sites screen is empty. Only the [Add] and [Exit] softkeys appear.

- 5 Press [Add].

Result: The system prompts you for the remote site number.

Step Action

- 6 Enter the remote site number. This number must be in the range from 1 to 500, and must not be defined for any other site in the network, including the local site.

Result: The Add Remote Site screen appears.

Network Administration

Add Remote Site

Site number: 7

Site name: _____

Message transfer protocol: Enterprise Meridian AMIS

Message transfer: Enabled Disabled

Site is network message center? No Yes

Enterprise Networking Options

Send the message text information: No Yes

Send the sender's text name and personal verification: No Yes

Networking Connection

DN 1: _____

DN 2: _____

DN 3: _____

[MORE BELOW](#)

Save Cancel More CDP Fields Voice

- 7 Complete the common fields as required. (See the field descriptions following this procedure.)
- 8 Once the common fields have been completed, enter the dialing plan information. The following table identifies where to find the instructions.

IF your dialing plan is	THEN
Hybrid	see "Entering remote site Hybrid dialing plan information" on page 6-103.
ESN	see "Entering remote site ESN dialing plan information" on page 6-112.
CDP	see "Entering remote site CDP dialing plan information" on page 6-118.
"None"	see "Entering "None" dialing plan information for the remote site" on page 6-123.

- 9 If you want to record a spoken name for a site, see "Recording names for remote sites and locations" on page 6-173.

Step Action

- 10 Do you want to save the remote site?
If yes, press [Save]. Any changes you have made are saved.

Result: The system asks you to enter the next remote site number.

IF you	THEN
want to add more remote sites	enter the site number and press <Enter>. Go back to step 7.
do not want to add more remote sites	press [Cancel].

If no, press [Cancel].

Result: Any changes you have made are discarded and the List of Remote Sites screen appears.

Field descriptions

The following describes the fields that are common to all dialing plans.

Site number

Description	This field is mandatory. Enter the local site ID that is defined in Meridian Mail at the remote site. The site number uniquely identifies the remote site in the Meridian Mail network. This value must be the same as the local site ID defined on Meridian Mail at the remote site. Contact the remote site administrator to obtain the site ID. For more details about how this field is used, see “How sites communicate” on page 6-80.
Valid range	1 to 500
Default	None

Site name

Description	This field is mandatory. The site name appears on the List Sites and Network Status screens. It may be advantageous to choose a name which uniquely identifies this remote site.
Maximum length	32 alphanumeric characters
Default	None

Message transfer protocol

Description	This field allows you to select which networking protocol is used to deliver messages to this site. Set the protocol to Meridian to use Meridian Networking to and from this site. For more details about how this field is used, see “How sites communicate” on page 6-80.
Default	Enterprise

Message transfer: Enabled Disabled

Description	Set this field to Enabled to allow local users to send messages to this remote site. Set this field to Disabled if you must temporarily disable message delivery to this remote site. Note: Regardless of the setting of this field, messages can still be received from this remote site.
Default	Enabled

Site is network message center? No/Yes

Description	Set this field to Yes if this remote site is a network message center. To determine if the site is a network message center, see the site type section on the NWP-004, “Meridian 1 Networking Information—Site Information” form. When you define this remote site as a message center, the information on this screen is used to create the prime location (location 0). To add satellite locations, see Section D on page 6-131. Note: If you change the value of this field, the change will take effect when you save the screen.
Default	None

Networking Connection DN 1, DN 2, DN 3

Description	The networking connection DN is the Meridian Networking VSDN for this remote site, as defined in the VSDN table at the remote site. Contact the remote site administrator to obtain this DN. Enter the DN in a format that is dialable from this site. The system will always use DN1 to call the remote site unless it encounters problems. If problems are encountered, the system dials DN2 and DN3 (in that order) to attempt a connection (provided that DN2 and DN3 are defined). For more details, see “How sites communicate” on page 6-80. Note: You must enter a DN in DN1. The DN2 and DN3 fields are optional. If you choose to enter DNs into DN2 and DN3, enter the least costly DN in DN1 (if there is one) and the most expensive DN in DN3. The least costly DN is not necessarily based on cost but may also be based on trunk usage. The route list index and route data block may help to determine the “least costly” DN.
Default	None
Maximum length	Up to 30 digits
Characters used	0 to 9 The special symbols * and # are also used, where * inserts a three-second pause in the sending of digits, and # indicates end of dialing. Note: The # can be placed only at the end of the DN.

Password: Initiating/Responding

Description	These passwords are used for security on the network. The initiating password is sent by the calling site, and the responding password is sent by the called site. The initiating and responding passwords must be the same for the local and remote site. Contact the remote site administrator to obtain the correct passwords. For more information, see “How sites communicate” on page 6-80.
Default	Password
Minimum length	4 alphanumeric characters
Maximum length	10 alphanumeric characters
Characters used	Any visible characters that can be typed by using the keyboard. (Control characters are not allowed.)

Dialing plan

Description	Select the dialing plan that is • configured on the switch • used to dial this remote site from the local site There are four dialing plans: • Hybrid Both the ESN and CDP dialing plans are configured on the switch. To set up this dialing plan, see “Entering remote site Hybrid dialing plan information” on page 6-103. • ESN This dialing plan is configured on the switch. To set up this dialing plan, see “Entering remote site ESN dialing plan information” on page 6-112.

Description	(continued) • CDP This dialing plan is configured on the switch. To set up this dialing plan, see “Entering remote site CDP dialing plan information” on page 6-118. • None The switch does not have a configured dialing plan. To set up this dialing plan, see “Entering “None” dialing plan information for the remote site” on page 6-123.
Default	Hybrid

Max number of digits in local mailbox	
Description	Enter the maximum length of mailbox numbers used at the remote site. For example, if some mailboxes have four digits and others have seven digits, enter 7 for this field.
Default	4
Maximum length	18 digits

Spoken name recorded (Voice)	
Description	This field is read-only. It indicates whether a spoken name has been recorded for this site. This field does not appear if the dialing plan is CDP and “Mailbox numbering follows dialing plan” is Yes. If you have recorded a spoken name, voice mail users hear the site name followed by the mailbox number of users at this remote site—for example, “<i>Toronto Site, 2346.</i>” You can record a site name from this screen by using the [Voice] softkey.

Entering remote site Hybrid dialing plan information

Introduction

This topic explains how to enter Hybrid dialing plan information for remote sites in the Add Remote Site screen.

Definition: Hybrid dialing plan

A hybrid network combines the ESN and CDP dialing plans. Each site in the network can support one or both of the dialing plans.

Meridian 1 Network Information forms required

You will need the following Meridian 1 Network Information forms that were completed in Chapter 2, “Gathering information for the network”:

- NWP-005, “ESN Data Block” or the ESN (LD 86) printout
- NWP-007, “CDP Steering Codes” or the CDP (LD 87) printout
- NWP-012, “Network Translation Location Codes” or the NET (LD 90) printout

Calculating the number of overlapping digits

When entering Hybrid dialing plan information, you need to calculate the following:

- the number of digits in the ESN prefixes that overlap the digits in the local extensions
For more information, see page 6-45.
- the number of digits in the CDP steering code that overlap the digits in the local extensions
For more information, see page 6-48.

For more information on these fields, see the field descriptions on page 6-105.

Procedure

To enter Hybrid dialing plan information, follow these steps.

Starting Point: You should have already completed the common fields in the Add Remote Site screen.

Step Action

- 1 Enter the ESN dialing plan information.
For instructions, see "Entering remote site ESN dialing plan information" on page 6-112.
- 2 Enter the CDP dialing plan information.
For instructions, see "Entering remote site CDP dialing plan information" on page 6-118.
- 3 Do you want to save the remote site?
If yes, press [Save].

Result: Any changes you have made are saved. The system asks you to enter the next remote site number.

IF you	THEN
want to add more remote sites	enter the site number and press <Enter>.
do not want to add more remote sites	press [Cancel].

If you do not want to save the remote site configuration, press [Cancel].

Result: Any changes you have made are discarded and the List of Remote Sites screen appears.

Field descriptions

The following table describes the additional fields that appear when you choose the Hybrid dialing plan.

ESN access codes

Description	This field is mandatory. This code is used to access the ESN network from the remote site's switch. You can enter two different ESN access codes, each with up to three digits. A typical access code is 6. Usually only one access code is required. To determine the ESN access codes, see the AC1 and AC2 fields on the NWP-005, "Meridian 1 Network Information—ESN Data Block" form. Note: The ESN access code cannot match the left-most digits of any local mailbox number. For example, if there is a local mailbox number 6122, the access code cannot be 6. If there is a conflict, you must either • change the access code • change the mailbox numbers for the conflicting mailboxes
Default	None

Number of overlapping digits between ESN prefix and local ext

Description	This field indicates the number of digits in the ESN prefixes that overlap with extensions at the remote site. For example, if users' extensions at the remote site are five digits long, and all begin with 8, and the local ESN prefix is 338, enter 0 (no overlap) in this field if users at other sites have to dial the nine-digit DN to call users at this site (such as 633883000).

Description	(continued) Enter 1 in this field, indicating that the last digit of the prefix and the first digit of the extension overlap if users have to dial an eight-digit DN (63383000). The selection you make here must conform with the remote site's dialing plan. For information about calculating the overlap, see "Calculating the number of overlapping digits in the ESN prefixes" on page 6-45. Note: You must enter a value in this field. If you leave this field blank, it reverts to the previous value. If there are no numbers in common between the ESN prefixes and the local extensions, use the default setting of 0.
Multiple ESN prefixes	If there is more than one ESN prefix for this site, you need to enter a value in this field other than 0 in order for Call Sender to work properly. If you enter 0 in this field and the site has multiple ESN prefixes, Call Sender will dial the first ESN prefix regardless of whether or not that is the correct ESN prefix.
Default	0

ESN prefixes (they must begin with)

Description	The starting digits of the ESN prefixes must be the same as the digits in the first ESN access code (as described earlier). The ESN prefixes are the ESN location prefixes that identify mailboxes at the remote site within the network. Therefore, the prefixes must be unique within the ESN network. Local users must precede the mailbox numbers of remote users with the appropriate ESN prefix.
Multiple ESN prefixes	If a site has more than one ESN prefix, then you may be required to define the number of overlapping digits in order for Call Sender to work properly.
Maximum number	You can define up to 10 ESN prefixes for one site.
Determining the ESN prefixes	To determine the ESN prefixes, see the • AC1 field on the NWP-005, “Meridian 1 Network Information—ESN Data Block” form • LOC field on the NWP-012, “Meridian 1 Network Information Network Translation Location Codes” form The ESN prefixes are made up of the AC1 field followed by the LOC field. For example, if the AC1 field is 6 and the LOC field is 338, enter 6338 in this field. Note: The value “they must begin with” in the ESN prefixes is the AC1 from this screen.
Default	None

Number of overlapping digits between CDP steering code and local ext

Description	This field indicates the number of digits in the CDP steering code that overlap with the remote users' extensions. These codes need not overlap. Refer to your dialing plan. One example is if the steering code is 22 and the extension is 22345. If local users call the remote extension by dialing • 22 22345, then the full steering code precedes the extension Thus, there is no overlap and this field is set to 0. • 2 22345, then the last digit of the steering code overlaps the extension number Set this field to 1. • 22345, then the entire code overlaps the extension In this case, the steering code is the first digit of the extension, which is normally the case. Set the field to 2 or greater. Normally, the steering code is the first few digits of the extension. If this is the case, set this field to or leave it as 10. Note: For information about calculating the overlap, see "Calculating the number of overlapping digits in CDP steering codes" on page 6-48. Meridian Mail Networking does not support multiple steering codes with differing overlaps (for example, 7231 with 2 overlap and 667 with no overlap).
Default	10 Note: The default of 10 means that all codes overlap the extension.

CDP steering codes

Description	CDP steering codes are site prefixes that identify the remote site within the network. Therefore, this prefix must be unique within all sites in the network. If the remote site is part of a CDP network, the CDP steering code may already be part of the mailbox number as far as users are concerned. (Even though this is the case, the CDP steering codes must still be defined here because the system must be able to identify the steering code in the mailbox number in order to determine the remote site.) To define CDP steering codes, see the NWP-007, “Meridian 1 Network Information—CDP Steering Codes” form. Hint: It may be possible to reduce the number of codes. For example, if you have three codes (774, 775, and 776), and there are no other sites that use 77x in their CDP dialing plan, simply enter 77 as the code instead.
Maximum number	You can enter up to 50 steering codes.
Default	None

Mailbox numbering follows dialing plan? Yes/No

Description	This field indicates whether the users' mailbox numbers at the remote site are the same as their telephone extensions. Set this field to Yes if a user can be dialed by combining the ESN prefix/CDP steering code with his or her mailbox number. For example, if the ESN prefix is 6555 and the user's mailbox number at this remote site is 4444, this user can be dialed from this site with the numbers 65554444 (ESN prefix and mailbox). Set this field to No if the mailbox numbering does not follow the dialing plan of the remote site. Note: If you set this field to No • the Mailbox prefixes field appears (see next field) • the Call Sender feature will only be available to users at remote sites who have been added as remote voice users by the administrator
Relation to overlapping digits	If there is more than one ESN prefix and the number of overlapping digits is set to 0 for ESN prefixes, then Call Sender will not work consistently. In order to disallow Call Sender in this circumstance, set the "Mailbox numbering follows dialing plan" field to No.
Default	Yes

Mailbox prefixes

Description	This field appears if the “Mailbox numbering follows dialing plan” field is set to No. Mailbox prefixes are placed in front of the mailbox number to send networking messages to this remote site. For example, if the mailbox prefix is 456 and a local user needs to compose a message to mailbox 1234 at this remote site, the user will need to enter 4561234 as the address. These prefixes do not have any overlap with mailbox numbers and are independent of the ESN location prefix and CDP steering codes. You can enter up to two prefixes. Either prefix can be used to address any mailbox at this remote site. Normally, however, only one prefix is required. Ensure that these prefixes do not conflict with other network data.
Default	None

Entering remote site ESN dialing plan information

Introduction	This topic explains how to enter ESN dialing plan information for remote sites in the Add Remote Site screen.						
Meridian 1 Network Information forms required	You will need the following Meridian 1 Network Information forms that were completed in Chapter 2, “Gathering information for the network”. • NWP-005, “ESN Data Block” or the ESN (LD 86) printout • NWP-012, “Network Translation Location Codes” or the NET (LD 90) printout						
Before you begin	Before you can enter the ESN dialing plan information, you need to calculate the number of digits of the ESN prefixes that overlap with digits in the local extensions. For more information, see “Calculating the number of overlapping digits in the ESN prefixes” on page 6-45.						
Procedure	To enter ESN dialing plan information, follow these steps. Starting Point: You should have already completed the common fields in the Add Remote Site screen. <table><tr><th>Step</th><th>Action</th></tr><tr><td>1</td><td> Enter the ESN dialing plan information. For more information, see the field descriptions following this procedure. </td></tr><tr><td>2</td><td> Do you want to save the remote site? If yes, press [Save]. Result: Any changes you have made are saved. The system asks you to enter the next remote site number. </td></tr></table>	Step	Action	1	Enter the ESN dialing plan information. For more information, see the field descriptions following this procedure.	2	Do you want to save the remote site? If yes, press [Save]. Result: Any changes you have made are saved. The system asks you to enter the next remote site number.
Step	Action						
1	Enter the ESN dialing plan information. For more information, see the field descriptions following this procedure.						
2	Do you want to save the remote site? If yes, press [Save]. Result: Any changes you have made are saved. The system asks you to enter the next remote site number.						

Step Action

2 (continued)

IF you	THEN
want to add more remote sites	enter the site number and press <Enter>.
do not want to add more remote sites	press [Cancel].

If you do not want to save the remote site, press [Cancel].

Result: Any changes you have made are discarded and the List of Remote Sites screen appears.

Field descriptions

The following table describes the additional fields that appear when you choose the ESN dialing plan.

For a description of the fields common to all dialing plans, see “Accessing the Add Remote Site screen” on page 6-92.

ESN access codes

Description	This field is mandatory. This code is used to access the ESN network from the remote site’s switch. You can enter two different ESN access codes, each with up to three digits. A typical access code is 6. Usually, only one access code is required. To determine the ESN access codes, see the AC1 and AC2 fields on the NWP-005, “Meridian 1 Network Information—ESN Data Block” form. Note: The ESN access code cannot match the left-most digits of any local mailbox number. For example, if there is a local mailbox number 6122, the access code cannot be 6. If there is a conflict, you must either • change the access code • change the mailbox numbers for the conflicting mailboxes

Default	None
Number of overlapping digits between ESN prefix and local ext	
Description	This field indicates the number of digits in the ESN prefixes that overlap with extensions at the remote site. For example, if users' extensions at the remote site are five digits long, and all begin with 8, and the local ESN prefix is 338, enter 0 (no overlap) in this field if users at other sites have to dial the nine-digit DN to call users at this site (such as 633883000). Enter 1 in this field, indicating that the last digit of the prefix and the first digit of the extension overlap if users have to dial an eight-digit DN (63383000). The selection you make here must conform with the remote site's dialing plan. For information about calculating the overlap, see "Calculating the number of overlapping digits in the ESN prefixes" on page 6-45. Note: You must enter a value in this field. If you leave this field blank, it reverts to the previous value. If there are no numbers in common between the ESN prefixes and the local extensions, use the default setting of 0.
Multiple ESN prefixes	If there is more than one ESN prefix for this site, you need to enter a value in this field other than 0 in order for Call Sender to work properly. If you enter 0 in this field and the site has multiple ESN prefixes, Call Sender will dial the first ESN prefix regardless of whether or not that is the correct ESN prefix.
Default	0

ESN prefixes (they must begin with)

Description	The starting digits of the ESN prefixes must be the same as the digits in the first ESN access code (as described earlier). The ESN prefixes are the ESN location prefixes that identify mailboxes at the remote site within the network. Therefore, the prefixes must be unique within the ESN network. Local users must precede the mailbox numbers of remote users with the appropriate ESN prefix.
Multiple ESN prefixes	If a site has more than one ESN prefix, then you may be required to define the number of overlapping digits in order for Call Sender to work properly.
Maximum number	You can define up to 10 ESN prefixes for one site.
Determining the ESN prefixes	To determine the ESN prefixes, see the • AC1 field on the NWP-005, “Meridian 1 Network Information—ESN Data Block” form • LOC field on the NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” form The ESN prefixes are made up of the AC1 field followed by the LOC field. For example, if the AC1 field is 6 and the LOC field is 338, enter 6338 in this field. Note: The value “they must begin with” in the ESN prefixes is the AC1 from this screen.
Default	None

Mailbox numbering follows dialing plan? Yes/No

Description	This field indicates whether the users' mailbox numbers at the remote site are the same as their telephone extensions. Set this field to Yes if a user can be dialed by combining the ESN prefix with the user's mailbox number. For example, if the ESN prefix is 6222 and the mailbox at the remote site is 1234, local users can dial the remote user with the numbers 62221234 (ESN prefix and mailbox number). Set this field to No if the mailbox numbering does not follow the dialing plan of the remote site. Note: If you set this field to No • the Mailbox prefixes field appears (see next field) • the Call Sender feature will only be available to users at remote sites who have been added as remote voice users by the administrator
Relation to overlapping digits	If there is more than one ESN prefix and the number of overlapping digits is set to 0 for ESN prefixes, then Call Sender will not work consistently. In order to disallow Call Sender in this circumstance, set the "Mailbox numbering follows dialing plan" field to No.
Default	Yes

Mailbox prefixes

Description	This field appears if the “Mailbox numbering follows dialing plan field” is set to No. Mailbox prefixes are placed in front of the mailbox number to send networking messages to this remote site. For example, if the mailbox prefix is 22 and a local user needs to compose a message to remote mailbox 4444, the user will need to enter 224444 as the address. These prefixes do not have any overlap with remote mailbox numbers and are independent of the ESN location prefix. You can enter up to two prefixes. Either prefix can be used to address any mailbox at this remote site. Normally, however, only one prefix is required. Ensure that these prefixes do not conflict with other network data.

Entering remote site CDP dialing plan information

- Introduction

This topic explains how to enter CDP dialing plan information for remote sites in the Add Remote Site screen.
- Meridian 1 Network Information forms required

You will need the NWP-007, “Meridian 1 Network Information—CDP Steering Codes” form or the CDP (LD 87) printout that were completed in Chapter 2, “Gathering information for the network”.
- Before you begin

Before you can enter CDP dialing plan information, you need to calculate the number of digits in the CDP steering code that overlap with digits in the local extensions. For more information, see “Calculating the number of overlapping digits in CDP steering codes” on page 6-48.

- Procedure

To enter CDP dialing plan information, follow these steps.

Starting Point:

You should have already completed the common fields in the Add Remote Site screen.

Step

Action

1

Enter the CDP dialing plan information.
For more information, see the field descriptions on page 6-119.

2

Do you want to save the remote site configuration?
If yes, press [Save].
Result: Any changes you have made are saved. The system asks you to enter the next remote site number.

IF you	THEN
want to add more remote sites	enter the site number and press <Enter>.
do not want to add more remote sites	press [Cancel].

Step Action

2 (continued)

If you do not want to save the remote site configuration, press [Cancel].

Result: Any changes you have made are discarded, and the List of Remote Sites screen appears.

Field descriptions

The following table describes the additional fields that appear when you choose the CDP dialing plan.

For a description of the fields common to all dialing plans, see “Accessing the Add Remote Site screen” on page 6-92.

Number of overlapping digits between CDP steering code and local ext

Description	This field indicates the number of digits in the CDP steering code that overlap with the remote users’ extensions. These codes need not overlap. Refer to your dialing plan. For example, if the steering code is 22 and the remote extension is 22345, and local users call the remote extension by dialing • 22 22345, then the full steering code precedes the extension Thus, there is no overlap and this field is set to 0. • 2 22345, then the last digit of the steering code overlaps the extension number Set this field to 1. • 22345, then the entire code overlaps the extension In this case, the steering code is the first digit of the extension, which is the normal case. Set the field to 2 or greater. Normally, the steering code is the first few digits of the extension. If this is the case, set this field to or leave it as, 10.

Description	(continued) For information about calculating the overlap, see “Calculating the number of overlapping digits in CDP steering codes” on page 6-48. Note: Meridian Mail Networking does not support multiple steering codes with differing overlaps (for example, 7231 with 2 overlaps, and 667 with no overlap).
Default	10 Note: The default of 10 means that all codes overlap the extension.

CDP steering codes

Description	CDP steering codes are site prefixes that identify the remote site within the network. Therefore, this prefix must be unique within all sites in the network. If the remote site is part of a CDP network, the CDP steering code may already be part of the mailbox number as far as users are concerned. (Even though this is the case, the CDP steering codes must still be defined here because the system must be able to identify the steering code in the mailbox number in order to determine the remote site.) To define CDP steering codes, see the NWP-007, “Meridian 1 Network Information—CDP Steering Codes” form. Hint: It may be possible to reduce the number of codes. For example, if you have three codes (774, 775, and 776), and there are no other sites which use 77x in their CDP dialing plan, simply enter 77 as the code instead.
Maximum number	You can enter up to 50 steering codes.
Default	None

Mailbox numbering follows dialing plan? Yes/No

Description	This field indicates whether the users' mailbox numbers at the remote site are the same as their telephone extensions. Set this field to Yes if a user can be dialed by combining the CDP steering code with his or her mailbox number. For example, if the remote ESN prefix is 6222 and the mailbox is 1234, local users can dial the remote user with the numbers 62221234 (ESN prefix and mailbox number). Set this field to No if the mailbox numbering does not follow the dialing plan of the remote site. Note: If you set this field to No • the Mailbox prefixes field appears (see next field) • the Call Sender feature will only be available to users at remote sites who have been added as remote voice users by the administrator
Default	Yes

Mailbox prefixes	
Description	This field appears if the “Mailbox numbering follows dialing plan” field is set to No. Mailbox prefixes are placed in front of the mailbox number to send networking messages to this remote site. For example, if the mailbox prefix is 22 and a local user needs to compose a message to remote mailbox 4444, the user will need to enter 224444 as the address. These prefixes do not have any overlap with mailbox numbers and are independent of CDP steering codes. You can enter up to two prefixes. Either prefix can be used to address any mailbox at this remote site. Normally, however, only one prefix is required. Ensure that these prefixes do not conflict with other network data.
Default	None

Entering "None" dialing plan information for the remote site

Introduction

This topic explains how to enter "None" dialing plan information for remote sites in the Add Remote Site screen.

Meridian 1 Network Information forms required

There are no Meridian 1 Network Information forms for systems using no dialing plan.

Procedure

To enter "None" dialing plan information, follow these steps.

Starting Point: You should have already completed the common fields in the Add Remote Site screen.

Step Action

- 1 Enter the "None" dialing plan information.
For more information, see the following field descriptions.
- 2 Do you want to save the remote site configuration?
If yes, press [Save].

Result: Any changes you have made are saved. The system asks you to enter the next remote site number.

IF you	THEN
want to add more remote sites	enter the site number and press <Enter>.
do not want to add more remote sites	press [Cancel].

If no, press [Cancel].

Result: Any changes you have made are discarded, and the List of Remote Sites screen appears.

Field descriptions

The following describes the additional fields that appear when you choose the "None" dialing plan.

For a description of the fields common to all dialing plans, see "Accessing the Add Remote Site screen" on page 6-92.

Mailbox number equals local extension? Yes/No	
Description	In this field, specify whether mailbox numbering equals the local extension at the remote site. Therefore, if the users' extension DNs match their mailbox numbers, set this field to Yes. Otherwise, set this field to No. If you set this field to Yes, the Dial prefix field appears. Hint: If you want to disable the Call Sender feature to this remote site, set this field to No.
Default	Yes
Dial prefix	
Description	This field appears if the "Mailbox number equals extension" field is set to Yes. This is an optional prefix that allows users at the local site to use the Call Sender feature to automatically dial the number of a user at this remote site who has sent a message. Example 1: If mailboxes are 7xxx and users are dialed by 9597-7xxx, then the dial prefix is 9597. Example 2: If users can be dialed from the local site by 7xxx, then leave the dial prefix blank.
Default	None Note: Leaving this field blank does not disable this feature. If the extensions cannot be dialed from the local site, then set the "Mailbox number equals local extension" field to No.

Mailbox prefixes	
Description	This field contains the prefixes that local users use to address messages to users at this remote site. For example, if the mailbox prefix is 22 and the remote user’s mailbox number is 6565, local users address the remote user by dialing 226565. These prefixes do not have any overlap with mailbox numbers at the remote site. You can enter up to two prefixes. Either prefix can be used to address any mailbox at this remote site. Normally, however, only one prefix is required. The mailbox prefixes can be any number provided that they do not conflict with other network data.
Default	None

Converting remote sites to Meridian Networking

Introduction	This topic explains how to • convert sites from AMIS Networking to Meridian Networking • convert sites from Enterprise Networking to Meridian Networking
How the conversion is done	Sites are converted to another networking service by changing the following fields on the Modify Remote Site screen: • Message transfer protocol • Network connection DN1, DN2, DN3 The network connection DN must be changed to the Meridian Networking VSDN defined at the remote site.
Local site must also be changed	If you change a remote site, then your site (the local site) must also be changed at the remote site. To clarify, you must ensure that the following are changed: • the remote site in your network database • your site in the network database at the remote site

For more information, see “How sites communicate” on page 6-80.

**Reason for
converting sites**

If you are already using Virtual Node AMIS Networking or Enterprise Networking, you can convert remote sites to Meridian Networking to take advantage of the higher transmission rates. For a comparison of the different network protocols, see the *Networking Planning Guide* (NTP 555-7001-241).

Before you begin

The remote site must have the appropriate hardware installed, including networking modems. For more information, see Chapter 3, “Installing the hardware”.

**Before you begin
(continued)**

Before you convert the remote site, change the Message transfer field on the Remote Site Maintenance screen to Disabled so that messages cannot be delivered to the remote site.

After the remote site has been converted, and the remote site has updated your site in its network database, reenable message transfer.

Procedure

To convert a remote site to Meridian Networking, follow these steps.

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

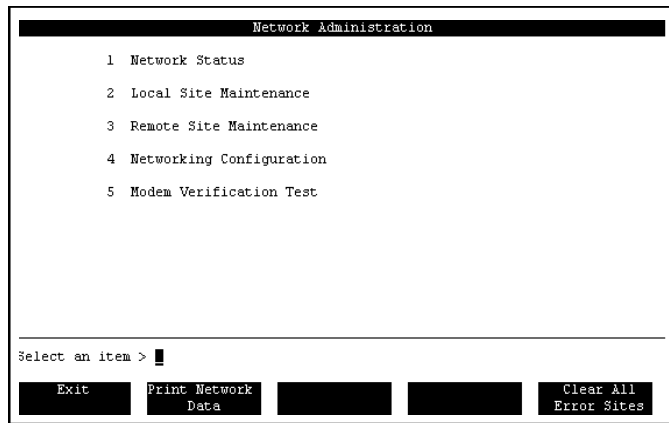
Step Action

- 1 Select Network Administration.
- 2 Do one of the following:

IF you	THEN
have AMIS Networking	select Meridian Mail Networking Administration from the submenu that appears. Then go to step 3.
do not have AMIS Networking	go to step 3.

Result: The Network Administration menu appears.

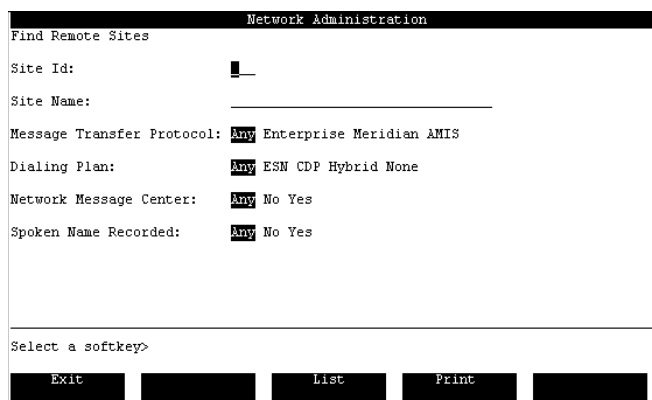
Step Action



A screenshot of a terminal window titled "Network Administration". It displays a numbered list of five options: 1 Network Status, 2 Local Site Maintenance, 3 Remote Site Maintenance, 4 Networking Configuration, and 5 Modem Verification Test. Below the list is a prompt "Select an item >" followed by a cursor. At the bottom, there are five buttons: "Exit", "Print Network Data", an empty button, another empty button, and "Clear All Error Sites".

- 3 Select Remote Site Maintenance.

Result: The Find Remote Sites screen appears.



A screenshot of a terminal window titled "Network Administration" showing the "Find Remote Sites" screen. It contains several input fields: "Site Id:" with a cursor, "Site Name:" with an empty line, "Message Transfer Protocol:" with a dropdown menu showing "Any", "Enterprise", "Meridian", and "AMIS", "Dialing Plan:" with a dropdown menu showing "Any", "ESN", "CDP", "Hybrid", and "None", "Network Message Center:" with a dropdown menu showing "Any", "No", and "Yes", and "Spoken Name Recorded:" with a dropdown menu showing "Any", "No", and "Yes". Below these fields is a prompt "Select a softkey>". At the bottom, there are five buttons: "Exit", an empty button, "List", "Print", and another empty button.

- 4 Enter search criteria. For example, move the Message Transfer Protocol selection to the type of site you wish to convert.

Step Action

- 5 Press the [List] softkey.

Result: The List of Remote Sites screen appears. The sites that match the search criteria are listed.

Network Administration			
List of Remote Sites			
Site	Site Name	Protocol	Message Center
7	Winnipeg	Enterprise	NO

Exit	Add	View/Modify	Delete	List Locations

This is a read-only screen. It lists the site number, site name, protocol, and dialing plan, and indicates whether the site is a message center and if the spoken name has been recorded for that site.

- 6 Move the cursor to the site you want to convert, and press <space bar> to select it.

Result: The site you chose is highlighted.

- 7 Press [View/Modify].

Result: The View/Modify Remote Site screen appears.

Network Administration	
View/Modify Remote Site	
Site number:	7
Site name:	Winnipeg
Message transfer protocol:	Enterprise Meridian AMIS
Message transfer:	Enabled Disabled
Site is network message center?	No Yes
Enterprise Networking Options	
Send the message text information:	No Yes
Send the sender's text name and personal verification:	No Yes
Networking Connection	
DN 1:	5555
DN 2:	
DN 3:	
MORE BELOW	
Save	Cancel
	Voice

Step Action

- 8 Move the cursor to the Message transfer protocol field and change it to Meridian.
 - 9 Move the cursor to the Networking connection DN field, and change it to the Meridian Networking VSDN for this remote site.
Note: If the site was using AMIS Networking, the connection DN was in IDDD format (country code#area code#directory number#). Enter the Meridian Networking connection DN in dialable format.
 - 10 Do you want to save your changes?
If yes, press [Save].
Result: The system saves your changes, and the List of Remote Sites screen appears.
If no, press [Cancel].
Result: The system discards your changes, and the List of Remote Sites screen appears.
-

Section D **Adding remote Network Message Service (NMS) satellite locations**

In this section

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Overview of this section

Introduction

This section explains how to add remote Network Message Service (NMS) locations (also known as satellite locations) with the following dialing plans:

- Hybrid (combination of ESN and CDP)
- ESN (Electronic Switched Network)
- CDP (Coordinated Dialing Plan)
- “None”

This section is applicable to Meridian 1 (or Meridian 1 with SL-100) networks only.

Network Message Service

Network Message Service (NMS) allows a number of Meridian 1s to be serviced by a single Meridian Mail system. The Meridian 1 that has its own Meridian Mail system is called the prime location (location 0). It is also referred to as a *message center*.

The other Meridian 1s are called satellite locations (locations 1 to 59).

Up to 60 Meridian 1 switches are supported by Network Message Service.

Meridian Mail Networking and NMS

When Meridian Mail Networking is used in conjunction with Network Message Service, the prime location (message center) is called a remote NMS site. Therefore, the terms message center, prime location, and remote NMS site all mean the same thing.

When you can do this

You can add NMS locations to a site once you define it as a remote NMS site (message center). These locations are the satellite locations. When you define the site as a message center, the prime location is automatically added.

Note: Your Meridian Mail system does not require the NMS feature to define remote NMS sites.

Before you begin

To prepare for defining remote NMS locations, you need to obtain one of the following:

- the Meridian 1 Network Information forms
- ESN or CDP, or both, overlay printouts

These are located in Chapter 2, “Gathering information for the network”.

IF you are	THEN you
adding a remote NMS location	need the NWP-004, “Meridian 1 Network Information—Site Information” form. For more information, see “Accessing the Add Remote Location screen” on page 6-140.
entering Hybrid dialing plan information	need the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-007, “Meridian 1 Network Information—CDP Steering Codes” or the CDP (LD 87) printout • NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” or the NET (LD 90) printout For more information, see “Entering NMS location Hybrid dialing plan information” on page 6-150.
entering ESN dialing plan information	need the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-012, Meridian 1 Network Information—Network Translation Location Codes” or the NET (LD 90) printout For more information, see “Entering NMS location ESN dialing plan information” on page 6-159.
entering CDP dialing plan information	need the following: • NWP-005, “Meridian 1 Network Information— ESN Data Block” or the ESN (LD 86) printout • NWP-007, “Meridian 1 Network Information—CDP Steering Codes” or the CDP (LD 87) printout For more information, see “Entering NMS location CDP dialing plan information” on page 6-165.

IF you are	THEN you
entering “None” dialing plan information	do not need any data entry forms. For more information, see “Entering “None” dialing plan information for NMS locations” on page 6-170.

Filling out data entry forms

Introduction

This topic explains how to complete the data entry forms that are recommended for defining the remote NMS locations.

Data entry forms required

Before you define remote NMS locations, you should complete the following Meridian Mail Network Information forms:

- NWP-026, “Meridian Mail Network Information—Remote NMS Location Maintenance” (2 pages)

Samples are shown on pages 6-137 and 6-138.

Note: This form is used for satellite locations only. For the prime location, use NWP-025, “Meridian Mail Network Information—Remote Site Maintenance.”

- NWP-027, “Meridian Mail Network Information—CDP Steering Codes” (if you choose the Hybrid or CDP dialing plan)

A sample is shown on page 6-139.

Full-size versions of these forms are in Appendix A, “Networking implementation forms”, at the back of this manual. They may be photocopied.

How to complete the forms

The Meridian Mail Network Information forms are basically hard copies of the Meridian Mail location maintenance screens. Therefore, the instructions for completing the forms are the same as for entering the information into Meridian Mail.

Information for each remote NMS location is obtained from

- the Meridian 1 Network Information forms
or
- the ESN or CDP, or both, overlay printouts

These were completed in Chapter 2, “Gathering information for the network”.

The following table identifies where you can find instructions for completing these forms (and for completing the fields on the screens).

For instructions on entering	See the field description table in
fields common to all dialing plans	“Accessing the Add Remote Location screen” on page 6-140.
Hybrid dialing plan information	“Entering NMS location Hybrid dialing plan information” on page 6-150.
ESN dialing plan information	“Entering NMS location ESN dialing plan information” on page 6-159.
CDP dialing plan information	“Entering NMS location CDP dialing plan information” on page 6-165.
“None” dialing plan information	“Entering “None” dialing plan information for NMS locations” on page 6-170.

**Form sample:
NWP-026 (page 1)**

The following shows a sample of form NWP-026, page 1.
Complete this form for each NMS location in the network.

Meridian Mail Network Information—Remote NMS Location Maintenance NWP-026	
Page 1 of 2	
Location Information	
Location number:	Location name:
Do you want to record a spoken name for the location? (Applies to ESN, Hybrid, or None dialing plans.)	
☐ Yes (Use the [Voice] softkey to record it.)	
☐ No	
Dialing Plan	
(Check one of these boxes to choose the dialing plan. The dialing plan must be the same as the prime location.)	
☐ ESN	☐ CDP
☐ Hybrid	☐ None
Maximum number of digits in local mailbox:	
Hybrid dialing plan information	
(Complete this section if you have selected both the ESN and CDP dialing plans.)	
ESN access codes:	
Number of overlapping digits between ESN prefixes and local extension:	
ESN prefixes:	
Number of overlapping digits between CDP steering code and local extension:	
CDP Steering Codes: (Complete and attach NWP-027, "CDP Steering codes" form.)	
Mailbox numbering follows the dialing plan:	
☐ Yes	
☐ No (Complete the Mailbox prefixes field.)	
Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan.)	
ESN dialing plan information	
(Complete this section if you have selected the ESN dialing plan.)	
ESN access codes:	
Number of overlapping digits between ESN prefixes and local extension:	
ESN prefixes:	
Mailbox numbering follows the dialing plan:	
☐ Yes	
☐ No (Complete the Mailbox prefixes field.)	
Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan.)	

Form sample:
NWP-026 (page 2)

The following shows a sample of form NWP-026, page 2.
Complete this form for each NMS location in the network.

Meridian Mail Network Information—Remote NMS Location Maintenance NWP-026
Page 2 of 2

CDP dialing plan information
(Complete this section if you have selected the CDP dialing plan.)

Number of overlapping digits between CDP steering code and local extension:

CDP Steering Codes: (Complete and attach NWP-027, "CDP Steering codes" form.)

Mailbox numbering follows the dialing plan:

☐ Yes
☐ No (Complete the Mailbox prefixes field.)

Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan.)

None dialing plan information
(Complete this section if you have selected the None dialing plan.)

Mailbox numbering equals local extension:

☐ Yes (Complete the Dial Prefix field.)
☐ No

Dial prefix: (This field appears if the mailbox numbering is the same as local extensions.)

Mailbox prefixes: (This field appears whether or not mailbox numbering equals the local extension.)

Completed by

Administrator:

Date:

Form sample: If the remote NMS location will be using the CDP or Hybrid dialing plans, complete the NWP-027, “Meridian Mail Network Information—CDP Steering codes” form and attach it to form NWP-026.

The following shows a sample of form NWP-027.

Meridian Mail Network Information—CDP Steering codes

NWP-027

Complete and attach this form to NWP-024, NWP-025 or NWP-026.

Site/Location Information

Site/Location number:

Site/Location name:

CDP Steering codes

(You can enter up to 50 steering codes for the CDP dialing plan or the Hybrid dialing plan.)

Completed by

Administrator:

Date:

Accessing the Add Remote Location screen

- Introduction** This topic explains how to access the Add Remote Location screen. This screen allows you to add Network Message Service (NMS) satellite locations to a particular site.
- Requirement** Before you can add satellite locations, you must already have defined the prime location. This is done by defining a remote site as a message center. For instructions, see “Accessing the Add Remote Site screen” on page 6-92 in Section C, “Adding remote sites”.
- Information defined for satellite locations** For each satellite location, only the dialing plan and mailbox numbering are defined. Messages are sent to the location by using the network connection DN, passwords, and message transfer protocol that are defined for the remote NMS site (prime location).
- Meridian 1 Network Information forms required** You will need the NWP-004, “Meridian 1 Network Information—Site Information” form that was completed in Chapter 2, “Gathering information for the network”.
- Dialing plan consideration** When you are adding satellite locations to a site, keep the following in mind.

IF the prime location is using	THEN the satellite location
the Hybrid dialing plan	must use Hybrid or ESN.
CDP	must use only CDP.
ESN	must use only ESN.
the “None” dialing plan	must use only “None.”

Softkey descriptions The following table describes the softkeys on the Add Remote Location screen that are common to all dialing plans.

Softkey	Description
[Save]	Press this softkey to save the location in the network database. The List Locations screen reappears.
[Cancel]	Press this softkey to exit without saving the new location in the network database. When you are finished saving the new NMS location, press this softkey to exit the Add Remote Location screen.
[More CDP fields]	Press this softkey to add more CDP steering codes.
[Voice]	Press this softkey to record or delete a spoken name for this site. The softkey will not appear if you define the “Dialing plan” field as CDP and the “Mailbox numbering follows dialing plan” field as Yes.

Procedure

To add NMS satellite locations, follow these steps.

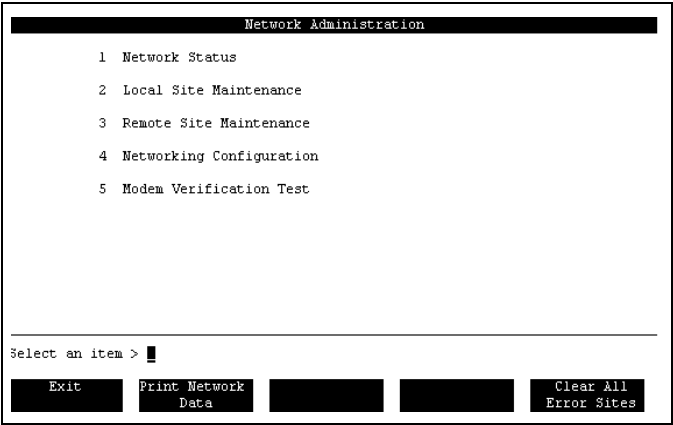
Starting Point: The Main Menu (single customer) or Customer Administration menu (multi-customer)

Step Action

- 1 Select Network Administration.
- 2 Do one of the following:

IF you	THEN
have AMIS Networking	select Meridian Mail Networking Administration from the submenu that appears, then go to step 3.
do not have AMIS Networking	go to step 3.

Result: The Network Administration menu appears.



Step Action

- 3 Select Remote Site Maintenance.

Result: The Find Remote Sites screen appears.

Network Administration	
Find Remote Sites	
Site Id:	
Site Name:	
Message Transfer Protocol:	Any Enterprise Meridian AMIS
Dialing Plan:	Any ESN CDP Hybrid None
Network Message Center:	Any No Yes
Spoken Name Recorded:	Any No Yes
Select a softkey>	
Exit	List

- 4 Press the [List] softkey.

Result: The List of Remote Sites screen appears.

Network Administration			
List of Remote Sites			
Site	Site Name	Protocol	Message Center
7	Winnipeg	Enterprise	YES

Exit	Add	View/Modify	Delete	List Locations

This is a read-only screen. It lists the site number, site name, protocol, and dialing plan, and indicates whether the site is a message center and if the spoken name has been recorded for that site.

Step Action

- 5
- Select the site to which you want to add the NMS location by moving the cursor to the site and pressing <space bar> to highlight it.
- Note:** The site you select must show Yes in the Message Center column.
- 6
- Press [List Locations].
- Result:** The system lists the existing NMS locations. Location 0 always appears on the list.



- 7
- Press [Add].
- Result:** The system asks you for the location number. The number must be in the range of 1 to 59.

Step Action

- 8 Enter the location number.

Result: The Add Remote Location screen appears.

Network Administration

Add Remote Location

Location number: 8

Location name: _____

Dialing plan: ESN

Max number of digits in local mailbox: 4

ESN access codes: _____

Number of overlapping digits between ESN prefix and local ext: 0

ESN prefixes (they must begin with): _____

Mailbox numbering follows dialing plan: Yes No

Spoken name recorded (Voice) No

Save Cancel _____ Voice

- 9 Complete the common fields as required. (See the field descriptions on page 6-147.)
- 10 Once the common fields have been completed, enter the dialing plan information. The following table identifies where to find the instructions.

IF your dialing plan is	THEN
Hybrid	see "Entering NMS location Hybrid dialing plan information" on page 6-150.
ESN	see "Entering NMS location ESN dialing plan information" on page 6-159.
CDP	see "Entering NMS location CDP dialing plan information" on page 6-165.
"None"	see "Entering "None" dialing plan information for NMS locations" on page 6-170.

Step Action

- 11 Do you want to save the new NMS location?
If yes, press [Save].
Result: The system saves the new NMS location and asks you if you want to add another NMS location.

IF you	THEN
want to add another NMS location	enter the new NMS location number. Result: The Add Remote Location screen appears.
you do not want to add another NMS location	press [Cancel] to exit the Add Remote Location screen. Result: The system takes you back to the List of Remote Locations screen. Notice that the new NMS location(s) you have just added are included in the list of locations.

If you do not want to save the new NMS location, press [Cancel].

Result: The system discards the new NMS location.

Field descriptions

The following table describes the fields in the Add Remote Location screen that are common to all dialing plans.

Location number	
Description	This is a read-only field. This field displays the ID of the location you are adding. When you press the [Add] softkey in the List Locations screen, the system asks you for a new location ID. To change the location number, you must delete the location and add it again.
Valid range	0 to 59 Note: You cannot change the ID of location 0 without deleting the entire remote site.
Location name	
Description	This field is the location name. It is a mandatory field. This name appears on the List Locations screen to help identify this location.
Maximum length	32 alphanumeric characters
Default	None
Dialing plan	
Description	Select the dialing plan that is • configured on the switch • used to dial the location from the local site There are four dialing plans: • Hybrid Both the ESN and CDP dialing plans are configured on the switch. To set up this dialing plan, see “Entering NMS location Hybrid dialing plan information” on page 6-150.

Description	(continued) • ESN This dialing plan is configured on the switch. To set up this dialing plan, see “Entering NMS location ESN dialing plan information” on page 6-159. • CDP This dialing plan is configured on the switch. To set up this dialing plan, see “Entering NMS location CDP dialing plan information” on page 6-165. • None The switch does not have a configured dialing plan. To set up this dialing plan, see “Entering “None” dialing plan information for NMS locations” on page 6-170.
Default	Hybrid

Max number of digits in local mailbox

Description	Enter the maximum length of mailbox numbers used at the location. For example, if some mailboxes have four digits and others have seven digits, enter 7 for this field.
Default	4
Maximum length	18 digits

Spoken name recorded (Voice)

Description

This field is read-only. It does not appear if the dialing plan field is set to CDP and the “Mailbox numbering follows dialing plan” field is set to Yes.

It indicates whether a spoken name has been recorded for this location.

If you have recorded a spoken name, voice mail users hear the location name followed by the local mailbox digits—for example, “*Toronto Location, 2346.*”

You can record a location name from this screen by using the voice key.

Entering NMS location Hybrid dialing plan information

Introduction

This topic explains how to enter Hybrid dialing plan information for remote NMS satellite locations in the Add Remote Location screen.

Definition: Hybrid dialing plan

The hybrid network combines the ESN and CDP dialing plans. Each network location can support one or both of the dialing plans.

Meridian 1 Network Information forms required

You will need the following Meridian 1 Network Information forms that were completed in Chapter 2, “Gathering information for the network”.

- NWP-005, “ESN Data Block” or the ESN (LD 86) printout
- NWP-007, “CDP Steering Codes” or the CDP (LD 87) printout
- NWP-012, “Network Translation Location Codes” or the NET (LD 90) printout

Before you begin

Before you can enter Hybrid dialing plan information, you need to calculate the following:

- the number of digits in the ESN prefixes that overlap with digits of the local extensions
For more information, see “Calculating the number of overlapping digits in the ESN prefixes” on page 6-45.
- the number of digits of the CDP steering code that overlap with digits of the local extension
For more information, see “Calculating the number of overlapping digits in CDP steering codes” on page 6-48.

Procedure

To enter Hybrid dialing plan information, follow these steps.

Starting Point: You should already have defined the common fields in the Add Remote Location screen.

Step Action

- 1 Enter the ESN dialing plan information.
For instructions, see “Entering NMS location ESN dialing plan information” on page 6-159.
- 2 Enter the CDP dialing plan information.
For instructions, see “Entering NMS location CDP dialing plan information” on page 6-165.
- 3 Do you want to save the new NMS location?
If yes, press [Save].

Result: The system saves the new NMS location and asks you if you want to add another NMS location.

IF you	THEN
want to add another NMS location	enter the new NMS location number. Result: The Add Remote Location screen appears.
do not want to add another NMS location	press [Cancel] to exit the Add Remote Location screen. Result: The system takes you back to the List of Remote Locations screen. Notice that the new NMS location you have just added is included in the list of locations.

If you do not want to save the new NMS location, press [Cancel].

Result: The system discards the new NMS location.

Field descriptions

The following table describes the additional fields that appear when you choose the Hybrid dialing plan.

For a description of the fields common to all dialing plans, see “Accessing the Add Remote Location screen” on page 6-140.

ESN access codes	
Description	This field is mandatory. This code is used to access the ESN network from the location’s switch. You can enter two different ESN access codes, each with up to three digits. A typical access code is 6. Usually only one access code is required. To determine the ESN access codes, see the AC1 and AC2 fields on the NWP-005, “Meridian 1 Network Information—ESN Data Block” form. Note: The ESN access code cannot match the left-most digits of any local mailbox number. For example, if there is a local mailbox number 6122, the access code cannot be 6. If there is a conflict, you must either • change the access code • change the mailbox numbers for the conflicting mailboxes
Default	None

Number of overlapping digits between ESN prefix and local ext

Description	This field indicates the number of digits in the ESN prefixes that overlap with extensions at the location. For example, if users' extensions at the location are five digits long and all begin with 8, and the local ESN prefix is 338, enter 0 (no overlap) in this field if users at other sites have to dial the nine-digit DN to call users at this location (such as 633883000). Enter 1 in this field, indicating that the last digit of the prefix and the first digit of the extension overlap, if users have to dial an eight-digit DN (63383000). The selection you make here must conform with the location's dialing plan. For information about calculating the overlap, see "Calculating the number of overlapping digits in the ESN prefixes" on page 6-45. Note: You must enter a value in this field. If you leave this field blank, it reverts to the previous value. If there are no numbers in common between the ESN prefixes and the local extensions, use the default setting of 0.
Multiple ESN prefixes	If there is more than one ESN prefix for this site, you need to enter a value in this field other than 0 in order for Call Sender to work properly. If you enter 0 in this field and the site has multiple ESN prefixes, Call Sender will dial the first ESN prefix regardless of whether or not that is the correct ESN prefix.
Default	0

ESN prefixes (they must begin with)

Description	The starting digits of the ESN prefixes must be the same as the digits in the first ESN access code (as described earlier). The ESN prefixes are the ESN location prefixes that identify mailboxes at the remote site within the network. Therefore, the prefixes must be unique within the ESN network. Local users must precede the mailbox numbers of remote users with the appropriate ESN prefix.
Multiple ESN prefixes	If a site has more than one ESN prefix, then you may be required to define the number of overlapping digits in order for Call Sender to work properly.
Maximum number	You can define up to 10 ESN prefixes for one site.
Determining the ESN prefixes	To determine the ESN prefixes, see the • AC1 field on the NWP-005, “Meridian 1 Network Information—ESN Data Block” form • LOC field on the NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” form The ESN prefixes are made up of the AC1 field followed by the LOC field. For example, if the AC1 field is 6 and the LOC field is 338, enter 6338 in this field. Note: The value “they must begin with” in the ESN prefixes is the AC1 from this screen.
Default	None

Number of overlapping digits between CDP steering code and local ext

Description	This field indicates the number of digits in the CDP steering code that overlap with the remote users' extensions. These codes need not overlap. Refer to your dialing plan. One example is if the steering code is 22 and the remote extension is 22345. If local users call the remote extension by dialing • 22 22345, then the full steering code precedes the extension Thus, there is no overlap and this field is set to 0. • 2 22345, then the last digit of the steering code overlaps the extension number Set this field to 1. • 22345, then the entire code overlaps the extension In this case, the steering code is the first two digits of the remote extension, which is normally the case. Set the field to 2 or greater. Normally, the steering code is the first few digits of the remote extension. If this is the case, set this field to or leave it as, 10. For information about calculating the overlap, see "Calculating the number of overlapping digits in CDP steering codes" on page 6-48. Note: Meridian Mail Networking does not support multiple steering codes with differing overlaps (for example, 7231 with 2 overlap, 667 with no overlap).
Default	10 Note: The default of 10 means that all codes overlap the extension.

CDP steering codes

Description	CDP steering codes are location prefixes that identify the location within the network. Therefore, this prefix must be unique within all locations (and sites) in the network. If the location is part of a CDP network, the CDP steering code may already be part of the mailbox number as far as users are concerned. (Even though this is the case, the CDP steering codes must still be defined here because the system must be able to identify the steering code in the mailbox number in order to determine the location.) To define CDP steering codes, see the NWP-007, “Meridian 1 Network Information—CDP Steering Codes” form. Hint: It may be possible to reduce the number of codes. For example, if you have three codes (774, 775, and 776), and there are no other sites that use 77x in their CDP dialing plan, simply enter 77 as the code instead.
Maximum number	You can enter up to 50 steering codes.
Default	None

Mailbox numbering follows dialing plan? Yes/No

Description	This field indicates whether the local users' mailbox numbers at the location are the same as their telephone extensions. Set this field to Yes if a user can be dialed by combining the ESN prefix/CDP steering code with his or her mailbox number. For example, if the ESN prefix is 6555 and the user's mailbox number at this location is 4444, this user can be dialed from this site by 65554444 (ESN prefix and mailbox). Set this field to No if the mailbox numbering does not follow the dialing plan of the location. Note: If you set this field to No • the Mailbox prefixes field appears (see next field) • the Call Sender feature will only be available to users at remote locations who have been added as remote voice users by the administrator
Relation to overlapping digits	If there is more than one ESN prefix and the number of overlapping digits is set to 0 for ESN prefixes, then Call Sender will not work consistently. In order to disallow Call Sender in this circumstance, set the "Mailbox numbering follows dialing plan" field to No.
Default	Yes

Mailbox prefixes	
Description	This field appears if the “Mailbox numbering follows dialing plan” field is set to No. Mailbox prefixes are placed in front of the mailbox number to send networking messages to this location. For example, if the mailbox prefix is 456 and a local user needs to compose a message to mailbox 1234 at this location, he or she will need to enter 4561234 as the address. These prefixes do not have any overlap with mailbox numbers and are independent of the ESN location prefix and CDP steering codes. You can enter up to two prefixes. Either prefix can be used to address any mailbox at this location. Normally, however, only one prefix is required. Ensure that these prefixes do not conflict with other network data.
Default	None

Entering NMS location ESN dialing plan information

Introduction

This topic explains how to enter ESN dialing plan information for remote NMS satellite locations in the Add Remote Location screen.

Meridian 1 Network Information forms required

You will need the following Meridian 1 Network Information forms that were completed in Chapter 2, “Gathering information for the network”.

- NWP-005, “ESN Data Block” or the ESN (LD 86) printout
- NWP-012, “Network Translation Location Codes” or the NET (LD 90) printout

Before you begin

Before you can enter ESN dialing plan information, you need to calculate the number of digits in the ESN prefixes that overlap with digits in the local extensions. For more information, see “Calculating the number of overlapping digits in the ESN prefixes” on page 6-45.

Procedure

To enter ESN dialing plan information, follow these steps.

Starting Point: You should have already defined the common fields in the Add Remote Location screen.

Step	Action

1	Enter the ESN dialing plan information. For instructions, see the following field descriptions.
2	Do you want to save the location? If yes, press [Save].

Result: Any changes you have made are saved. The system asks you to enter the next location number.

Step Action

2 (continued)

IF you	THEN
want to add another NMS location	enter the location number and press [Return].
do not want to add another NMS location	press [Cancel].

If you do not want to save the NMS location, press [Cancel].

Result: Any changes you have made are discarded and the List of Remote Locations screen appears.

Field descriptions

The following table describes the additional fields that appear when you choose the ESN dialing plan.

For a description of the fields common to all dialing plans, see “Accessing the Add Remote Location screen” on page 6-140.

ESN access codes

Description	This field is mandatory. This code is used to access the ESN network from the location’s switch. You can enter two different ESN access codes, each with up to three digits. A typical access code is 6. Usually, only one access code is required. To determine the ESN access codes, see the AC1 and AC2 fields on the NWP-005, “Meridian 1 Network Information—ESN Data Block” form.
Restriction	The ESN access code cannot match the left-most digits of any local mailbox number. For example, if there is a local mailbox number 6122, the access code cannot be 6.
Conflicts	If there is a conflict, you must either • change the access code • change the mailbox numbers for the conflicting mailboxes
Default	None

Number of overlapping digits between ESN prefix and local ext

Description	This field indicates the number of digits in the ESN prefixes that overlap with extensions at the location. For example, if users' extensions at the location are five digits long, and all begin with 8, and the local ESN prefix is 338, enter 0 (no overlap) in this field if users at other sites have to dial the nine-digit DN to call users at this site (such as 633883000). Enter 1 in this field, indicating that the last digit of the prefix and the first digit of the extension overlap, if users have to dial an eight-digit DN (63383000). The selection you make here must conform with the location's dialing plan. For information about calculating the overlap, see "Calculating the number of overlapping digits in CDP steering codes" on page 6-48. Note: You must enter a value in this field. If you leave this field blank, it reverts to the previous value. If there are no numbers in common between the ESN prefixes and the local extensions, use the default setting of 0.
Multiple ESN prefixes	If there is more than one ESN prefix for this site, you need to enter a value in this field other than 0 in order for Call Sender to work properly. If you enter 0 in this field and the site has multiple ESN prefixes, Call Sender will dial the first ESN prefix regardless of whether or not that is the correct ESN prefix.
Default	0

ESN prefixes (they must begin with)

Description	The starting digits of the ESN prefixes must be the same as the digits in the first ESN access code (as described earlier). The ESN prefixes are the ESN location prefixes that identify mailboxes at the remote site within the network. Therefore, the prefixes must be unique within the ESN network. Local users must precede the mailbox numbers of remote users with the appropriate ESN prefix.
Multiple ESN prefixes	If a site has more than one ESN prefix, then you may be required to define the number of overlapping digits in order for Call Sender to work properly.
Maximum number	You can define up to 10 ESN prefixes for one site.
Determining the ESN prefixes	To determine the ESN prefixes, see the • AC1 field on the NWP-005, “Meridian 1 Network Information—ESN Data Block” form • LOC field on the NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” form The ESN prefixes are made up of the AC1 field followed by the LOC field. For example, if the AC1 field is 6 and the LOC field is 338, enter 6338 in this field. Note: The value “they must begin with” in the ESN prefixes is the AC1 from this screen.
Default	None

Mailbox numbering follows dialing plan? Yes/No

Description	This field indicates whether the users' mailbox numbers at the location are the same as their telephone extensions. Set this field to Yes if a user can be dialed by combining the ESN prefix with his or her mailbox number. For example, if the ESN prefix is 6222 and the remote mailbox is 1234, local users can dial the remote user with the numbers 62221234 (ESN prefix and mailbox number). Set this field to No if the mailbox numbering does not follow the dialing plan of the location. Note: If you set this field to No • the Mailbox prefixes field appears (see next field) • the Call Sender feature will only be available to users at remote locations who have been added as remote voice users by the administrator
Relation to overlapping digits	If there is more than one ESN prefix and the number of overlapping digits is set to 0 for ESN prefixes, then Call Sender will not work consistently. In order to disallow Call Sender in this circumstance, set the "Mailbox numbering follows dialing plan" field to No.
Default	Yes

Mailbox prefixes

Description	This field appears if the “Mailbox numbering follows dialing plan” field is set to No. Mailbox prefixes are placed in front of the mailbox number to send networking messages to this location. For example, if the mailbox prefix is 22 and a local user needs to compose a message to mailbox 4444, the user will need to enter 224444 as the address. These prefixes do not have any overlap with mailbox numbers and are independent of the ESN location prefix. You can enter up to two prefixes. Either prefix can be used to address any mailbox at this location. Normally, however, only one prefix is required. Ensure that these prefixes do not conflict with other network data.

Entering NMS location CDP dialing plan information

Introduction

This topic explains how to enter CDP dialing plan information for remote NMS satellite locations in the Add Remote Location screen.

Meridian 1 Network Information forms required

You will need the NWP-007, “Meridian 1 Network Information—CDP Steering Codes” form or the CDP (LD 87) printout that were completed in Chapter 2, “Gathering information for the network”.

Before you begin

Before you can enter CDP dialing plan information, you need to calculate the number of digits of the CDP steering code that overlap with digits of the local extensions. For more information, see “Calculating the number of overlapping digits in CDP steering codes” on page 6-48.

Procedure

To enter CDP dialing plan information, follow these steps.

Starting Point: You should already have defined the common fields in the Add Remote Location screen.

Step	Action
1	Enter the CDP dialing plan information. For instructions, see the following field descriptions.
2	Do you want to save the location? If yes, press [Save]. Result: Any changes you have made are saved. The system asks you to enter the next location number.

IF you	THEN
want to add another NMS location	enter the location number and press <Enter>.
do not want to add another NMS location	press [Cancel].

If you do not want to save the NMS location, press [Cancel].

Result: Any changes you have made are discarded and the List of Remote Locations screen appears.

Field descriptions

The following table describes the additional fields that appear when you choose the CDP dialing plan.

For a description of the fields common to all dialing plans, see “Accessing the Add Remote Location screen” on page 6-140.

Number of overlapping digits between CDP steering code and local ext	
Description	For example, if the steering code is 22 and the extension is 22345, and local users call the remote extension by dialing • 22 22345, then the full steering code precedes the extension Thus, there is no overlap and this field is set to 0. • 2 22345, then the last digit of the steering code overlaps the extension number Set this field to 1. • 22345, the entire code overlaps the extension In this case, the steering code is the first digit of the remote extension, which is the normal case. Set the field to 2 or greater. Normally, the steering code is the first few digits of the remote extension. If this is the case, set this field to or leave it as, 10. For information about calculating the overlap, see “Calculating the number of overlapping digits in CDP steering codes” on page 6-48. Note: Meridian Mail Networking does not support multiple steering codes with differing overlaps (for example, 7231 with 2 overlap, and 667 with no overlap).
Default	10 Note: This means that all codes overlap the extension.

CDP steering codes

Description	CDP steering codes are location prefixes that identify the location within the network. Therefore, this prefix must be unique within all locations in the network. If the location is part of a CDP network, the CDP steering code may already be part of the mailbox number as far as users are concerned. (Even though this is the case, the CDP steering codes must still be defined here because the system must be able to identify the steering code in the mailbox number in order to determine the location.) To define CDP steering codes, see the NWP-007, “Meridian 1 Network Information—CDP Steering Codes” form. Hint: It may be possible to reduce the number of codes. For example, if you have three codes (774, 775, and 776), and there are no other sites that use 77x in their CDP dialing plan, simply enter 77 as the code instead.
Maximum number	You can enter up to 50 steering codes.
Default	None

Mailbox numbering follows dialing plan? Yes/No

Description	This field indicates whether the users' mailbox numbers at the location are the same as their telephone extensions. Set this field to Yes if a user can be dialed by combining the CDP steering code with his or her mailbox number. For example, if the location's steering code is 62 and the mailbox is 1234, local users can dial the remote user with the numbers 621234 (steering code and mailbox number). Set this field to No if the mailbox numbering does not follow the dialing plan of the location. Note: If you set this field to No • the Mailbox prefixes field appears (see next field) • the Call Sender feature will only be available to users at remote locations who have been added as remote voice users by the administrator
Default	Yes

Mailbox prefixes

Description	This field appears if the “Mailbox numbering follows dialing plan” field is set to No. Mailbox prefixes are placed in front of the mailbox number to send networking messages to this location. For example, if the mailbox prefix is 22 and a local user needs to compose a message to mailbox 4444, the user will need to enter 224444 as the address. These prefixes do not have any overlap with mailbox numbers and are independent of CDP steering codes. You can enter up to two prefixes. Either prefix can be used to address any mailbox at this location. Normally, however, only one prefix is required. Ensure that these prefixes do not conflict with other network data.
Default	None

Entering "None" dialing plan information for NMS locations

Introduction

This topic explains how to enter "None" dialing plan information for remote NMS locations in the Add Remote Location screen.

Meridian 1 Network Information forms required

There are no Meridian 1 Network Information forms for systems using "no dialing plan."

Procedure

To enter "None" dialing plan information, follow these steps.

Starting Point: You should already have defined the common fields in the Add Remote Location screen.

Step Action

- 1 Enter the "None" dialing plan information.
For instructions, see the following field descriptions.
- 2 Do you want to save the location?
If yes, press [Save].

Result: Any changes you have made are saved. The system asks you to enter the next location number.

IF you	THEN
want to add another NMS location	enter the location number and press <Enter>.
do not want to add another NMS location	press [Cancel].

If you do not want to save the location, press [Cancel].

Result: Any changes you have made are discarded and the List of Remote Locations screen appears.

Field descriptions

The following describes the additional fields that appear when you choose the "None" dialing plan.

For a description of the fields common to all dialing plans, see "Accessing the Add Remote Location screen" on page 6-140.

Mailbox number equals local extension? Yes/No

Description	In this field, specify whether mailbox numbering equals the local extensions at the location. Therefore, if users' extension DNs and mailbox numbers are identical, set this field to Yes. If the users' extensions do not match their mailbox numbers, then set this field to No. If you set this field to Yes, the Dial prefix field appears. Hint: If you want to disable the Call Sender feature to this remote site, set this field to No.
Default	Yes

Dial prefix

Description	This field appears if the "Mailbox number equals extension" field is set to Yes. This is an optional prefix that allows users at the local site to use the Call Sender feature to automatically dial the number of a user at this location who has sent a message. Enter the digits that must precede the mailbox number in order to dial a user at this location. Example 1: If mailboxes are 7xxx and users are dialed by 9597-7xxx, then the dial prefix is 9597. Example 2: If users can be dialed from the local site by 7xxx, then leave the dial prefix blank. Example 3: If the extension DN 1234 must be dialed through the public network as 914165551234, then the dialing prefix is 91416555.
Default	None

Mailbox prefixes	
Description	Local users use these prefixes to address messages to users at this location. For example, if the mailbox prefix is 22 and the user's mailbox number is 6565, local users address the user by dialing 226565. These prefixes do not have any overlap with the location's mailbox numbers. You can enter up to two prefixes. Either prefix can be used to address any mailbox at this location. Normally, however, only one prefix is required. The mailbox prefixes can be any number provided that they do not conflict with other network data.
Default	None

Recording names for remote sites and locations

Introduction

Use the [Voice] softkey to record a spoken name for remote sites or locations in the network. Your recording is played to identify the remote site or location when users compose messages to or receive messages from users at the remote site or location.

This topic explains how to record names for remote sites and locations.

Where the [Voice] softkey is found

The [Voice] softkey is available on the

- Add Remote Site and View/Modify Remote Site screens
- Add Remote Location and View/Modify Remote Location screens

Recording a verification

When you record a verification for a remote site or location, the “Spoken name recorded (Voice)” field that appears on the Add and Modify screens is set to Yes. When there is no recording, this field is set to No.

Note: The “Spoken name recorded (Voice)” field does not appear if the “Dialing plan” field is set to CDP and the “Mailbox numbering follows dialing plan” field is set to Yes.

Requirement

You need a telephone set to record spoken names. Ensure that a phone set is available near the administration terminal where you are working.

How the dialing plan affects the verification

If a remote site or location is part of a CDP dialing plan only, and the “Mailbox numbering follows dialing plan” field is set to Yes, the [Voice] softkey does not appear and you cannot record a spoken name.

How the dialing plan affects the verification (continued)

If a spoken name is recorded for a remote site or location which is then changed to CDP, and the “Mailbox numbering follows dialing plan” field is set to Yes, the verification is removed. If the dialing plan is changed, the verification must be recorded again.

Before you begin

Before you record the remote site or location name, read the “Making voice recordings” chapter of your *System Administration Guide* (NTP 55x-70x1-30x).

Softkey descriptions

The following table describes the softkeys that are available when you press the [Voice] softkey.

Softkey	Description
[Return]	If you are satisfied with the recording, press this softkey to return to the recording softkeys. When you press [Return], the line is not disconnected (unless you hang up the receiver). This means that if you decide to rerecord or listen to the recording, you do not have to reenter the telephone extension after pressing the [Voice] softkey.
[Play]	Press this softkey to play the recorded verification over the phone.
[Record]	Press this softkey to record the site name. When you press [Record], the [Stop] softkey appears.
[Stop]	Press this softkey to end the recording.
[Delete]	Press this softkey to delete the recorded verification. The system plays a prompt advising you that the recording was deleted.

Softkey	Description
[Disconnect]	If you are satisfied with the recording, press this softkey. When you press [Disconnect], the line is disconnected. If you press [Voice] to access the recording softkeys again, you will have to reenter the telephone extension.

Procedure

To record a site or location name, follow these steps.

Starting Point: A Remote Site Maintenance screen for sites or locations

Step Action

- 1 Press [Voice].
Result: The system asks you to enter a phone number.
- 2 Enter the number of the phone set you are going to use to record a spoken name.
Result: The row of softkeys changes to display a set of recording softkeys.
- 3 Pick up the handset of the phone.
Result: After a slight pause, the [Record] softkey appears.
- 4 Press [Record].
Result: The [Stop] softkey appears.
- 5 Wait for the beep and record the site name.
- 6 Press [Stop] to stop the recording when you are finished.
- 7 Press [Play] to listen to the recording.
- 8 Are you satisfied with the recording?
If yes, press [Disconnect].
If no, press [Delete], and go back to step 4.

Chapter 7

Testing the network

In this chapter

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Overview of this chapter

Introduction

This chapter explains how to verify that the network is working properly. To do this, the following types of tests are done:

- local site tests
- local and remote site tests

Local site tests

Local site tests verify that everything is working properly at your site. The following table shows descriptions of the various types of tests that are performed while implementing networking at your site.

Test name	Description
Call routing access test	The call routing access test verifies that the networking service • can make outbound calls to other sites in the network • <i>cannot</i> make outbound calls to numbers that should be restricted ACD agents must not be allowed to access trunks directly. They must use the NARS/BARS database on the switch to make outbound calls. 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 perform the test For instructions, see “Testing call routing access” on page 7-5.

Test name	Description
ACD/UCD agent test	The ACD/UCD agent test verifies that the ports on Meridian Mail are working and 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 is available. For instructions, see “Testing the ACD/UCD agents” on page 7-8.
Modem connection test	The modem connection is tested to ensure that it is working.
• Networking Voice Services Directory Number (VSDN) test • modem and dataport test	The networking VSDN and modem/dataport test verifies that Meridian Networking is responding and that the modem conference session is working. The test (known as an incalling test) is successful when the modem answers and you hear the modem tone. For instructions, see “Testing the modem connection” on page 7-14.
Modem verification test	The modem verification test is a loop-back test that verifies that the local site can receive messages. This test dials out of the switch, and then reenters it and terminates on the networking DN. The number dialed is the telephone number that other sites dial to reach the local site. You need the following in order to perform this test: • one outbound trunk • one inbound trunk • two 2500 set lines: one for the outgoing call, and one for the incoming call. Sites with only one modem cannot perform the test. For instructions, see “Performing the modem verification test” on page 7-18.

Local and remote site tests

Local and remote site tests verify that everything is working properly at both your site and at each remote site. The following table shows descriptions of the various types of tests that are performed throughout the implementation of networking at remote sites.

Test name	Description
End-to-end test	The end-to-end test verifies that the remote site can receive messages from the local site. This test is done by composing and sending a message to a mailbox at the remote site. It is performed after each remote site (or NMS location at a remote site) has been added to the network (and added to the network database at the local site). For instructions, see “Sending a message to a remote site (end-to-end test)” on page 7-22.

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.

For a flowchart that explains how Meridian 1 calls are processed, see Chapter 9, “Really understanding how Meridian Networking works”.

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:
 - “Configuring the Meridian 1 for systems using AML”
 - “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.
For instructions, see the *X11 input/output guide* (NTP 553-3001-400).
- 4 Dial a network address.

IF the	THEN enter the following
mailbox numbering is the same as user DNs (dialing plan)	<i>For ESN:</i> ESN access code, ESN location code, and mailbox number Example: 63387460 <i>For CDP:</i> DN of user at remote site (CDP steering code and mailbox number) Example: 737673 <i>For Hybrid:</i> use ESN or CDP as appropriate
mailbox numbering is not the same as user DNs (dialing plan) or the dialing plan is None	dialing prefix and mailbox number Example: 95977460 or 914165977460.

- 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.

Step Action

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 correctly defined.

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.	• “Procedure: Preparing for the test” on page 7-9 • “Procedure: Verifying port status” on page 7-10 • “Procedure: Testing the agents with the DSP Port Status screen” on page 7-11
Use a digital display telephone.	• “Procedure: Preparing for the test” on page 7-9 • “Procedure: Verifying port status” on page 7-10 • “Procedure: Testing the agents with the digital display telephone set” on page 7-12

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.

Procedure:
Preparing for the test

Before you can perform the test, you need to do some preparation. 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).
 - 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) IDObtain 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.
-

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).

Result: A screen similar to the following is displayed.

System Status and Maintenance

DSP Port Status for Node 1 (C=Card D=DSP P=Port)

System Status: InService Alarm Status: Critical=Off Major=Off Minor=Off

C-D-P DSP Port Status

4-1-* 1-Idle 2-Idle

5-1-* 3-Idle 4-Idle

Select a softkey >

Exit

Enable Port

Disable Port

Courtesy
Disable Port

Change to
Range Mode

2

Ensure that the ports you want to test show Idle or Active as the status.

If they do not, then enable them.

3

Perform the test.

For instructions, see one of the following:

 - “Procedure: Testing the agents with the DSP Port Status screen” on page 7-11
 - Do not exit the DSP Port Status screen.
 - “Procedure: Testing the agents with the digital display telephone set” on page 7-12

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**Procedure:
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.
Result: 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 that 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 "Procedure: What to do if the test fails" on page 7-13.
 - If no, then all agents worked correctly. The test was successful.
-

Procedure:
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. Result: 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 that 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 "Procedure: What to do if the test fails" on page 7-13. • If no, then all agents worked correctly. The test was successful.

Procedure:
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 xxxxxxxx (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 modem connection

Introduction

Once you have performed the following tasks:

- configured and installed the modem (done in Chapter 3, “Installing the hardware”)
- configured the 500/2500-line card port (on the Meridian 1) or a port on a 6X17 line card on the PBX/DMS
- configured the networking data port in Meridian Mail (done in Chapter 6, “Configuring Meridian Mail”)

you need to test the modem connection to ensure that it is working.

Procedure

To test the modem connection, do the following at a telephone set.

Step	Action
1	Dial the modem DN. Result: You should hear ring-back, but no answer.
2	Watch the modem. Result: The Auto Answer light on the modem (AA) should flash intermittently.
3	Hang up.
4	Did you receive the results in both steps 1 and 2? • If yes, the test was successful. • If no, do the following: a. Check the physical connection (Meridian Mail data port cable to modem). b. Check the directory number in both the Meridian 1 and in Meridian Mail, and ensure that they match. c. Repeat steps 1 to 3.

Testing the Meridian Networking VSDN, modems, and data ports

Introduction

This test actually verifies that Meridian Networking is responding and that the “modem conference” session is working.

The test (known as an incalling test) is successful when the modem answers and you hear the modem tones.

How it works

When you call the networking VSDN, Meridian Mail responds, expecting to “talk” to the networking modem at a remote site. Consequently, a modem is conferenced in and modem tones can be heard.

This test will also confirm that each modem is configured correctly, and is accessible for Meridian Networking. A modem will respond, in cycle, each time you dial the networking VSDN.

Example: If you have four modems, dialing the networking VSDN will get a modem to answer. Dial the networking VSDN again to get the next modem to answer, until all four modems have responded.

The modems respond in dataport number order (as defined in the hardware database). For example, if the data ports are

- 2-3-3
- 2-3-4
- 4-3-3
- 4-3-4

and the first modem to respond is 2-3-4, the next modem to respond will be 4-3-3, then 4-3-4, then 2-3-3.

Why the test might fail

If any modem does not respond, there is a problem with one or more of the following

- the dataport (hardware)
- dataport configuration (that is, modem DN)
- modem
- telephone line

If no modem responds, it is likely that the VSDN is not configured correctly.

When to perform this test

This test is performed after

- the networking modem has been installed and configured
- the ACD/UCD DN (service queue) has been defined in the switch
- the networking DN has been defined in the Voice Service Directory Number (VSDN) table
- the networking modem connection has been tested

The networking VSDN is tested before the modem verification test is performed.

ATTENTION

Do not skip this test.

If you do not perform this test, and if one or more modems or data ports are faulty or defined incorrectly, you may not realize it once the network is up and running. Traffic may not be affected, and faulty or incorrectly configured modems and data ports are not reflected on Operational Measurement reports.

Procedure:
Testing the
networking VSDN

To test the networking VSDN, do the following at a telephone set.

Step Action

- 1 Dial the networking DN.
Result: You receive the modem tone.
 - 2 Hang up.
Result: The call is disconnected; the modem continues operating for a few seconds more before it quits.
-

Procedure:
What to do if the test
fails

If you do not receive the modem tone, do the following.

Step Action

- 1 Ensure that the ACD/UCD DN in the switch and the networking DN in the VSDN table are identical.
 - 2 Ensure that the dataport DN is valid and defined correctly.
 - 3 Ensure that the modem is turned on and configured correctly.
 - 4 If steps 1 through 3 are okay, move the modem and telephone line to another data port and perform the test again.
If the modem responds on the new data port, there may be a hardware problem with the other data port.
-

Performing the modem verification test

Introduction

The modem verification test is a loop-back test that verifies that the local site can send and receive messages.

This test dials out of the switch, and then reenters it and terminates on the networking DN. The number dialed is the telephone number that other sites dial to reach the local site.

Two modems (one for the outgoing call, and one for the incoming call) are conferenced in and a test message is delivered between them.

When to perform the test

The modem verification test is performed after

- the networking modem connection has been tested
- the Meridian Networking VSDN has been tested

Note: If all previous tests were successful, then this test should also be successful.

This test can also be performed if the local site has been modified, or is experiencing problems. Message delivery to other sites is delayed while the test is performed, and resumes after the test is completed.

What you need

You need the following in order to perform this test:

- one outbound trunk
- one inbound trunk
- two networking modems that have been configured on the Meridian Mail Modify Dataport Configuration screen.

Sites with only one modem cannot perform the test.

How it works

When the modem verification test is initiated, a message is automatically created and submitted for delivery. The networking call is placed and Meridian Networking accepts the incoming call.

IF the connection	THEN
fails	the modem verification test retries the number. If failure persists for ten minutes, the test is abandoned and you are informed. Consult the SEER for the specific reason for failure.
is successful	the message is transferred. Upon transfer completion, the modem verification feature • verifies that the message has been received and is valid • informs you of the test results

Softkey description table

The following table describes the softkeys on the Modem Verification Test screen.

Softkey	Description
[Perform Test]	Press this softkey to initiate the test.
[Cancel]	Press this softkey if you no longer want to perform or continue with the test.

Procedure To perform the modem verification test, do the following.

ATTENTION

The modem verification test will terminate any active transfers with other sites.

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

Step Action

- 1

Select Network Administration.
Result: The Network Administration menu is displayed.
- 2

Select Modem Verification Test.
Result: The Modem Verification Test screen is displayed.



- 3

Type the following:
 - trunk access code (for example, 9 or 6 for ESN)
 - Meridian Networking DN**Note:** The DN cannot be a local extension number.

Step Action

- 4 Do you want to continue with the test?
- If yes, press [Perform Test]
Result: The test is initiated. See "How it works" on page 7-19 for more information.
 - If no, press [Cancel]
Result: You are returned to the Network Administration menu.
Note: You may cancel the test at any time.
-

What to do if the test fails

If the test fails, consult the SEER log for the specific reason or reasons.

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

Introduction

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

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

When to perform this test

This test is performed after each remote site (or NMS location at a remote site) has been added to the network.

Before you begin

Before you perform this test, you should change the wakeup interval and batch threshold settings on the Networking Configuration screen to 1 at both the local and remote sites. For instructions, see Chapter 10, “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 Networking Configuration screens so that you have a copy of the original configuration.

ATTENTION

Once you are satisfied that all remote sites are correctly configured, ensure that you reset the wakeup interval and batch threshold to their previous settings.

Procedure:
Performing the end-to-end test

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

Step Action

- 1 Log in to a mailbox.
- 2 Press 75 to compose a message.
- 3 Enter the network address for a mailbox at the remote site.

IF the	THEN enter the following
mailbox numbering is the same as user DNs (dialing plan)	<i>For ESN:</i> ESN access code, ESN location code and mailbox number Example: 63387460 <i>For CDP:</i> DN of user at remote site (CDP steering code and mailbox number) Example: 737673 <i>For Hybrid:</i> use ESN or CDP as appropriate
mailbox numbering is not the same as user DNs (dialing plan) or the dialing plan is "None"	mailbox prefix and mailbox number

- 4 Press #.
 If Meridian Mail responds with "There is no mailbox at xxx", do the following:
 - a. Ensure that the ESN prefix or CDP steering code is correct.
 - b. Ensure that the "number of digits in local mailbox number" is large enough.
- 5 Press # again.
- 6 Press 5 (to record a message).
- 7 Record the message, then press # (to stop recording).
- 8 Press 79 to send the message.
- 9 Log out of Meridian Mail and hang up.

Step Action

10	Watch the Network Status screen (and 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".
11	Log in to the remote site mailbox and listen to the message. Note: If you cannot perform this step yourself, get the site administrator to do it.
12	Wait for the acknowledgment message to be returned to you.
13	Log in to the local mailbox and listen to the acknowledgment.

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 site mailbox - an acknowledgment was delivered to the local mailbox
failed	you receive a non-delivery notification indicating that the message could not be delivered. Listen to the non-delivery notification (NDN) message to determine why it was not delivered.

Confirming the delivery of the message

To confirm that the message was indeed delivered to the remote site, log in to the remote mailbox and read the message, or ask the administrator at the remote site to log in and read the message.

Procedure:
What to do if the test fails

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

Step Action

- 1 Ensure that the mailbox at the remote site does exist.
- 2 Ensure that you addressed the message correctly.
- 3 What did the non-delivery notification message say?

IF the NDN said	THEN
it took too many attempts to send the message	the cause may be: • incorrect message transfer protocol • incorrect site ID • incorrect connection DN • incorrect passwords • the remote site is disabled
the address was incorrect	the message was sent to the remote site but could not be delivered. The cause may be: • the mailbox does not exist • wrong mailbox number was used • the "Receive composed messages" field in the Class of Service Administration screen is set to No • the disk at the remote site is full

- 4 Consult the SEERs for descriptions of non-delivery reasons. Since all previous tests have succeeded, the probable cause of the error is with the remote site information.

The following are examples of errors:

- Incorrect password pairs were assigned between sites.
 - Channels were not available.
 - Addresses were incorrect.
 - Connection DNs do not terminate on the networking DN.
 - A remote site that is not yet operational was specified.
-

Chapter 8

Creating a backup of the system

In this chapter

Overview of this chapter	8-2
Section A: Creating a backup of Meridian Mail	8-3
Section B: Creating a backup of the switch	8-19

Overview of this chapter

Introduction

After you have configured your Meridian Mail network and it is working properly, you should create a backup record of it.

This chapter explains

- why a backup of the network database is required
- how to perform a system backup of
 - Meridian Mail
 - your switch
- how to obtain printouts of networking information

Why a backup is important

A backup is extremely important; if your Meridian Mail system or switch ever experiences a disk failure and your data is lost, the backup is used to restore the system.

A backup should be done

- immediately after the network is configured and working properly
- whenever changes are made

Definition: system backup

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 if system problems are experienced.

Definition: network information printouts

The networking information printouts consist of

- *for Meridian Mail:* site and networking configuration information
- *for the switch:* dialing plan information

Section A **Creating a backup of Meridian Mail**

In this section

Overview of this section	8-4
Backing up Meridian Mail	8-5
Printing Meridian Mail network information	8-6

Overview of this section

Introduction

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

- system backup
- network database printouts

System backup

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

A backup of the system should be done on a regular basis.

Network database printouts

There are two types of printouts for the network database. They are

- site information
- networking configuration information

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 the following:

- volume 1 (this is where the network database is located)
- user volumes (for remote voice users)

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).

ATTENTION

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.

Note: The printouts are also handy for sending or faxing to other sites when they are configuring Meridian Mail for networking.

Types of printouts

There are three types of networking printouts you can get from Meridian Mail. They are

- site information (for both the local and remote sites)

This printout is obtained by using the [Print Network Data] softkey on the Network Administration menu.

Note: If the printer is assigned to the RSM printer port, the [Print Network Data] softkey will not work (that is, the report will not print).

On the General Options screen, temporarily remove the printer name from the SEER and Reports Printer Port Name fields. Print the data listing, then reinstate the printer port name fields to their previous settings.

- networking configuration information
This printout is obtained by printing the Networking Configuration screens on the MMI.
- data port configuration information
This printout is obtained by printing the Modify Dataport Configuration screen on the MMI.

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 site information printout	“Procedure: Printing the site information” on page 8-8.
how to obtain the networking configuration printout	“Procedure: Printing the networking configuration information” on page 8-11.
how to obtain the data port configuration printout	“Procedure: Printing the data port configuration information” on page 8-13.
what to do with the printouts	“Procedure: What to do with the printout” on page 8-17.
how to restore Meridian Mail with information from the printouts	“Procedure: Restoring the networking information from the printouts” on page 8-18.

Procedure:
Printing the site
information

To print the site information, do the following.

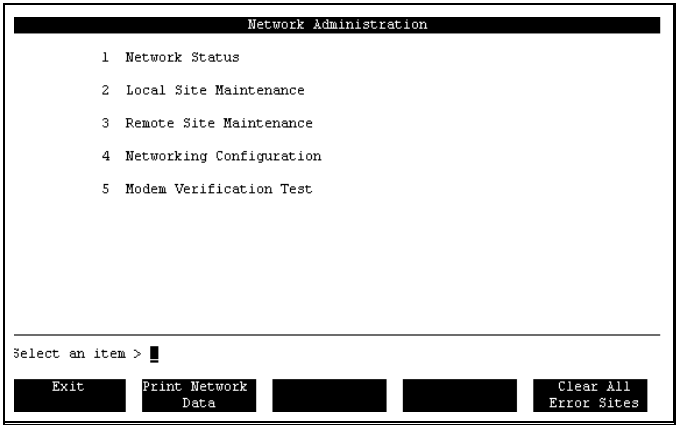
Starting Point: Main Menu

Step Action

- 1 Select Network Administration.
- 2 Do one of the following:

IF you	THEN
have AMIS Networking	select Meridian Mail Networking Administration from the submenu that appears, then go to step 3.
do not have AMIS Networking	go to step 3.

Result: The Network Administration menu appears.

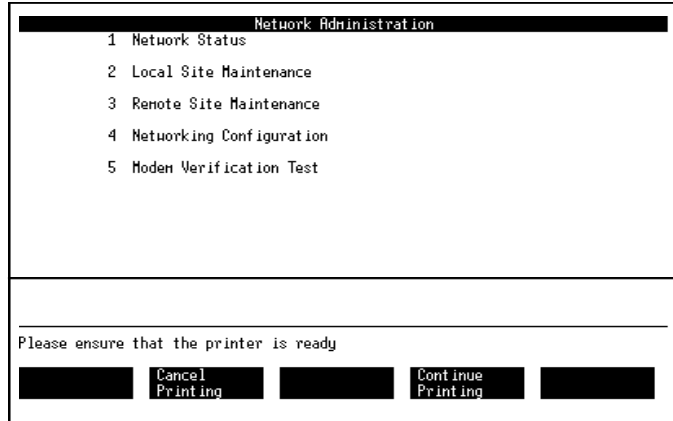


Step Action

- 3 Press [Print Network Data].

Result: The following message is displayed:

Please ensure that the printer is ready
and the [Cancel Printing] and [Continue Printing] softkeys are displayed.



- 4 Ensure that the printer
- is enabled for printing
 - is loaded with paper
- 5 Do you want to continue printing?
If yes, press [Continue Printing].

Result: The Meridian Mail Network Data Listing is printed on your printer. A sample of the printout follows this procedure.

When printing is completed, the Network Administration menu shown in step 2 is displayed.

If no, press [Cancel Printing].

Result: The Network Administration menu shown in step 2 is displayed.

- 6 Go to the next procedure (see "Procedure: Printing the networking configuration information" on page 8-11).
-

**Sample:
Meridian Mail Network
Data Listing**

The following is an example of the Meridian Mail Network Data Listing (site information) printout.

```
-----
Meridian Mail Network Data Listing
-----

REMOTE SITE: Enterprise Networking site      89

Networking is ENABLED

Initiating Password : password
Responding Password : password

Connection number 1 : 627893653
                  number 2 : 627893653
                  number 3 : 627893653
                  Ottawa

No spoken name present

Mailbox numbering follows dialing plan

Numbering Plan      ESN CDP  Hybrid  none

ESN Access codes :  62

Local MB length :                      4

ESN prefix overlap with local extension :      0

ESN prefix :          62789
```

Procedure:
Printing the
networking
configuration
information

To print the networking configuration information, do the following.

Starting Point: Network Administration menu

Step Action

- 1 Select Networking Configuration.

Result: The Networking Configuration screen is displayed.

Network Administration		
Networking Configuration		
Networking Scheduling Parameters		
Economy class initiation time	(hh:mm):	<u>18:00</u>
Economy class stale time	(hh:mm):	<u>06:00</u>
Standard class holding time	(hh:mm):	<u>03:00</u>
Standard class stale time	(hh:mm):	<u>09:00</u>
Urgent class holding time	(hh:mm):	<u>00:30</u>
Urgent class stale time	(hh:mm):	<u>01:30</u>
Batch threshold:		<u>20</u>
Wakeup interval (mins) :		<u>5</u>
Network Broadcast Mailbox: 627865555		
Meridian Networking Configuration		
MORE		
Save	Cancel	

- 2 Press the <Print> key on your keyboard.

Result: The screen is printed on your printer.

Step Action

- 3 Press <PageDown> to display the rest of the fields.

Result: The following screen is displayed.

Network Administration		MORE
Networking Configuration		
Batch threshold:	20	
Wakeup interval (mins) :	5	
Network Broadcast Mailbox: 627865555		
Meridian Networking Configuration		
Maximum number of ports for Meridian Networking:	4	
Enterprise Networking Configuration		
Maximum number of ports for Enterprise Networking:	4	
Receive the message text information:	No Yes	
Add/Update Remote Voice Users:	No Yes	
Remote Voice User Default Settings		
Name dialable by external callers:	No Yes	
Maximum number of temporary remote voice users:	1000	
Save Cancel		

- 4 Press the <Print Screen> key on your keyboard.

Result: The screen is printed on your printer.

- 5 Press [Cancel] to return to the menu.

Result: The Network Administration menu is displayed.

Procedure:
Printing the data port configuration information

To print the data port configuration information, do the following.

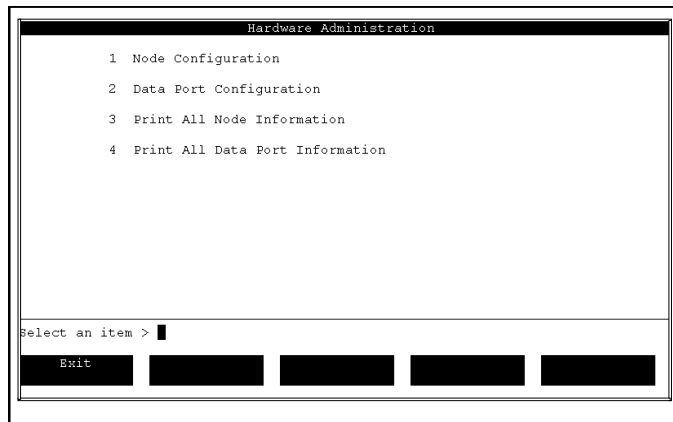
Starting Point: The Main Menu

Step Action

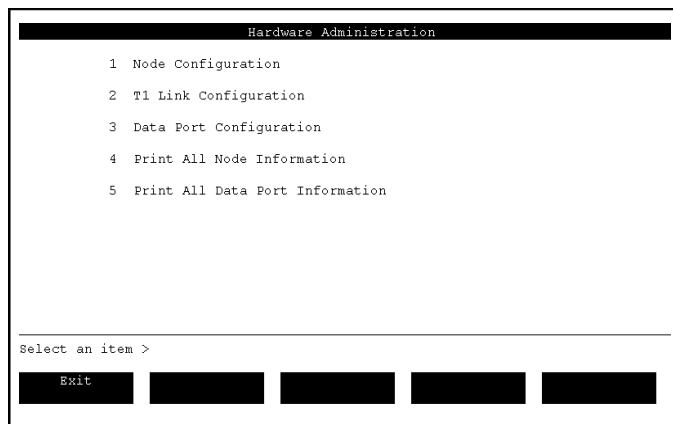
- 1 Select Hardware Administration.

Result: The Hardware Administration menu is displayed.

For all platforms except MSM:



For the MSM platform:



Step Action

2 Select Data Port Configuration.

Result: The Data Port Configuration screen is displayed.

For Card Option, Modular Option, and Modular Option GP:

Hardware Administration

Data Port Configuration

Port Location	Description	Device Type	Status
1-3-1	Node 1 MMP40 Port 1	Terminal	InService
1-3-2	Node 1 MMP40 Port 2	AML/CSL	InService
1-8-1	Node 1 RSM Port 1	Printer	InService
1-8-2	Node 1 RSM Port 2	MMLink	InService
1-8-3	Node 1 RSM Port 3	NWModem	Faulty
1-8-4	Node 1 RSM Port 4	NWModem	InService

Move the cursor to the data port location and press the space bar to select.

ExitView/Modify

For Modular Option EC and EC 11:

Hardware Administration

Data Port Configuration

Port Location	Description	Device Type	Status
1-6-1	Node 1 UTIL Port 1	MMLink	InService
1-6-2	Node 1 UTIL Port 2	AdminPlus	InService
1-6-3	Node 1 UTIL Port 3	NWModem	InService
1-6-4	Node 1 UTIL Port 4	NWModem	InService
1-7-1	Node 1 MMP40 Port 1	Terminal	InService
1-7-2	Node 1 MMP40 Port 2	AML/CSL	InService
2-1-1	Node 2 MMP40 Port 1	Printer	InService
2-1-2	Node 2 MMP40 Port 2	Printer	InService
3-6-1	Node 3 UTIL Port 1	Terminal	InService
3-6-2	Node 3 UTIL Port 2	Printer	InService
3-6-3	Node 3 UTIL Port 3	NWModem	InService
3-6-4	Node 3 UTIL Port 4	NWModem	InService
3-7-1	Node 3 MMP40 Port 1	Printer	InService
3-7-2	Node 3 MMP40 Port 2	Printer	InService
4-1-1	Node 4 MMP40 Port 1	Printer	InService

Move the cursor to the data port location and press the space bar to select.

ExitView/Modify

Step Action

- 2 (continued)
For MSM:

Hardware Administration			
Data Port Configuration			
Port Location	Description	Device Type	Status
1-2-1	Node 1 SBC Port 1	Terminal	InService
1-2-2	Node 1 SBC Port 2	Terminal	InService
1-2-3	Node 1 SBC Port 3	Printer	InService
1-2-4	Node 1 SBC Port 4	Printer	InService
2-3-1	Node 2 SBC Port 1	Terminal	InService
2-3-2	Node 2 SBC Port 2	Terminal	InService
2-3-3	Node 2 SBC Port 3	Terminal	InService
2-3-4	Node 2 SBC Port 4	Printer	InService
3-1-1	Node 3 SBC Port 1	MMLink	InService
3-1-2	Node 3 SBC Port 2	Terminal	InService
3-1-3	Node 3 SBC Port 3	Terminal	InService
3-1-4	Node 3 SBC Port 4	AdminPlus	InService
4-3-1	Node 4 SBC Port 1	MMLink	InService
4-3-2	Node 4 SBC Port 2	Printer	InService
4-3-3	Node 4 SBC Port 3	NWModem	InService

Move the cursor to the data port location and press the space bar to select.

Exit

View/Modify

- 3 Use the cursor keys to move to the NWModem port you want to view, then press <Space Bar> to select it.
Result: Your selection is highlighted.
- 4 Press [View/Modify].
Result: The Modify Data Port screen for that port is displayed.

Hardware Administration	
Modify Data Port	
Data Port Location:	1-6-4
Device Type:	NWModem
Device Name:	MOD0164
Network Modem DN:	3655
Select a softkey >	
Save	Cancel

Step Action

- 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.

Result: The Data Port Configuration screen appears.

Procedure:
What to do with the printout

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

Step Action

- 1 Record today's date on each of the printouts.
 - 2 Create the following file folders:
 - Meridian Mail Network Data Listing for the site
 - Meridian Mail Networking Configuration Information
 - Meridian Mail Dataport Configuration Information
 - 3 Put the printouts into the labeled file folders.
 - 4 Store the file folders in a secure location.
-

Procedure:
Restoring the
networking
information from the
printouts

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

Note: The site information printout does not match the way the site maintenance screens are laid out.

Step Action

-
1	Complete the following site data entry forms (as required) from the Meridian Mail Network Data Listing: • NWP-024, "Meridian Mail Network Information—Local Site Maintenance" • NWP-025, "Meridian Mail Network Information—Remote Site Maintenance" • NWP-026, "Meridian Mail Network Information—Remote NMS Location Maintenance" Copies of these forms can be obtained (and photocopied) from Appendix A, "Networking implementation forms", at the back of this manual.
2	Reenter the information into Meridian Mail. Use the following: • Meridian Mail Network Information site maintenance forms • networking configuration printout • data port configuration printout For instructions, see one of the following chapters: • Chapter 6, "Configuring Meridian Mail" • Chapter 10, "Maintaining the network"
-

Section B **Creating a backup of the switch**

In this section

Overview of this section	8-20
Backing up the switch	8-21
Printing switch network information	8-22

Overview of this section

Introduction

This section explains how to create a backup set of networking records for your switch. There are two types of backup records:

- system backup
- switch configuration printouts

System backup

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

A backup of the system should be done on a regular basis.

Switch configuration printouts

For Meridian Networking, the switch configuration printouts are a hard copy record of the dialing plan used in the network.

You should print the dialing plan information even though you may have performed a backup of your switch. 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.

When the backup should be done

You should perform the backup

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

Backing up the switch

Introduction

After you have configured your switch with the dialing plan 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 the backup should be performed

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 <i>X11 input/output guide</i> (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.

Printing switch network information

Introduction

It is a good idea to print the information for networking even though you may have performed a backup of your switch.

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.

Reference

See Chapter 2, “Gathering information for the network,” for instructions on

- printing information related to networking from the switch
- and
- what to do with the printouts

Chapter 9

Really understanding how Meridian Networking works

In this chapter

Overview of this chapter	9-2
Section A: Understanding call processing	9-5
Section B: Understanding how messages are transferred between sites	9-15

Overview of this chapter

Introduction

This chapter explains

- how the Meridian 1 processes ESN and CDP calls
- how Meridian Mail initiates network calls to other sites in the network
- how Meridian Networking transfers messages

How CDP and ESN calls are processed

This chapter provides a high-level description of how ESN and CDP calls are processed by the Meridian 1. Calls are processed by using the elements described in “What a dialing plan needs in order to work” in Chapter 1, “Understanding Meridian Networking”.

For both ESN and CDP, the Meridian 1 process is

- summarized in a flowchart
- described in detail

When messages are sent

Network calls are not initiated by Meridian Mail until one of the following occurs:

- The economy class initiation time is reached.
- Holding times are reached for standard and urgent messages.
- The batch threshold is reached or exceeded for standard and urgent messages.

How messages are transferred

When the call is terminated on the network connection DN at the receiving site, both sites conference in their modems. The modems are used to digitally transmit the site data (including site IDs and network passwords) and the message header for each message (including the sender and recipients addresses, and sent time).

How messages are transferred

The voice message is played over the voice port by the sending site and recorded by the receiving site at the same time that the message header information is being sent.

After all messages have been sent, the receiving site checks for messages that need to be sent to the sending site. If there are any, they are sent during the same network call.

Section A **Understanding call processing**

In this section

Overview of this section	9-6
How the Meridian 1 processes ESN calls	9-7
How the Meridian 1 processes CDP calls	9-12

Overview of this section

Introduction

This section provides a high-level description of how ESN and CDP calls are processed by the Meridian 1. Calls are processed by using the elements described in “What a dialing plan needs in order to work” in Chapter 1, Understanding Meridian Networking”.

How the information is presented

For both ESN and CDP, the process used by the Meridian 1 is

- summarized in a flowchart
- described in detail

How the Meridian 1 processes ESN calls

Introduction

This topic provides a high-level description of how ESN calls are processed by the Meridian 1. Calls are processed by using the following elements:

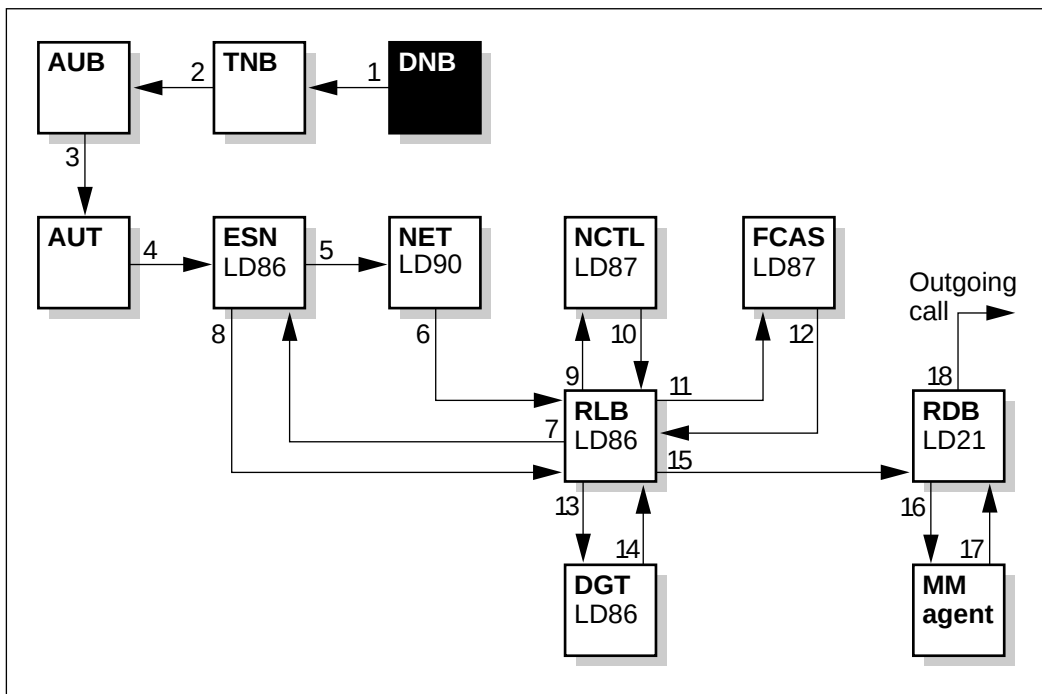
- ESN data block
- access codes
- time-of-day schedules
- network translation tables
- steering codes
- route lists
- network class of service groups
- free calling area screening tables
- digit manipulation tables

These elements are described in “What a dialing plan needs in order to work” in Chapter 1, Understanding Meridian Networking”.

**Flowchart:
process**

The following flowchart shows a high-level overview of how the Meridian 1 processes an ESN call. The flowchart shows the Meridian 1 overlays that are being used. At stage 18, an outgoing call was successfully completed.

A description of each stage follows the flowchart.



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Description: The following describes how an ESN network call is processed by the Meridian 1. The process begins when a station user or Meridian Mail initiates the call.

process

Stage	Data block	Description
1	directory number block (DNB)	The Meridian 1 determines if SPRE+6+Authcode is dialed. • If yes, it proceeds to the AUB data block (stage 3). • If no, it checks to see if the number dialed is a NARS access code (AC1). If yes, it proceeds to the ESN data block (stage 5). If no, the call cannot access NARS; the call is blocked.
2	terminal number block (TNB)	The Meridian 1 determines the following on the originating station: • network class of service (NCOS) • class of service (CLS) • trunk group access restriction (TGAR)
3	authorization code (AUB)	The Meridian 1 performs some validation on AUB that is unrelated to networking.
4	authorization code entries (AUT)	The Meridian 1 performs some validation on AUT that is unrelated to networking. The station user dials access code 1 (AC1) and the Meridian 1 returns to stage 1.
5	ESN data block (ESN)	The station user (Meridian Mail) completes dialing the call. The Meridian 1 checks the network time and date and compares them with the time-of-day schedules. Then, it identifies and stores the time-of-day schedule number that applies, and checks to see if routing control is in effect. • If yes, it checks the station data block (Meridian Mail agent) and identifies the original NCOS of the station. It identifies and stores the alternate NCOS to replace the original NCOS. It goes to the appropriate translation table (stage 6). • If no, the Meridian 1 accesses the appropriate translation table (stage 6).

Stage	Data block	Description
6	network translation (NET)	The Meridian 1 locates the digits dialed after the access code. • If the digits are found, it identifies the route list index number and stores it. The Meridian 1 checks to see if supplemental digit restriction or recognition (SDRR) applies. If part or all of remaining digits are denied, the call is sent to intercept as a NARS-restricted call. If SDRR does not apply, the call continues to the route list data block (stage 7). • If the digits are not found, the call is sent to intercept as invalid NARS translation.
7	route list index (RLB)	The Meridian 1 finds the appropriate route list and determines which entries are in the ISET. Then it checks to see if entry 0 is idle. • If yes, it begins checking entry 0's eligibility (stage 8). • If no, it proceeds to the next entry (stage 9).
8	ESN data block (ESN)	The Meridian 1 checks to see if the time-of-day schedule allows access. • If yes, the Meridian 1 proceeds to the network control data block (stage 10). • If no, it proceeds to entry 1 (stage 9).
9	route list index (RLB)	The Meridian 1 checks to see if entry 1 is idle. • If yes, it begins checking entry 1's eligibility (back to stage 8). • If no, it proceeds to entry 2. The Meridian 1 repeats stages 7 to 9 until a time-of-day schedule that allows access is found.
10	network control (NCTL)	The Meridian 1 identifies the FRL of the originating station's NCOS and stores it.
11	route list index (RLB)	The Meridian 1 compares the route list entry's FRL with the NCOS's FRL. If acceptable, the Meridian 1 proceeds to the FCI and checks for a value other than 0. • If FCI is 0, it proceeds to DGT (stage 14). • If FCI is other than 0, it proceeds to FCAS (stage 12).

Stage	Data block	Description
12	free calling area screening (FCAS)	The Meridian 1 checks to see if the NPA dialed is in the FCAS table. • If yes, it checks to see if NXX dialed is allowed or denied. If denied, it proceeds to route list entry 1 (back to stage 9); otherwise, it proceeds to stage 13. • If no, it returns to route list entry 0 to process the call.
13	route list index (RLB)	The Meridian 1 checks the DMI for a number other than 0. • If DMI is 0, it proceeds to stage 15. Note: DMI 0 means that no digit deletion or insertion is performed. • If DMI is other than 0, it proceeds to DGT (stage 14).
14	digit manipulation (DGT)	The Meridian 1 performs appropriate deletions and insertions and returns to the route list index (stage 15).
15	route list index (RLB)	The Meridian 1 determines whether to provide expensive route warning tone. Then it checks the route and proceeds to the route data block.
16	route data block (RDB)	The Meridian 1 identifies the trunk route type. It proceeds to the station data block. In the case of Meridian Networking, this is the Meridian Mail agent (stage 17).
17	Meridian Mail agent	The Meridian 1 identifies the station's COS. • If COS denies the call, it proceeds to the next route list entry (back to stage 9). • IF COS allows the call, it returns to the route data block.
18	route data block (RDB)	The Meridian 1 identifies the trunk route access code at ACOD. Then it • output pulses the trunk route access code, thereby seizing the trunk • output pulses the call's digits and completes the call

How the Meridian 1 processes CDP calls

Introduction

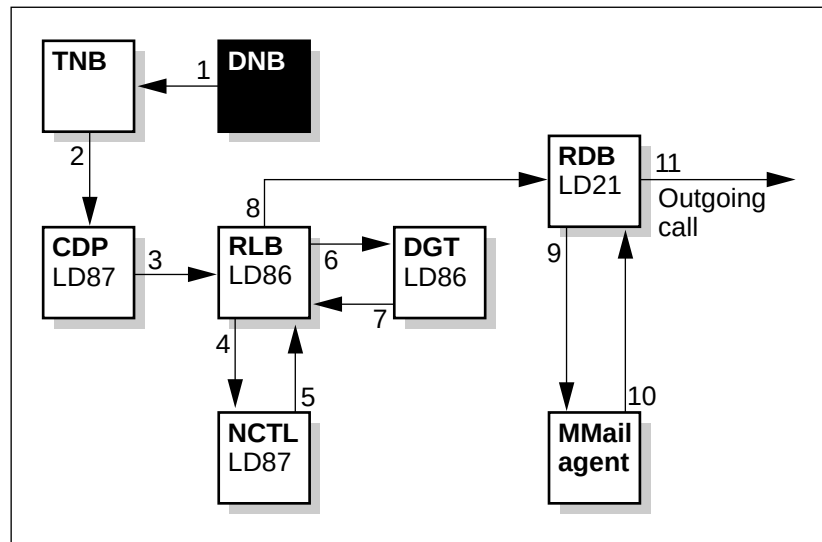
This topic provides a high-level description of how CDP calls are processed by the Meridian 1. Calls are processed by using the following elements:

- time-of-day schedules
- steering codes
- route lists
- network class of service groups
- digit manipulation tables

These elements are described in “What a dialing plan needs in order to work” in Chapter 1, Understanding Meridian Networking”.

Flowchart: process

The following flowchart shows a high-level overview of how the Meridian 1 processes a CDP call. A description of each stage follows the flowchart.



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**Description:
process**

The following describes how an outgoing CDP network call is processed by the Meridian 1. The process begins when a station user or Meridian Mail initiates the call.

Stage	Data block	Description
1	directory number block (DNB)	The Meridian 1 checks to see if the number dialed is a CDP steering code. If yes, it proceeds to the CDP data block (stage 3).
2	terminal number block (TNB)	The Meridian 1 determines the following on the originating station: • network class of service (NCOS) • class of service (CLS) • trunk group access restriction (TGAR)
3	CDP data block (CDP)	The Meridian 1 checks the steering code type. • If the steering code is distant (DSC), the Meridian 1 identifies the route list index number and goes to stage 4. • If the steering code is local (LSC), the Meridian 1 deletes digits according to the DMI defined for the LSC and completes the call.
4	route list index (RLB)	The Meridian 1 finds the appropriate route list and determines which entries are in the ISET. • It checks to see if entry 0 is idle. If yes, it begins checking entry 0's eligibility. If no, it proceeds to the next entry. • It checks the network time and date, and compares them with time-of-day schedules. It identifies and remembers the time-of-day schedule number that applies. • It then proceeds to stage 5.
5	network control (NCTL)	The Meridian 1 identifies the FRL of the originating station's NCOS and stores it. Then it returns to the route list index (stage 6).

Stage	Data block	Description
6	route list index (RLB)	The Meridian 1 compares the route list entry's FRL with the NCOS's FRL. • If acceptable, the Meridian 1 identifies and remembers the route list entry's digit manipulation index table number. If the DMI is not 0, the Meridian 1 proceeds to stage 7. Note: DMI 0 means that no digit insertion or deletion is applied. • If not acceptable, it selects the next route list entry (back to stage 4). The Meridian 1 repeats stages 4 to 6 until an acceptable route list entry is found.
7	digit manipulation (DGT)	The Meridian 1 performs appropriate deletions and insertions and returns to the route list index.
8	route list index (RLB)	The Meridian 1 determines whether to provide expensive route warning tone. Then it checks the route and proceeds to the route data block.
9	route data block (RDB)	The Meridian 1 identifies the trunk route type, then proceeds to the station data block. In the case of Meridian Networking, this is the Meridian Mail agent (stage 10).
10	Meridian Mail agent	The Meridian 1 identifies the station's COS. • If COS denies the call, it proceeds to the next route list entry (back to stage 4). • IF COS allows the call, it returns to the route data block (stage 11).
11	route data block (RDB)	The Meridian 1 identifies the trunk route access code at ACOD. Then it • outpulses the trunk route access code, thereby seizing the trunk • outpulses the call's digits and completes the call

Section B **Understanding how messages are transferred between sites**

In this section

Overview of this section	9-16
Components and criteria used to send and receive messages	9-18
How Meridian Networking calls are set up	9-21
How the modems work	9-27
How messages are transferred	9-29

Overview of this section

Description	This section provides detailed descriptions of • the components used by Meridian Networking to send and receive messages • how Meridian Networking calls to remote sites are initiated by Meridian Mail • how the call is established between network sites • how the modems work • how messages are transferred between sites
What Meridian Networking messages contain	Each message contains the message header and the recorded message. The message header contains the following: • sender's address (site or location ID, mailbox number, and text name) • each recipient's address (site or location ID, mailbox number, and text name) • type of message (regular, acknowledgment, or non-delivery notification [NDN]) • time and date message was sent • any tags that were applied to the message (private, urgent, and acknowledgment) • the actual voice portion of the message • any attachments (including the original sender and recipient address and the original sent time)
How messages are transferred	When the call is terminated on the network connection DN (Meridian Networking VSDN) at the receiving site, both sites conference in their modems. The modems are used to digitally transmit the site information (IDs and passwords) and the message header.

**How messages are transferred
(continued)**

After the message header is transmitted, the recorded message is played over the voice port by the sending site and recorded by the receiving site.

After all messages have been sent, the receiving site checks for messages that need to be sent to the sending site. If there are any, they are sent during the same network call.

Components and criteria used to send and receive messages

Introduction

Meridian Mail uses the following networking components and criteria when sending messages to other network sites:

- the Network Message Transfer Agent (NMTA)
- the Analog Transfer Agent (ATA)
- 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 site
- tracking how many concurrent sessions there are to one site
- receiving incoming messages for delivery to the local site recipients
- placing sites in error (and clearing the error status after one hour)
- collecting the networking traffic operational measurements

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

ATA responsibilities

The ATA is responsible for sending Meridian Networking messages to, or receiving messages from, remote sites. There is one ATA for each active voice port used for a Meridian Networking session.

The ATA reports SEERs under SEER class 37.

Wake-up interval

The wake-up interval defines how often the NMTA

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

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

- initiates calls to remote sites
- checks for stale messages
- checks whether any sites in error status should be cleared

Hint: If your system typically sends one or two short messages (less than one minute in length) to many remote sites, you may wish to lower the wake-up interval value. If your system sends many or longer messages to the same sites, you may wish to increase the wake-up interval value.

Increasing the value will decrease the amount of time Meridian Mail spends administering the network queues, thereby freeing it to do other tasks.

Example: At 5 minutes, the NMTA checks the queues 12 times per hour. At 15 minutes, the NMTA checks the queues just 4 times per hour.

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 cheapest.

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>.

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 Meridian Networking calls are set up

Introduction This topic provides a detailed description of how Meridian Networking initiates a call to a remote site.

When messages are sent Messages are sent as described in “Components and criteria used to send and receive messages” on page 9-18.

Description At the appointed wake-up intervals, Meridian Mail does the following to send messages.

Note: The following description is from the local (sending) site’s point of view.

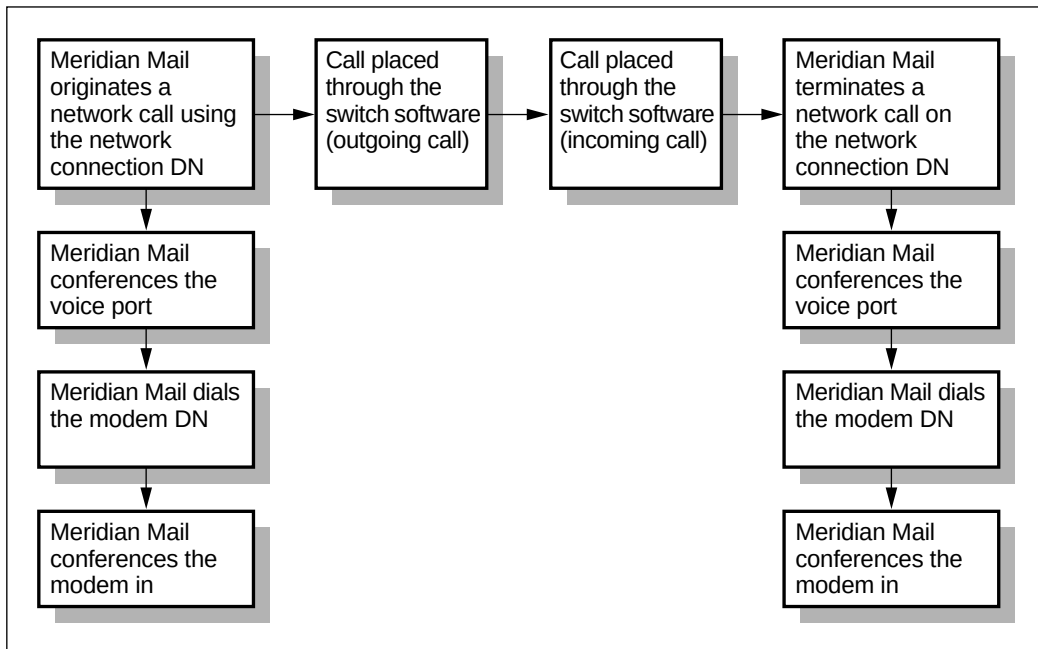
Stage	Description										
1	The NMTA wakes up and checks for messages that need to be sent. If there are messages, the NMTA checks the batch threshold. <table><tr><th>IF</th><th>THEN</th></tr><tr><td>the economy class initiation time is reached</td><td rowspan="4">the system proceeds to stage 2.</td></tr><tr><td>the urgent class holding time has been reached for an urgent message</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 rowspan="2">no network sessions are initiated.</td></tr><tr><td>there are messages but none of the above conditions are met</td></tr></table>	IF	THEN	the economy class initiation time is reached	the system proceeds to stage 2.	the urgent class holding time has been reached for an urgent message	the standard class holding time has been reached for a standard message	the total number of urgent and standard messages is equal to or exceeds the batch threshold	there are no messages	no network sessions are initiated.	there are messages but none of the above conditions are met
IF	THEN										
the economy class initiation time is reached	the system proceeds to stage 2.										
the urgent class holding time has been reached for an urgent message											
the standard class holding time has been reached for a standard message											
the total number of urgent and standard messages is equal to or exceeds the batch threshold											
there are no messages	no network sessions are initiated.										
there are messages but none of the above conditions are met											
2	Meridian Mail originates a network call to the receiving site using the connection DN defined for that site.										

Stage	Description						
3	The call is placed by the switch according to switch call processing parameters.						
4	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. If three attempts in a row fail, then the receiving site is placed into error status, and a SEER is generated. The system waits one hour before repeating the three-call attempt cycle.</td></tr><tr><td>is successful</td><td>the call terminates on the networking connection DN at the receiving site.</td></tr></table>	IF the call attempt	THEN	fails (due to a busy or no answer condition)	the system waits until the next wake-up interval before attempting the call again. If three attempts in a row fail, then the receiving site is placed into error status, and a SEER is generated. The system waits one hour before repeating the three-call attempt cycle.	is successful	the call terminates on the networking connection DN at the receiving site.
IF the call attempt	THEN						
fails (due to a busy or no answer condition)	the system waits until the next wake-up interval before attempting the call again. If three attempts in a row fail, then the receiving site is placed into error status, and a SEER is generated. The system waits one hour before repeating the three-call attempt cycle.						
is successful	the call terminates on the networking connection DN at the receiving site.						
5	Both Meridian Mail systems conference in their respective modem DNs to the voice ports. The modem at the sending site waits for the carrier signal from the modem at the receiving site. Once handshaking is completed, the message transfer session begins. For details, see “How the modems work” on page 9-27.						
6	The sending site identifies itself to the receiving site.						
7	The receiving site verifies that the sending site has been defined in the receiving site’s network database, and that the site ID and the message transfer protocol agree. If the information does not agree, the receiving site informs the sending site of the error and drops the call.						
8	The sending site sends the receiving site ID and the initiating password to the receiving site.						

Stage	Description						
9	The receiving site checks the site ID and the password.<table><tr><th>IF the information</th><th>THEN</th></tr><tr><td>is invalid</td><td>the receiving site informs the sending site that either the site ID or the initiating password is incorrect and drops the call.</td></tr><tr><td>is valid</td><td>the receiving site proceeds to stage 10.</td></tr></table>	IF the information	THEN	is invalid	the receiving site informs the sending site that either the site ID or the initiating password is incorrect and drops the call.	is valid	the receiving site proceeds to stage 10.
IF the information	THEN						
is invalid	the receiving site informs the sending site that either the site ID or the initiating password is incorrect and drops the call.						
is valid	the receiving site proceeds to stage 10.						
10	The receiving site sends the responding password.						
11	The sending site checks the password.<table><tr><th>IF the password</th><th>THEN</th></tr><tr><td>is invalid</td><td>the sending site sends an end-of-session message and drops the call.</td></tr><tr><td>is valid</td><td>both sites proceed to stage 12.</td></tr></table>	IF the password	THEN	is invalid	the sending site sends an end-of-session message and drops the call.	is valid	both sites proceed to stage 12.
IF the password	THEN						
is invalid	the sending site sends an end-of-session message and drops the call.						
is valid	both sites proceed to stage 12.						
12	The sending site starts the message transfer to the receiving site. For details, see “How messages are transferred” on page 9-29.						

**Diagram:
call setup**

The following diagram shows how the network call is made.

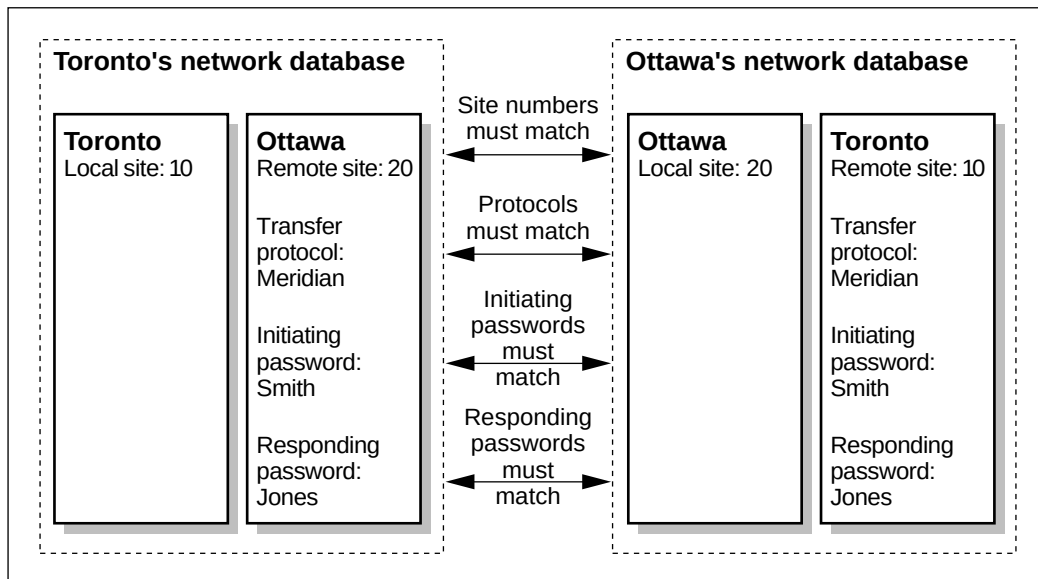


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**Example:
establishing a network
session**

To illustrate the process, here is an example of how a network session is established. Site 10 (Toronto) wants to send messages to site 20 (Ottawa).

The following diagram reviews the site configuration information in each site's network database (as discussed earlier in "How sites communicate" in Chapter 6, "Configuring Meridian Mail").



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The following describes the process.

Site	Action
10—Toronto	Initiates the network call by using the networking connection DN defined for site 20.
20—Ottawa	Answers the call.
10—Toronto	Identifies itself as site 10. Indicates that messages need to be sent using the Meridian Networking protocol.
20—Ottawa	Checks its network database to determine if Site 10 exists as a remote site. • If site 10 does not exist, informs site 10 that the site number is not valid and hangs up. • If site 10 does exist, checks the message transfer protocol to ensure that it matches what site 10 wants to use. — If the message transfer protocol does not match, informs site 10 that the site number, or message transfer protocol, or both, does not match, and hangs up. — If the message transfer protocol does match, informs site 10 that it is okay to proceed.
10—Toronto	Obtains the initiating password defined for site 20. Sends the site number (20) and the initiating password (Smith).
20—Ottawa	Compares the site number (20) with its own local site ID, and the initiating password with the one defined for site 10. If the site ID or password, or both, do not match, informs site 10 that the site number or password, or both, are invalid and hangs up. If the password does match, informs site 10 that it is okay to proceed and sends the responding password (Jones).
10—Toronto	Compares the responding password with the one defined for site 20. • If the password does not match, informs site 20 that the password is invalid and hangs up. • If the password does match, informs site 20 that the password has been accepted and that message transfer is about to begin. Begins message transfer.

How the modems work

Introduction

This topic describes what the modems at both the sending and receiving sites do during a network call. The information in this topic can be used to help confirm that the modems and network connections are working properly.

Description: sending site modem

The following describes what the modem at the sending site does when an outgoing network call is initiated.

Notes:

1. The modem speaker should be turned on.
2. The MR (modem-ready) and TR (terminal-ready) LEDs on the modem should be lit.

Stage	Description
1	The Meridian Mail voice port goes off-hook. The dial tone is heard through the modem speaker. The OH (off hook) LED on the modem lights up.
2	The networking connection DN digits are out-pulsed and heard through the modem.
3	Ring-back is heard.
4	After several rings, the remote site answers the call. The modems send tones to each other.
5	Another beep and long hiss are heard.
6	The CD (carrier detect) LED on the modem lights up.
7	Meridian Mail network call validation begins. The following LEDs flash on the modem: • SD (send data) when sending data • RD (receive data) when receiving data

Description:
receiving site modem

The following describes what the modem at the receiving site does when it receives an incoming network call

Notes:

1. The modem speaker should be turned on.
2. The MR (modem-ready) and TR (terminal-ready) LEDs on the modem should be lit.

Stage	Description
1	The AA (auto answer) LED on the modem flashes once for each ring of the incoming call.
2	The receiving site answers the call. The following occurs: • The OH (off hook) LED on the modem lights up. • A long beep is heard through the modem.
3	Meridian Mail network call validation begins. The following LEDs flash on the modem: • SD (send data) when sending data • RD (receive data) when receiving data

How messages are transferred

Introduction

Once the call has been established (and the modems have been conferenced in), message transfer can begin.

What messages contain

Each message contains the message header and the recorded message. The message header includes (this is only a partial list)

- the sender's mailbox number
- the recipient's mailbox number
- message tag (private, urgent, or acknowledgment)

System distribution lists which contain remote voice users

If a system distribution list (SDL) at a remote site contains remote voice users whose mailboxes reside at other sites in the network, the message that is addressed to the SDL is sent only to the local users at the remote site. The message is not automatically sent to the remote voice users at other remote sites. A non-delivery notification and SEER *are not* generated.

Example: A user in Toronto wants to send a message to a system distribution list in Ottawa. The system distribution list contains local voice users in Ottawa and remote voice users in Montreal. The message sent from the Toronto site is sent only to users in Ottawa. It is not sent to the remote voice users in Montreal.

Description: process

The following is a description of how messages are transferred.

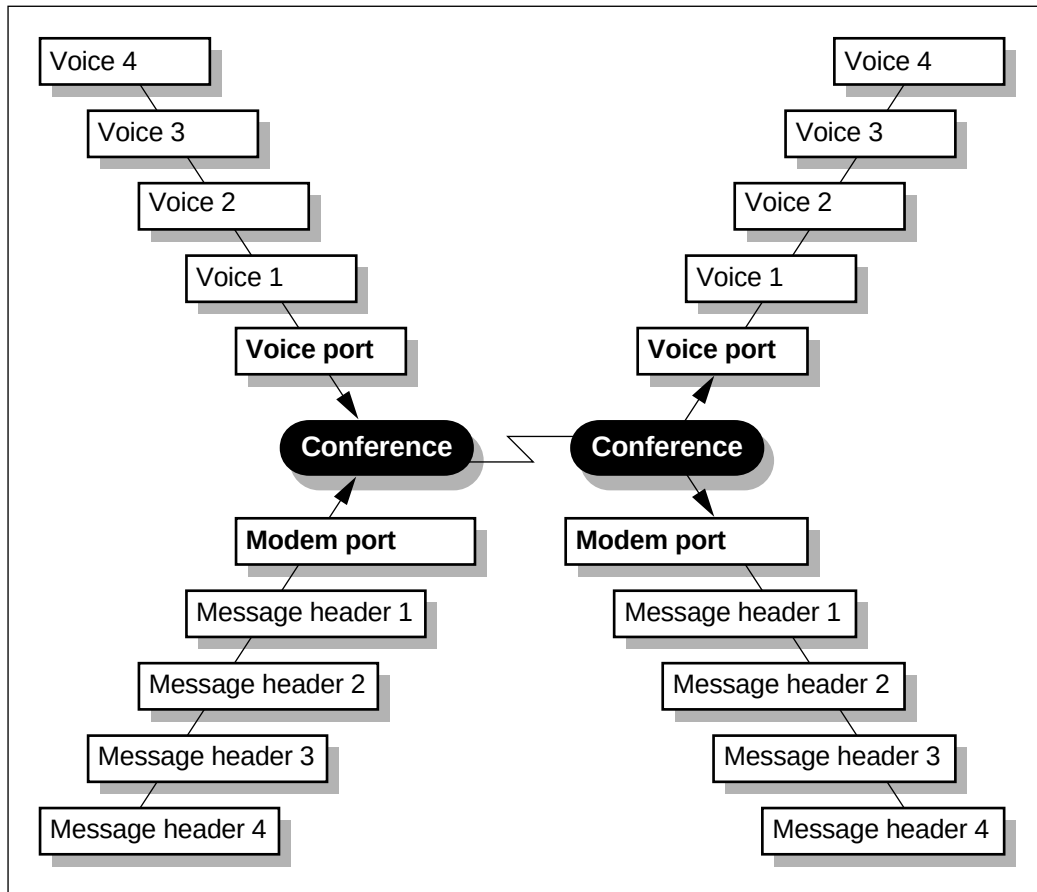
Stage	The sending site	The receiving site
1	sends some message information	receives the message information
2	plays the voice message	records the voice message
3	sends the remaining message information	receives the message information
4	sends some attachments information (if any)	receives the information
5	plays the attached voice message	records the attached voice message

Stage	The sending site	The receiving site
6	sends the remaining attachment information	receives the attachment information
7	repeats stages 4 through 6 for each attachment	repeats stages 4 through 6 for each attachment
8	repeats stages 1 through 7 for each message	repeats stages 1 through 7 for each message
9	disconnects the modem and hangs up.	disconnects the modem and hangs up.

Note: If the receiving site has standard or urgent messages that need to be sent to the sending site, they are sent (and received) as described in stages 1 to 8 during the same call.

**Diagram:
message transfer**

The following diagram illustrates how the voice and modem ports are conferenced in to transmit each message.



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Chapter 10

Maintaining the network

In this chapter

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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, disabling, and deleting sites and locations
- adding remote voice users
- clearing sites in error
- modifying the following aspects of the networking configuration:
 - scheduling parameters
 - Remote Voice User propagation
 - sending and receiving text information for ACCESS applications

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: Modifying sites	This section explains how to • modify local and remote site information • change the local site ID • disable sites • delete remote sites
Section B: Modifying remote NMS sites and locations	This section explains how to change the configuration of • sites that have been defined as message centers • locations associated with those message centers
Section C: Deleting remote NMS sites and locations	This section explains how to delete • sites that have been defined as message centers • locations associated with those message centers You must delete locations before deleting the remote NMS site.
Section D: Adding remote voice users	This section explains when and how remote voice users are added, and some things to consider. For the actual instructions for adding remote voice users, see your <i>System Administration Guide</i> (NTP 55x-70x1-30x).
Section E: Viewing the network status and clearing remote error sites	This section explains how to • view the network status to identify sites in error, as well as to view the status of messages waiting to be sent • clear sites in error one at a time • clear multiple sites in error all at once
Section F: Modifying the networking configuration	Use networking scheduling parameters to define when messages are sent, how long they should be retained, and when the system should stop attempting to send them (they become stale). This section explains how to • identify the changes that are required (by completing the NWP-028, “Meridian Mail Networking Configuration” form) • enter the changes into Meridian Mail

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

Multi-customer system users

Introduction

If you are using a multi-customer system, you need to access the Customer Administration Menu of the networking customer to administer your system.

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 4.

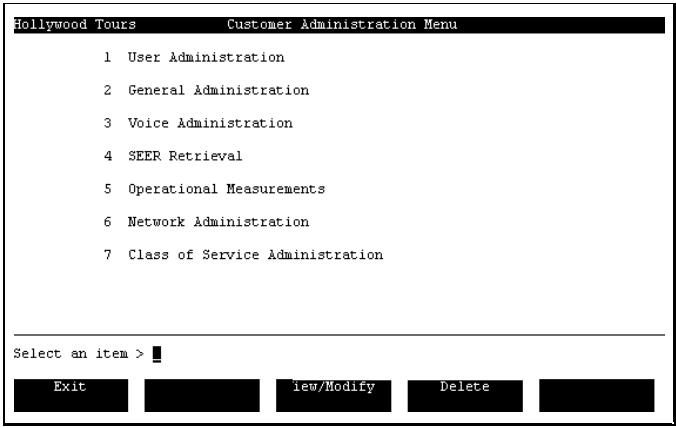
If no, do the following:

- a. Press [Find].
- b. Press [List].
- c. Move the cursor to the customer you want and press <Spacebar> 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].
The system prompts for the number of the customer you want to modify.
- 4
- Enter the customer's number.
Result: The Customer Administration Menu appears.



Section A **Modifying sites**

In this section

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Listing remote sites	10-18
Modifying remote sites	10-26
Disabling and enabling a site	10-31
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Overview of this section

Introduction

This section explains how to

- modify local and remote site information
- modify the local site ID by using the TOOLS menu
- disable local and remote sites so that networking messages cannot be sent to those sites
- delete sites

ATTENTION

Before you make any changes to the network database, be sure to have printouts of the current database.

Local and remote site information

When you modify local and remote site information, you may want to complete some data entry forms. Completing these forms will make it easier to enter data. (This depends on the complexity of the changes, and how comfortable you are with network administration.)

If you are changing dialing plan information on your Meridian 1, you will need the forms shown in the following table.

For	you need
site information	the NWP-004, “Meridian 1 Network Information—Site Information” form
Hybrid dialing plans	the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-007, “Meridian 1 Network Information—CDP Steering Codes” or the CDP (LD 87) printout • NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” or the NET (LD 90) printout

For	you need
the ESN dialing plan	the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” or the NET (LD 90) printout
the CDP dialing plan	the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-007, “Meridian 1 Network Information—CDP Steering Codes” or the CDP (LD 87) printout
the “None” dialing plan	no forms. Note: No data entry forms are required.

Once you have completed the Meridian 1 Network Information forms for dialing plans, you may want to complete the following forms for Meridian Mail:

- NWP-024, “Meridian Mail Network Information—Local Site Maintenance”
- NWP-025, “Meridian Mail Network Information—Remote Site Maintenance”
- NWP-027, “Meridian Mail Network Information—CDP Steering Codes”

For instructions on completing these forms, see Chapter 6, “Configuring Meridian Mail”.

Field descriptions

The screens used to modify the local and remote sites are identical to the screens used to add local and remote sites. The only differences are the screen titles.

Descriptions of fields on these screens are located in Chapter 6, “Configuring Meridian Mail”.

Change local site ID

Once you create the local site, you cannot change the local site ID by using the View/Modify Local Site screen. Instead, you must use the Change local site ID option on the TOOLS menu.

Then, when you use the TOOLS menu, the system will request the ID of that remote site. Once entered and saved, the system will convert that site to the local site, and the old local site to a remote site.

ATTENTION

Do not change the local site ID unless it conflicts with another site in the network.

Disable sites

You would disable a site for one or more of the following reasons:

- The Meridian Mail system at the remote site is down because of hardware problems or system upgrades.
- The remote site does not wish to receive network messages for a specific period of time.
- You do not want local users to send network messages for a specific period of time.

Disabling a site is accomplished by changing a field on the View/Modify Site screen.

Delete sites

You would delete a site from the network database when the site is being removed from the network, or if you defined the site by mistake.

If Meridian Networking attempts to send messages to a site that has been deleted, then users who sent the messages will receive non-delivery notifications.

Impact of changes on the network

Before you make any changes to site information, you must consider what the impact of those changes might be.

Any changes that you make to the local or remote sites may also need to be made on other sites in the network. Some examples of this requirement are

- message transfer protocol
- initiating and responding passwords
- connection DNs and VSDNs
- ESN access codes and prefixes
- CDP steering codes

If you want to make any changes to dialing plans, you will also have to modify all affected switches in your network. See the following chapters for more information:

- Chapter 2, “Gathering information for the network”
- Chapter 4, “Configuring the Meridian 1 for systems using AML”
- Chapter 5, “Configuring the PBX/DMS for systems using SMDI”

You should only make changes to the dialing plans for a site (either local or remote) if the dialing plan has changed on the switch(es), or if there is a conflict between sites.

Using data entry forms

Introduction

When preparing to modify sites, you may want to use some data entry forms. This topic identifies the forms that are recommended.

Meridian 1 Network Information forms

The following table lists the Meridian 1 Network Information forms you may need when modifying information for any site.

IF you are	THEN you
accessing the site maintenance screens	need the NWP-004, “Meridian 1 Network Information—Site Information” form.
changing dialing plans to Hybrid	need the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-007, “Meridian 1 Network Information—CDP Steering Codes” or the CDP (LD 87) printout • NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” or the NET (LD 90) printout
changing dialing plans to ESN	need the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block,” or the ESN (LD 86) printout • NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” or the NET (LD 90) printout
changing dialing plans to CDP	need the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-007, “Meridian 1 Network Information—CDP Steering Codes” or the CDP (LD 87) printout
changing dialing plans to None	do not need any data entry forms.

Meridian Mail Network Information forms

Once you have completed the Meridian 1 Network Information forms for dialing plans, you may want to complete the following forms for Meridian Mail:

- NWP-024, “Meridian Mail Network Information—Local Site Maintenance” (two pages)
- NWP-025, “Meridian Mail Network Information—Remote Site Maintenance” (two pages)
- NWP-027, “Meridian Mail Network Information—CDP Steering Codes”

Full-size versions of these forms are provided in, at the back of this manual. They may be photocopied.

Instructions for completion

The forms and screens used for modifying sites and locations are identical to those used for adding sites and locations.

Samples of the forms and instructions for completing them (and for completing fields on Meridian Mail screens) are shown in Chapter 6, “Configuring Meridian Mail”.

Modifying local site information

Introduction

Once you have added the local site to the network, you can modify it by using the View/Modify Local Site screen.

Field description

The View/Modify Local Site screen is identical to the Add Local Site screen, if the local site is not a message center (that is, using Network Message Service).

If the local site is using Network Message Service, see the *Network Message Service Installation and Administration Guide* (NTP 555-7001-243) for instructions on modifying a location.

For descriptions of the fields, see Section B: Adding the local site, in Chapter 6, “Configuring Meridian Mail”.

Local site ID

You cannot change the local site ID on the View/Modify Local Site screen. If you need to change the local site ID, you must use the TOOLS menu. For instructions, see “Modifying the local site ID” on page 10-17.

Impact of changes on system administration

When modifying local site information, do not change the dialing plan unless

- your dialing plan changes on the switch
or
- a prefix or steering code conflicts with a remote site that you are adding to the network

Softkey descriptions

The following table describes the softkeys in the View/Modify Local Site screen.

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

Procedure

To modify the local site information, follow these steps.

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

Step	Action

1	Select Network Administration.
2	Do one of the following:

IF you	THEN
have AMIS Networking	select Meridian Mail Networking Administration from the submenu that appears, then go to step 3.
do not have AMIS Networking	go to step 3.

Step Action

- 3 Select Local Site Maintenance.

Result: The View/Modify Local Site screen appears.

```

Network Administration
View/Modify Local Site
Site number: 1
Site name: Toronto
Message transfer: Enabled Disabled
Site is network message center? No Yes
Dialing plan: ESN CDP HYBRID NONE
Max number of digits in local mailbox: 4
ESN access codes: 72
Number of overlapping digits between ESN prefix and local ext: 1
ESN prefixes (they must begin with 72):
725
Mailbox numbering follows dialing plan: Yes No
Save Cancel

```

- 4 Modify the necessary fields.

Use the NWP-024 and NWP-027 forms if necessary.

For more information, see in Chapter 6, "Configuring Meridian Mail".

- 5 Do you want to save your modifications to the local site?

If yes, press the [Save] softkey.

Result: The system saves your modifications and returns you to the Network Administration menu.

If no, press [Cancel].

Result: The system discards your modifications and returns you to the Network Administration menu.

Modifying the local site ID

Introduction

This topic provides considerations for modifying the local site ID. The local site ID is modified in the TOOLS menu.

When to change the local site ID

You may need to change the local site ID if, for example, you entered it incorrectly when you defined the site.

ATTENTION

Do not change the local site ID unless it conflicts with another site in the network.

Impact of change on system administration

You can use the Change local site ID tool if you have installed networking on your system (although the option appears in the TOOLS menu even if networking is not installed).

Before you change the local site ID, you need to add a dummy remote site with the new local site ID. For instructions on adding a remote site, see “Adding remote sites” in Chapter 6, “Configuring Meridian Mail”.

When you use the TOOLS menu, the system requests the ID of the dummy remote site. Once entered and saved, the system converts

- the remote site to the new local site
- the old local site to a remote site

Reference

For instructions on how to modify the local site ID, see “Modifying the local site ID” in Appendix B, “Miscellaneous tasks”, at the back of this manual.

Listing remote sites

Introduction

This topic explains how to list remote sites that are part of the network.

Using the Find Remote Sites screen

The Find Remote Sites screen gives you the option of listing all sites, or using selection criteria to list a specific set of sites. The selected sites are displayed on the List of Remote Sites screen.

When to list sites

You access the List of Remote Sites screen if you want to

- view and modify site information for a remote site
- delete a remote site
- list the locations associated with an NMS site

Softkey descriptions for the Find Remote Sites screen

The following table describes the softkeys on the Find Remote Sites screen.

Softkeys	Description
[Exit]	Press this softkey to return to the Network Administration screen.
[List]	Press this softkey to display the List of Remote Sites screen. If you enter no selection criteria, all remote sites are displayed.
[Print]	Press this softkey to display the [Continue Printing] softkey and the [Cancel Printing] softkey.
[Cancel Printing]	Press this softkey to cancel printing and redisplay the Find Remote Sites screen.
[Continue Printing]	Press this softkey to print a listing of the selected remote sites (or all remote sites if no selection criteria is entered). When printing is completed, the Find Remote Sites screen is redisplayed.

**Softkey descriptions
for the List of Remote
Sites screen**

The following table describes the softkeys on the List of Remote Sites screen.

Softkeys	Description
[Exit]	Press this softkey to exit the List of Remote Sites screen.
[Add]	Press this softkey to add a remote site.
[View/Modify]	Press this softkey to view, modify or disable the highlighted remote site.
[Delete]	Press this softkey to delete a remote site.
[List locations]	If the highlighted remote site is a message center, press this softkey to list the locations associated with the site.

Procedure

To list remote sites, follow these steps.

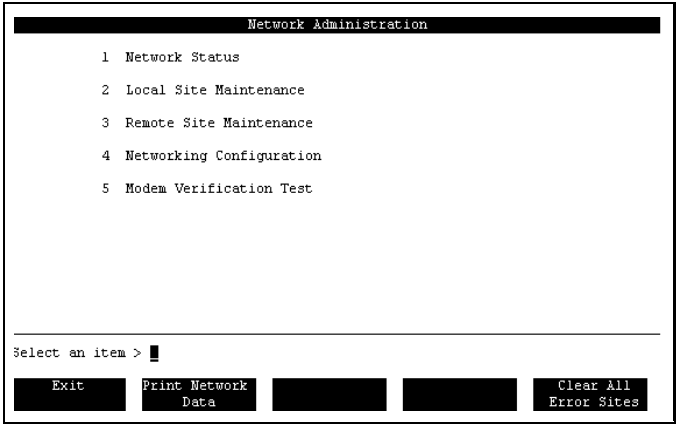
Starting Point: The Main Menu (single customer) or Customer Administration menu (multi-customer)

Step Action

- 1 Select Network Administration.
- 2 Do one of the following:

IF you	THEN
have AMIS Networking	select Meridian Mail Networking Administration from the submenu that appears, then go to step 3.
do not have AMIS Networking	go to step 3.

Result: The Network Administration menu appears.



Step	Action

3	Select Remote Site Maintenance. Result: The Find Remote Sites screen appears.

Network Administration

Find Remote Sites

Site Id:

Site Name:

Message Transfer Protocol: Any Enterprise Meridian AMIS

Dialing Plan: Any ESN CDP Hybrid None

Network Message Center: Any No Yes

Spoken Name Recorded: Any No Yes

Select a softkey>

Exit

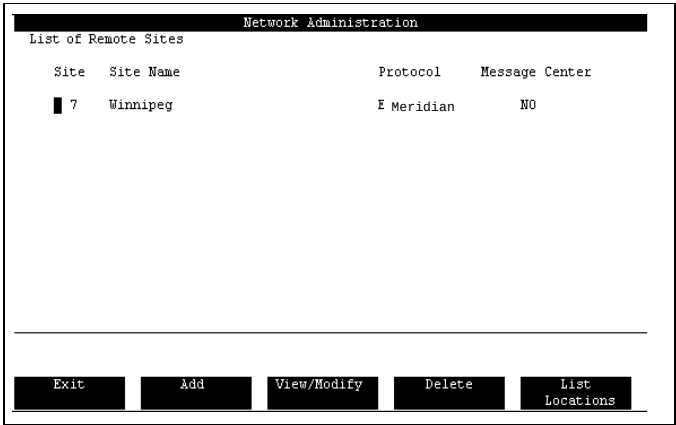
List

Print

4	Enter your selection criteria (see the field descriptions that follow this procedure); or leave the Site Id and Site Name blank and the remaining fields set to “Any” if you want to see a listing of all remote sites on the network.

Step Action

- 5
- Press the [List] softkey.
- Result:** The List of Remote Sites screen appears, listing the remote sites that match your selection criteria.



This is a read-only screen. These fields are described in the field descriptions that follow this procedure.

The first 15 sites are listed. If there are more than 15 sites in your network, press <Page Down>, or <arrow down> until the site you want appears.

Note: If you do not have any remote sites on your system, the List Sites screen is empty, and only the [Add] and [Exit] softkeys appear.

IF you are	THEN see
modifying site information	"Modifying remote sites" on page 10-26.
disabling or enabling a site	"Disabling and enabling a site" on page 10-31.
deleting a site	"Deleting remote sites" on page 10-36.

Field descriptions for the Find Remote Sites screen

The following table describes the fields on the Find Remote Sites screen.

Site ID	
Description	This is the site number (ID) for the remote site.
Wildcards	You cannot use wildcard characters. You can search for a partial match by entering part of the site ID. All sites with a site ID that begins with the value you enter are displayed in the List of Remote Sites screen.
Site Name	
Description	This is the name of the remote site.
Wildcards	You cannot use wildcard characters. You can search for a partial match by entering part of the site name. All sites with a site name that begins with the characters you enter are displayed in the List of Remote Sites screen.
Message Transfer Protocol	
Description	This is the message transfer protocol used to transmit messages to and from this site. The protocol could be Enterprise, Meridian, or AMIS (if the AMIS feature is installed). Set this field to Meridian when adding or modifying Meridian Networking sites.

Dialing Plan

Description	Use this field to list sites with a particular type of dialing plan (ESN, CDP, Hybrid, or None).

Network Message Center

Description	Use this field to list NMS sites. If this field is set to Yes, only NMS sites are listed.

For information on adding NMS sites, see the “Adding remote sites” section in Chapter 6, “Configuring Meridian Mail”.

For information on adding NMS locations, see Section D: Adding remote Network Message Service (NMS) satellite locations in Chapter 6, “Configuring Meridian Mail”.

Spoken Name Recorded

Description	Set this field to Yes to list sites with the Spoken Name recorded.

Note: This field is ignored for NMS remote sites.

Field descriptions for the List of Remote Sites screen

The following table describes the fields on the List of Remote Sites screen.

Site	
Description	The site number (ID) for the remote site.
Site Name	
Description	The name of the remote site.
Protocol	
Description	The message transfer protocol used to transmit messages to and from this site. The protocol could be Enterprise, Meridian, or AMIS (if the AMIS feature is installed). Set this field to Meridian when adding or modifying Meridian Networking sites.
Dialing Plan	
Description	The type of dialing plan used at the remote site (ESN, CDP, Hybrid, or None).
Message Center	
Description	This field is set to Yes if the remote site is an NMS site. For information on adding NMS sites, see the “Adding remote sites” section in Chapter 6, “Configuring Meridian Mail”. For information on adding NMS locations, see the section “Adding remote NMS satellite locations” in Chapter 6, “Configuring Meridian Mail”.
Spoken Name	
Description	This field is set to Yes if the spoken name is recorded at the remote site.

Modifying remote sites

Introduction

Once you have added remote sites to the network, you can modify them by using the View/Modify Remote Site screen.

Field descriptions

The View/Modify Remote Site screen is identical to the Add Remote Site screen.

For descriptions of fields on this screen, see “Adding remote sites” in Chapter 6, “Configuring Meridian Mail”.

Impact of changes on system administration

Some of the changes you make on your remote site may affect the networking service between the remote site and your local site. Some of the things you must consider are

- site IDs
- connection DN
- dialing plans
- message transfer protocol
- initiating and responding passwords



CAUTION

Risk of message transfer failure

Never change the remote site ID unless the administrator at the remote site notifies you that the local site ID has changed, or the remote site ID is incorrect.

If you change the site ID to an invalid number, this prevents messages from being sent to or received from the site.

**Impact of changes
on system
administration
(continued)****Connection DN**

Do not change the DN used to connect to a remote site unless

- the administrator at the remote site notifies you that they changed the DN in their VSDN table
or
- you are changing the message transfer protocol

Dialing plans

Do not change the dialing plan unless the dialing plan changes on the switch.

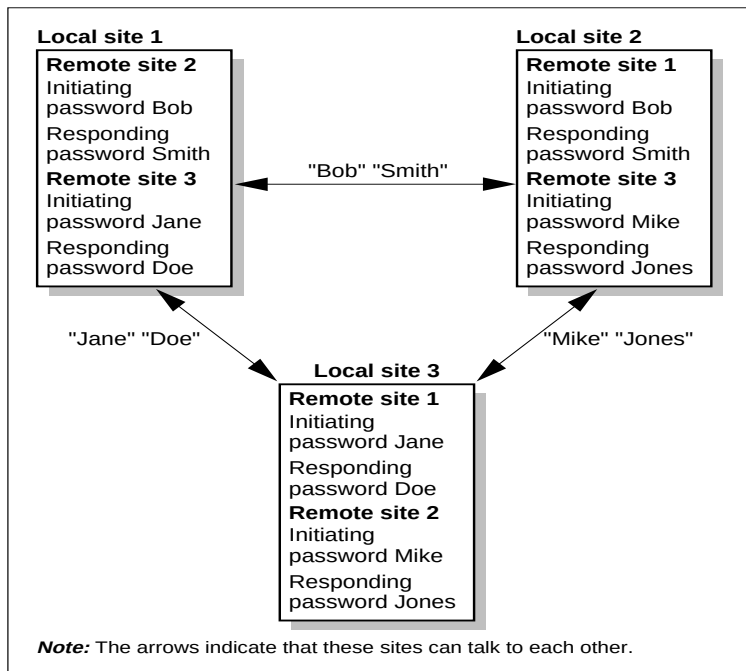
Message transfer protocol

Do not change the Message Transfer protocol unless the administrator at the remote site notifies you that they changed the network protocol for their local site or you notify the remote site to change theirs.

When you change the protocol to Meridian, you will probably have to change the connection DN to reflect the Meridian Networking VSDN of the remote site.

Impact of changes on system administration (continued)

The following diagram shows how the initiating and responding passwords are set up for each remote site.



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Softkey descriptions The following table describes the softkeys on the View/Modify Remote Site screen.

Softkey	Description
[Save]	Press this softkey to save your changes.
[Cancel]	Press this softkey if you do not want to save your changes.
[Voice]	Press this softkey to record or delete a spoken name for this site. The softkey does not appear if you set the Dialing plan field to CDP and the Mailbox numbering follows dialing plan field to Yes.

Procedure To modify a remote site, follow these steps. (See “Procedure” on page 10-20.)

Starting Point: The List of Remote Sites screen

Step	Action

1	Move the cursor to the remote site you want to modify.
2	Press <Spacebar> to select the site.

Result: Your selection is highlighted.

Step Action

- 3 Press [View/Modify].

Result: The View/Modify Remote Site screen appears.

Network Administration

View/Modify Remote Site

Site number: 7

Site name: Winnipeg

Message transfer protocol: Enterprise Meridian AMIS

Message transfer: Enabled Disabled

Site is network message center? No Yes

Enterprise Networking Options

Send the message text information: No Yes

Send the sender's text name and personal verification: No Yes

Networking Connection

DN 1: 5555

DN 2:

DN 3:

MORE BELOW

Save Cancel Voice

This screen is identical to the Add Remote Site screen.

- 4 Modify the necessary fields. For more information, see “Adding remote sites” in Chapter 6, “Configuring Meridian Mail”.
- 5 Do you want to save the modified remote site?

If yes, press [Save].

Result: The system saves your changes and returns you to the List of Remote Sites screen.

If no, press [Cancel].

Result: The system discards your changes and returns you to the List of Remote Sites screen.

Disabling and enabling a site

Introduction

This topic explains how to use the View/Modify Site screen to disable and enable a local or remote site.

Reasons for disabling the local site

You disable a local site if

- the local system is being modified
- there are problems with the switch network affecting all or most sites
- many voice ports are disabled and you wish to prevent Meridian Networking from using channels

Impact of disabling the local site

If the local site is disabled, messages waiting to be transmitted to remote sites will not be delivered. Network messages remain in the queue until the local site is enabled or the message becomes stale. A non-delivery notification (NDN) will be returned to the message sender if the message becomes stale.

Reasons for disabling a remote site

You disable a remote site if

- the remote system is being modified
- there are problems with the switch network affecting a particular remote site
- the Meridian Mail system at that site is down because of hardware problems or system upgrade
- the site is in error status and you are trying to find out why
- the site is being removed from the network

Impact of disabling a remote site

Disabling a remote site prevents any messages from being delivered to that site. However, messages can be delivered to other remote sites.

The message remains in the queue until the site is enabled, or the message becomes stale.

ATTENTION

Messages are still received from remote sites regardless of whether the local site, or remote sites, or both, are disabled. If you want to prevent messages from being sent to this site, get the administrator at the appropriate sites to disable message transfer to this site.

Reasons for enabling a site

You can then enable a site if

- you are adding a new site to your network
- the site is no longer in error status
- you solved any hardware problems you may have experienced
- you finished upgrading your system

Softkey descriptions

The following table describes the softkeys you use in the View/Modify screen.

Softkey	Description
[Save]	Press this softkey to save your changes.
[Cancel]	Press this softkey to cancel your changes.

Procedure:
Disabling or enabling
a remote site

To disable or enable a remote site, follow these steps.

Starting Point: The List of Remote Sites screen

Step Action

1 Move the cursor to the remote site you want to modify.

2 Press <Spacebar> to select the site.

Result: Your selection is highlighted.

3 Press [View/Modify].

Result: The View/Modify Remote Site screen appears.

Network Administration

View/Modify Remote Site

Site number: 7

Site name: Winnipeg

Message transfer protocol: Enterprise Meridian AMIS

Message transfer: Enabled Disabled

Site is network message center? No Yes

Enterprise Networking Options

Send the message text information: No Yes

Send the sender's text name and personal verification: No Yes

Networking Connection

DN 1: 5555

DN 2:

DN 3:

MORE BELOW

Save Cancel Voice

This screen is identical to the Add Remote Site screen.

4 Move the cursor to the remote site you want to disable or enable.

5 Press <Spacebar> to select it.

Result: Your selection is highlighted.

Step Action

- 6 Move the cursor to the Message transfer field.

IF you want to	THEN change this field to
enable a site	Enabled.
disable a site	Disabled.

Result: The system enables or disables the site.

- 7 Do you want to save your modifications to the site?
If yes, press [Save].

Result: The system saves your changes and returns you to the Network Administration menu.

If no, press [Cancel].

Result: The system discards your changes and returns you to the Network Administration menu.

Procedure:
Disabling or enabling
the local site

To disable or enable a local site, follow these steps.

Step Action

- 1 Access the View/Modify Local Site screen as instructed in “Modifying local site information” on page 10-14.

Result: The View/Modify Local Site screen appears.

Network Administration

View/Modify Local Site

Site number: 1

Site name: Toronto

Message transfer: Enabled Disabled

Site is network message center? No Yes

Dialing plan: ESN CDP HYBRID NONE

Max number of digits in local mailbox: 4

ESN access codes: 72

Number of overlapping digits between ESN prefix and local ext: 1

ESN prefixes (they must begin with 72): 725

Mailbox numbering follows dialing plan: Yes No

Save Cancel

Step Action

- 2 Move the cursor to the Message transfer field.

IF you want to	THEN change this field to
enable a site	Enabled.
disable a site	Disabled.

Result: The system enables or disables the local site.

- 3 Do you want to save your modifications to the site?

If yes, press [Save].

Result: The system saves your changes and returns you to the Network Administration menu.

If no, press [Cancel].

Result: The system discards your changes and returns you to the Network Administration menu.

Deleting remote sites

Introduction

This topic explains how to delete remote sites from the network database.

Note: You cannot delete the local site.

When to delete a remote site

Delete a remote site when you no longer need it as part of your network.

Impact of deletion on system administration

If you send a message to a remote site that has been deleted, the system will not deliver your message. Your message will be returned with a non-delivery notification (NDN).

Before you begin

Before you delete the site, Nortel recommends that you print the remote site information (in case you delete the wrong site, or you wish to add it back onto the system later).

For instructions, see “Printing Meridian Mail network information” in Chapter 8, “Creating a backup of the system”.

Softkey descriptions

The following table describes the softkeys you use to delete a remote site.

Softkey	Description
[OK to delete]	Press this key to delete the site you selected.
[Cancel]	Press this key if you do not want to delete the site you selected.

Procedure

To delete a remote site, follow these steps.

Starting Point: The List of Remote Sites screen

Step	Action

1	Move the cursor to the remote site you want to delete.

2	Press <Spacebar> to select the site.

Result: Your selection is highlighted.

3	Press [Delete].

Result: The Delete Remote Site screen appears.

Note: This screen is a read-only screen.

Network Administration

Delete Remote Site

Site number: 7
Site name: Winnipeg

Message transfer protocol: Enterprise Meridian AMIS
Message transfer: Enabled Disabled
Site is network message center? No Yes

Enterprise Networking Options
Send the message text information: No Yes
Send the sender's text name and personal verification: No Yes

Networking Connection
DN 1: 5555
DN 2:
DN 3:

[MORE BELOW](#)

OK to Delete Cancel [] [] []

4	Do you still want to delete the remote site?

If yes, press the [OK to Delete] softkey.

Result: The system deletes the site and asks you for another site number.

If no, press the [Cancel] softkey.

Result: The system returns to the List of Remote Sites screen.

Section B **Modifying remote NMS sites and locations**

In this section

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Modifying locations associated with remote NMS sites	10-50

Overview of this section

Introduction

This section explains how to

- modify remote sites that have been defined as message centers

In this manual, message centers at remote sites are referred to as “remote NMS sites.”

Note: If you want to modify the local site that has been defined as a message center, refer to the *Network Message Service Installation and Administration Guide* (NTP 555-7001-243).

- modify locations that have been associated with remote NMS sites

Remote NMS site and location information

When you modify remote NMS site and location information, you may want to complete some data entry forms. (This depends on the complexity of the changes, and how comfortable you are with network administration.)

If you are changing dialing plan information on your Meridian 1, you will need the forms shown in the following table.

For	you need
site information	the NWP-004, “Meridian 1 Network Information—Site Information” form.
Hybrid dialing plans	the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-007, “Meridian 1 Network Information—CDP Steering Codes” or the CDP (LD 87) printout • NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” or the NET (LD 90) printout

For	you need
the ESN dialing plan	the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” or the NET (LD 90) printout
the CDP dialing plan	• NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-007, “Meridian 1 Network Information—CDP Steering Codes” or the CDP (LD 87) printout
the “None” dialing plan	no data entry forms

Meridian Mail forms

If you have completed the Meridian 1 Network Information forms for dialing plans, you may want to complete the following forms for Meridian Mail:

- NWP-025, “Meridian Mail Network Information—Remote Site Maintenance”
- NWP-026, “Meridian Mail Network Information—Remote NMS Location Maintenance”
- NWP-027, “Meridian Mail Network Information—CDP Steering Codes”

Field descriptions

The screens used to modify remote NMS sites and locations are identical to the screens used to add remote NMS sites and locations. The only differences are the screen titles.

Descriptions of fields on these screens are provided in Chapter 6, “Configuring Meridian Mail”.

Impact of changes on the network

Before you make any changes to remote NMS site or location information, you must carefully consider what the impact of those changes might be.

Any changes that you make to the sites or locations may also need to be made on other sites in the network. Some examples of this requirement are

- initiating and responding passwords
- connection DNs
- ESN access codes and prefixes
- CDP steering codes

If you want to make any changes to dialing plans, you will also have to modify all affected switches in your network. See the following chapters for more information:

- Chapter 2, “Gathering information for the network”
- Chapter 4, “Configuring the Meridian 1 for systems using AML”
- Chapter 5, “Configuring the PBX/DMS for systems using SMDI”

Using data entry forms

Introduction

When preparing to modify remote NMS locations, you may want to use some data entry forms. This topic identifies the forms that are recommended.

Meridian 1 Network Information forms

The following table lists the data entry forms you may need when modifying remote NMS locations.

IF you are	THEN you
accessing the View/Modify Remote Site screen	need the NWP-004, “Meridian 1 Network Information—Site Information” form.
changing your dialing plan to Hybrid	need the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-007, “Meridian 1 Network Information—CDP Steering Codes” or the CDP (LD 87) printout • NWP-012, “Meridian 1 Network Information—Network Translation Location Codes” or the NET (LD 90) printout
changing your dialing plan to ESN	need the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-012, “Meridian 1 Network information—Network Translation Location Codes” or the NET (LD 90) printout
changing your dialing plan to CDP	need the following: • NWP-005, “Meridian 1 Network Information—ESN Data Block” or the ESN (LD 86) printout • NWP-007, “Meridian 1 Network information—CDP Steering Codes” or the CDP (LD 87) printout
changing your dialing plan to “None”	do not need any data entry forms.

**Meridian Mail Network
Information forms**

Once you have completed the Meridian 1 Network Information forms for dialing plans, you may want to complete the following forms for Meridian Mail:

- NWP-025, “Meridian Mail Network Information—Remote Site Maintenance” (2 pages)
- NWP-026, “Meridian Mail Network Information—Remote NMS Location Maintenance” (2 pages)
- NWP-027, “Meridian Mail Network Information—CDP Steering Codes”

Full-size versions of these forms are provided in Appendix A, “Networking implementation forms”, at the back of this manual. They may be photocopied.

**Instructions for
completion**

The forms and screens used for modifying sites and locations are identical to those used for adding sites and locations.

Samples of the forms, and instructions for completing them (and for completing fields on Meridian Mail screens) are shown in Chapter 6, “Configuring Meridian Mail”.

Modifying NMS remote sites

Introduction

This topic explains how to modify NMS remote sites. An NMS site is a site that has been defined as a message center.

Field descriptions

The View/Modify Remote Site screen is used to modify an NMS remote site.

For descriptions of the fields on the screen, see “Adding remote sites” in Chapter 6, “Configuring Meridian Mail”. This section does explain how to define a remote site as a message center.

Impact of changes on system administration

Some of the changes you make on your NMS remote site may affect the networking service between the NMS remote site and local site. Therefore, when modifying the NMS remote site, you must consider the following:

- site IDs
- connection DN
- dialing plans
- initiating and responding passwords
- message transfer protocol

Site IDs

ATTENTION

Never change the remote NMS site ID unless the administrator at the remote site notifies you that the local site ID has changed.

If you change the NMS remote site ID to an invalid number, this will prevent messages from being sent to or received from the site.

**CAUTION****Risk of data loss**

If the remote NMS site is also using Meridian Mail, then you should never change the remote NMS site ID unless the administrator at the remote site notifies you that the local site ID has been changed.

If you change the NMS site ID to an invalid number, this prevents messages from being sent to or received from the site.

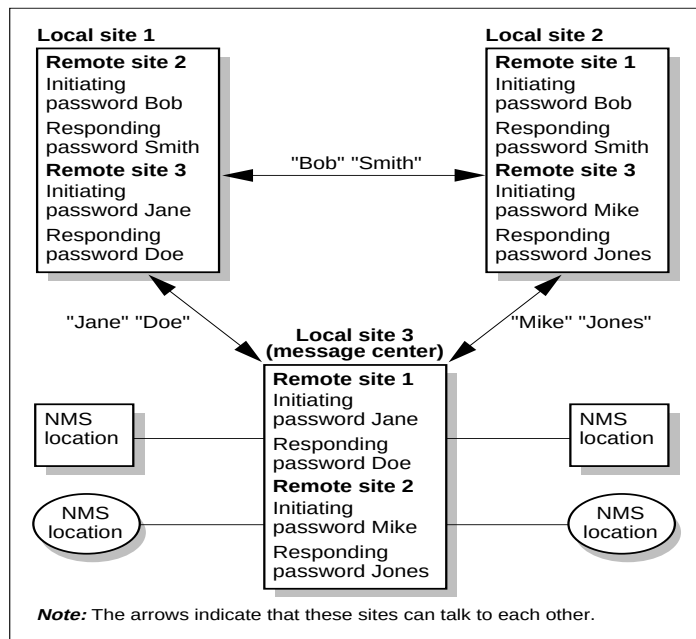
Connection DN

Do not change the DN used to connect to the NMS remote site or location unless the administrator at that site informs you that the VSDN has been changed on their system.

Initiating and responding passwords

If you modify the initiating or responding password, you must notify the system administrator at the NMS remote site to make the corresponding changes so that the passwords match. This ensures proper communication between sites in the network.

The diagram on the next page shows how initiating and responding passwords are defined for local and remote sites.



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Message transfer protocol

Do not change the Message transfer protocol unless the administrator at the remote site notifies you that they change the network protocol for their local site, or you notify the remote site to change theirs.

Softkey descriptions The following table describes the softkeys in the View/Modify Remote Site screen.

Softkey	Description
[Save]	Press this softkey to save your changes and return to the Network Administration menu.
[Cancel]	Press this softkey to discard your changes and return to the Network Administration menu.
[Voice]	Press this softkey to record or delete a spoken name for this site. This softkey appears only if the dialing plan is ESN, Hybrid, or "None." The softkey does not appear if you set both the Dialing plan field to CDP and the Mailbox numbering follows dialing plan field to Yes.

Procedure

To modify an NMS remote site, follow these steps.

Starting Point: The List of Remote Sites screen

Step	Action

1	Move the cursor to the site (message center) you want to modify.

2	Press <Spacebar>.

Result: Your selection is highlighted.

3	Press [View/Modify].

Result: The View/Modify Remote Site screen appears.

Network Administration

View/Modify Remote Site

Site number: 7

Message transfer protocol: Enterprise Meridian AMIS

Message transfer: Enabled Disabled

Site is network message center? No Yes

Enterprise Networking Options

Send the message text information: No Yes

Send the sender's text name and personal verification: No Yes

Networking Connection

DN 1: 5555

DN 2:

DN 3:

Password

MORE BELOW

Save Cancel

4	Modify the fields as required.

For a description of the fields, see “Adding remote sites” in Chapter 6, “Configuring Meridian Mail”.

5	Do you want to save the modifications to the site?

If yes, press the [Save] softkey.

Result: The system saves your changes and returns you to the List Sites screen.

If no, press [Cancel].

Result: The system discards your changes and returns you to the List Sites screen.

Modifying locations associated with remote NMS sites

Introduction

This topic explains how to modify remote NMS satellite and prime locations.

Once you have added remote Network Message Service (NMS) satellite locations, you can modify them from the View/Modify Location screen. This screen is identical to the Add Location screen.

Field descriptions

The View/Modify Remote Location screen is identical to the Add Remote Location screen.

For descriptions of the fields, see “Adding remote Network Message Service (NMS) satellite locations” in Chapter 6, “Configuring Meridian Mail”.

Impact of changes on system administration

Some of the changes you make on the location may affect the networking service between the remote site and the local site.

Some of the things to consider are

- location IDs
- dialing plans)



CAUTION

Risk of data loss

If the remote NMS site is also using Meridian Mail, then you should never change the remote NMS site ID unless the administrator at the remote site notifies you that the local site ID has been changed.

If you change the NMS site ID to an invalid number, this prevents messages from being sent to or received from the site.

Dialing plans

Do not change the dialing plan unless the dialing plan changes on the switch associated with the location.

Softkey descriptions

The following table describes the softkeys you use in the View/Modify Remote Location screen.

Softkey	Description
[Save]	Press this softkey to save your changes and return to the List Locations screen.
[Cancel]	Press this softkey to exit the View/Modify screen and discard any changes. The system takes you back to the List Locations screen.
[Voice]	Press this softkey to record or delete a spoken name for this site. This softkey appears only if the dialing plan is ESN, Hybrid, or "None." The softkey does not appear if you set the Dialing plan field to CDP and the Mailbox numbering follows dialing plan field to Yes.

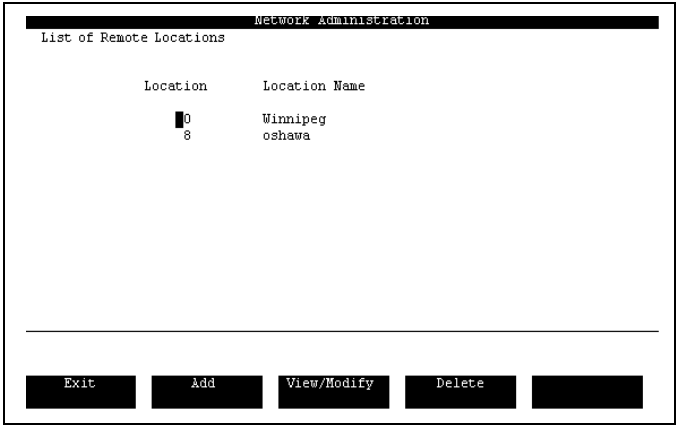
Procedure

To modify locations associated with remote NMS sites, follow these steps.

Starting Point: The List of Remote Sites screen (See “Listing remote sites” on page 10-18.)

Step Action

- 1 Move the cursor to the site (message center) you want to modify.
- 2 Press <Spacebar>.
Result: Your selection is highlighted.
- 3 Press the [List Locations] softkey.
Result: The List of Remote Locations screen appears.



The List Locations screen lists the first 15 locations. If there are more than 15 locations associated with the remote NMS site, press <PageDown>, or <arrow down> until the location you want appears.

- 4 Move the cursor to the location you want to modify.

Step Action

- 5 Press <Spacebar>
Result: Your selection is highlighted.
- 6 Press the [View/Modify] softkey.
Result: The View/Modify Remote Location screen appears.

Network Administration

View/Modify Remote Location

Location number: 8

Location name: oshawa

Dialing plan: ESN

Max number of digits in local mailbox: 4

ESN access codes: 62

Number of overlapping digits between ESN prefix and local ext: 1

ESN prefixes (they must begin with 62): 627

Mailbox numbering follows dialing plan: Yes No

Spoken name recorded (Voice) No

Save Cancel Voice

- 7 Modify the fields as required. See Section D on page 6-131.
- 8 Do you want to save your changes?
If yes, press [Save].
Result: The system saves your changes and returns you to the List Locations screen.
If no, press [Cancel]
Result: The system discards your changes and returns you to the List Locations screen.

Section C **Deleting remote NMS sites and locations**

In this section

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Deleting remote NMS sites	10-60

Overview of this section

Introduction

This section explains how to

- delete locations that have been associated with remote NMS sites
- delete remote NMS sites that have been defined as message centers

In this manual, message centers are referred to as NMS remote sites.

Reasons for deleting an NMS location

You would delete an NMS location from the network database when the location is being removed from the network, or if you defined it by mistake.

If Meridian Networking attempts to send messages to a location that has been deleted, then non-delivery notifications will be returned to the users who sent the messages.

Reasons for deleting a remote NMS site

You would delete a remote NMS site from the network database when the site is being removed from the network, or if you defined the site by mistake.

If Meridian Networking attempts to send messages to a site that has been deleted, then non-delivery notifications will be returned to the users who sent the messages.

You cannot delete a remote NMS site (message center) from the network database until all of its associated locations have been deleted.

Impact of changes on the network

If you are the network administrator and you delete any NMS sites and locations, those NMS sites and locations will also have to be deleted from the network databases of all sites in the network.

Deleting locations associated with remote NMS sites

Introduction

This topic explains how to delete locations associated with remote NMS sites.

Note: A remote NMS site is a site that has been defined as a message center.

When to delete a location

Locations are deleted when

- they have been removed from the remote site
- the location was added by mistake

Impact of deletions on the system

If Meridian Networking attempts to send messages to a location that has been deleted, then non-delivery notifications will be returned to the users who sent the messages.

Softkey descriptions

The following table describes the softkeys you use to delete locations associated with remote NMS sites.

Softkey	Description
[OK to delete]	Press this softkey to delete the location you selected.
[Cancel]	Press this softkey if you do not want to delete the location you selected.

Procedure

To delete locations associated with remote NMS sites, follow these steps.

Starting Point: The List of Remote Sites screen (See “Listing remote sites” on page 10-18.)

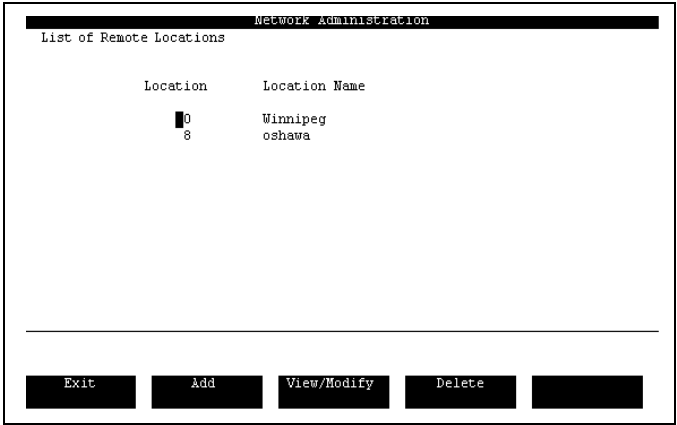
Step Action

- 1

Move the cursor to the site (message center) with which the location is associated.
- 2

Press <Spacebar>.
Result: Your selection is highlighted.
- 3

Press the [List Locations] softkey.
Result: The List of Remote Locations screen appears.



The List Locations screen lists the first 15 locations. If there are more than 15 locations associated with the remote NMS site, press <PageDown>, or <arrow down> until the location you want appears.

- 4

Move the cursor to the location you want to delete.
- 5

Press <Spacebar>.
Result: Your selection is highlighted.

Step Action

- 6 Press [Delete].

Result: The Delete Remote Location screen appears.

Note: This is a read-only screen.

Network Administration

Delete Remote Location

Location number: 8
Location name: oshawa

Dialing plan: ESN
Max number of digits in local mailbox: 4

ESN access codes: 62
Number of overlapping digits between ESN prefix and local ext: 1
ESN prefixes (they must begin with 62): 627

Mailbox numbering follows dialing plan: Yes No

Spoken name recorded (Voice) No

OK to Delete Cancel

- 7 Do you still want to delete the location?

If yes, press [OK to Delete].

Result: The system deletes the location and returns to the List of Remote Locations screen.

If no, press [Cancel].

Result: The system returns to the List of Remote Locations screen.

Deleting remote NMS sites

Introduction

This topic explains how to delete remote NMS sites. A remote NMS site is a site that has been defined as a message center.

When to delete a remote NMS site

You would delete a remote NMS site after all its associated locations have been deleted and when the remote NMS site is being removed from the network.

Impact of deletion on the system

If Meridian Networking attempts to send messages to a site that has been deleted, then non-delivery notifications will be returned to the users who sent the messages.

Softkey descriptions

The following table describes the softkeys you use to delete a remote NMS site.

Softkey	Description
[OK to delete]	Press this softkey to delete the remote NMS site you selected.
[Cancel]	Press this softkey if you do not want to delete the remote NMS site you selected.

Before you begin

Before you delete an NMS remote site, you have to delete all its associated locations. See “Deleting locations associated with remote NMS sites” on page 10-57.

Procedure

To delete remote NMS sites, follow these steps.

Starting Point: The List of Remote Sites screen

Step Action

1 Move the cursor to the site (message center) you want to delete.

2 Press <Spacebar>.

Result: Your selection is highlighted.

3 Press [Delete].

Result: The Delete Remote Site screen appears.

Note: This is a read-only screen.

Network Administration

Delete Remote Site

Site number: 7

Message transfer protocol: Enterprise Meridian AMIS

Message transfer: Enabled Disabled

Site is network message center? No Yes

Enterprise Networking Options

Send the message text information: No Yes

Send the sender's text name and personal verification: No Yes

Networking Connection

DN 1: 5555

DN 2:

DN 3:

Password

MORE BELOW

OK to Delete Cancel

4 Do you still want to delete the site?

If yes, press the [OK to Delete] softkey.

Result: The system deletes the site and returns you to the List of Remote Sites screen.

If no, press the [Cancel] softkey.

Result: The system returns you to the List of Remote Sites screen.

Section D **Adding remote voice users**

In this section

Adding remote voice users

10-64

Adding remote voice users

Introduction

This section explains the basic concepts for adding remote voice users.

Definition: remote voice user (RVU)

A remote voice user (RVU) is a user whose mailbox resides on another site in the network.

You can add users whose mailboxes reside on remote sites onto the local site as a remote voice user (RVU). You can then record a spoken name for the RVU on the remote voice user's behalf.

Benefits to local users

The benefits to local users are as follows:

- Spoken names are played whenever messages are addressed to or received from the RVU.
- Local users can use name-dialing or name-addressing.
- Call sender is available to users at sites which do not have mailbox numbers that follow the dialing plan at that site.

Hint: If you wish to add large numbers of RVUs, you might want to consider using Bulk Provisioning.

Considerations

When adding remote voice users, you need to take the following into consideration:

- Adding all the users from each remote site would be very time-consuming and impractical, since many remote users would rarely, if ever, send or receive network messages. Consequently, carefully select which users to add (if any).
- The spoken names for the RVUs are recorded in the administrator's voice and not the RVU's own voice.

Types of remote voice users

A remote voice user can be temporary or permanent. RVUs added by the administrator or by Bulk Provisioning can be either temporary or permanent. The administrator can convert any RVU from permanent to temporary and vice versa. For more details, see your *System Administration Guide* (NTP 55x-7001-30x).

Temporary RVU

Temporary RVUs can be deleted by the administrator. They may also be deleted automatically by the system.

The database of temporary remote voice users is maintained by the system. For more information, see your *System Administration Guide* (NTP 55x-7001-30x).

Permanent RVU

Permanent RVUs can only be deleted from the system by the administrator. RVUs which existed on a Meridian Mail system prior to Release 11.0 are converted to permanent RVUs when the system is converted to Release 11.0.

When RVUs can be added

You can add remote voice users

- manually at the local site
- through Bulk Provisioning

For instructions on adding remote voice users manually, see the “Remote voice users” in the *System Administration Guide* (NTP 555-7001-30x).

For instructions on adding remote voice users through Bulk Provisioning, see the “Bulk Provisioning” chapter in the *System Administration Guide* (NTP 555-7001-30x).

Section E **Viewing the network status and clearing remote error sites**

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Clearing all error sites at once	10-83

Overview of this section

Introduction

This section explains how to

- view the network status
- clear sites in error—one at a time
- clear all sites in error at once

View network status

You use the Network Status screen to

- view the activity status of networking to each site in the network
- view the number of economy, standard, and urgent messages that are waiting to be sent to other sites
- clear a site that is in error

When sites are put into error status

The system puts a site into error status if problems are encountered while connecting, or transmitting messages, or both, to the remote site.

When a remote site is in error, the system will not attempt to send any messages to the remote site. However, the system will continue to receive messages from the remote site. If a message is successfully received from a site in Error, the error status is automatically cleared.

A site can go into error status for one of the following reasons:

- The site is not configured correctly. (Site IDs, passwords, or message transfer protocol are incorrect.)
- The system made three consecutive attempts to send messages to the remote site and failed.

Clearing sites in error You can clear sites in error by one of the following methods:

- one at a time from the Network Status screen
Use this method when
 - there are only one or two error sites and the problem is fixed
 - there are many error sites but only the problems with some of the sites are fixed
- all sites at once from the Network Administration menu
Use this method when there are many error sites and all of the problems are fixed.

Note: The system will automatically clear a site under the following conditions:

- if the site has been in error for one hour
- if a message is received from the remote site

Viewing the network status

Introduction

This topic explains how to view the network status for all remote sites or for a selected set of remote sites.

Using the Find Network Status screen

The [Network Status] softkey on the Network Administration menu accesses the Find Network Status screen. The Find Network Status screen gives you the option of listing all remote sites, or using selection criteria to list a specific set of remote sites. The selected sites are displayed on the Network Status screen.

When to view the Network Status screen

You access the Network Status screen if you want to view

- the activity status of the networking service to each site in the network
- the number of economy, standard, and urgent messages that are queued for transmission to remote sites

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.

Softkey descriptions for the Find Network Status screen

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

Softkey	Description
[Exit]	Press this key to exit the Find Network Status screen.
[List]	Press this softkey to display the Network Status screen. If you enter no selection criteria, all remote sites are displayed.

**Softkey descriptions
for the Network
Status screen**

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.
[Enterprise Diag. Test]	This softkey runs the Enterprise Diagnostic test. It can be run only on sites that use the Enterprise message transfer protocol. For more information, refer to the <i>Enterprise Networking Installation and Administration Guide</i> (NTP 555-7001-246).
[Clear Error Site]	Move the arrow keys to the site that is in error status, then press <Spacebar> to select the site. Then, press this softkey to clear the site. Note: You can use this softkey to clear any remote site that is in error status regardless of the networking transfer protocol.
[Update]	Press this softkey to refresh and update the data on the Network Status screen.

Procedure

To view the network status, follow these steps.

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

Step Action

- 1 Select Network Administration.
- 2 Do one of the following:

IF you	THEN
have AMIS Networking	select Meridian Mail Networking Administration from the submenu that appears, then go to step 3.
do not have AMIS Networking	go to step 3.

Result: The Network Administration menu appears.

Network Administration

1 Network Status

2 Local Site Maintenance

3 Remote Site Maintenance

4 Networking Configuration

5 Modem Verification Test

Select an item >

Exit

Print Network Data

Clear All Error Sites

Step Action

- 3 Select Network Status.

Result: The Find Network Status screen appears.

The screenshot shows a terminal window titled "Network Administration". Inside, the "Find Network Status" screen is displayed. It contains the following fields and options:

- Site Id: A field with a cursor and a small icon.
- Site Name: A text input field.
- Status: A dropdown menu currently showing "Any". Other options listed are Idle, Ready, Active, Error, Disabled, and DiagTest.
- Protocol: A dropdown menu currently showing "Any". Other options listed are Enterprise, Meridian, and AMIS.

At the bottom of the screen, there is a prompt "Select a softkey>" followed by five softkey buttons. The first button is labeled "Exit", the second is blank, the third is labeled "List", the fourth is blank, and the fifth is blank.

- 4 Enter your selection criteria (see the field descriptions that follow this procedure); or leave the Site Id and Site Name blank and the remaining fields set to "Any" if you want to see a listing of all remote sites on the network.

Field descriptions for the Find Network Status screen

The following table describes the fields in the Find Network Status screen.

Site ID	
Description	This is the site number (ID).
Wildcards	You cannot use wildcard characters. You can search for a partial match by entering part of the site ID. All sites with a site ID that begins with the value you enter are displayed in the Network Status screen.
Site Name	
Description	This is the name of the site.
Wildcards	You cannot use wildcard characters. You can search for a partial match by entering part of the site name. All sites with a site name that begins with the characters you enter are displayed in the Network Status screen.

Status

Description	Use this field to select sites that have a particular status. The status can be one of the following: • Idle indicates that the networking service is operational but that there are no networking messages waiting to be delivered. • Ready indicates that networking messages are queued and are ready to be transmitted. • Active indicates that the networking service is operational and is currently sending or receiving messages. • Error indicates that the networking service failed to deliver a message to the specified remote site (after three attempts), or the site is not configured correctly. Messages waiting to be delivered will not be sent. • Disabled indicates that message transfer has been disabled for the site. This usually indicates that a site has been taken down for maintenance. • Diag Test indicates that the site is currently undergoing a diagnostic test that was started by selecting the [Enterprise Diag. Test] softkey on the Network Status screen.

Protocol

Description	The message transfer protocol corresponds to the type of Networking. Use this field to list sites that have a particular type of Networking installed.

Field descriptions for the Network Status screen

The following table describes the fields in the Network Status screen.

Note: These fields are read-only on the Network Status screen.

Total number of remote sites	
Description	This field displays the number of remote sites that are currently configured in the Meridian Mail network database.
Site	
Description	This is the site number (ID).
Site Name	
Description	This is the name of the site.

Status	
Description	This is the current status of the networking service at the specified remote site. The status can be one of the following: • Active indicates that the networking service is operational and is currently sending or receiving messages. • Idle indicates that the networking service is operational but that there are no networking messages waiting to be delivered. • Ready indicates that networking messages are queued and are ready to be transmitted. • Error indicates that the networking service failed to deliver a message to the specified remote site (after three attempts) or that the site is not configured correctly. Messages waiting to be delivered will not be sent. The site is moved out of Error state automatically after one hour. Alternatively, the site can be moved out of Error state by the administrator (see “Clearing one error site at a time” on page 10-80 or see “Clearing all error sites at once” on page 10-83). • Disabled indicates that message transfer has been disabled for the site. This usually indicates that a site has been taken down for maintenance.
Protocol	
Description	This column shows the message transfer protocol that is used to deliver messages to each site. It will be set to Meridian for sites on which the Meridian Network Protocol is used.
#Economy	
Description	The number of economy messages that are queued to be transmitted to this remote site. 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 this remote site.

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 this remote site.

Note: If the status is idle, this field displays 0 (zero) since no messages are in the queue.

Clearing one error site at a time

Introduction	This topic explains how to clear a single site in error. You clear a single site in error from the Network Status screen.
When to use this procedure	Use this procedure when • there are only one or two error sites and the problem is fixed • there are many error sites, but only the problems to some of the error sites are fixed
When sites are put into error status	The system puts a site into error status if problems are encountered while connecting to, or transmitting messages, or both, to the remote site. This could be an indication of problems with the switch network, the remote site, or an error in the configuration of the network database. Note: The system will automatically clear a site under two conditions: • if the site has been in error for one hour • if a message is successfully received from the remote site
Impact of error sites	When a remote site is in error, the system will not attempt to send any messages to the remote site. However, the system will continue to receive messages from the remote site. If a message is successfully received from a site in Error, the error status is automatically cleared. A site can go into error status for one of the following reasons: • The site is not configured correctly. (Site IDs, passwords, or message transfer protocol are incorrect.) • The system made three consecutive attempts to send messages to the remote site and failed.

What you need to do	Identify the problem and fix it. Once you rectify the problem, you can clear the error status of the site. When the error status is cleared, the site is put into either

- idle status (no messages are queued for the remote site)
or
- ready status (messages are waiting to be sent to this remote site)

Which error sites can be cleared	You can clear all types of error sites, regardless of the message transfer protocol used by the remote site.

Procedure To clear an error site, follow these steps.

Starting Point: The Network Status screen

```

Network Administration
Network Status - Total number of remote sites: 2

Site      Site Name      Status      Protocol      #Economy      #Standard      #Urgent
7         Winnipeg      Idle        Enterprise      0              0              0
8         Edmonton     Idle        Enterprise      0              0              0

```

Step	Action

- 1 Use the arrow keys to move to the site in error, then press <Spacebar> to select the site.

Result: Your selection is highlighted.

Note: If there are more than 15 sites in your network and the remote site you want is not displayed on the screen, press <Page Down> or <arrow down> until it appears.

Step Action

- 2 Press [Clear Error Site].
- Result:** The system resets the site and an information SEER is printed.
- Note:** If the site you select is not currently in error, the system displays the following message:
"The selected site is not in error condition."
-

Clearing all error sites at once

Introduction

If there is a problem with more than one site, you can clear or reset all the sites at once rather than clearing them one at a time.

This topic explains how to clear all the error sites at the same time from the Network Administration menu.

When to use this procedure

Use this procedure when there are many error sites and all the problems are fixed.

When sites are put into error status

The system puts a site into error status if problems are encountered while connecting to, or transmitting messages, or both, to the remote site.

This could be an indication of problems with the switch network, the remote site, or an error in the configuration of the network database.

Note: The system will automatically clear a site under two conditions:

- if the site has been in error for one hour
- if a message is successfully received from the remote site

Impact of error sites

When a remote site is in error, the system will not attempt to send any messages to the remote site. However, the system will continue to receive messages from the remote site. If a message is successfully received from a site in Error, the error status is automatically cleared.

A site can go into error status for one of the following reasons:

- The site is not configured correctly. (Site IDs, passwords, or message transfer protocol are incorrect.)
- The system made three consecutive attempts to send messages to the remote site and failed.

What you need to do Before you start to troubleshoot the problem, you need to reset or clear the site. Once you rectify the problem, you can clear the error status of the site. When the error status is cleared, the site is put into either

- idle status (no messages are queued for the remote site) or
- ready status (messages are waiting to be sent to this remote site)

Which error sites can be cleared You can clear all types of error sites regardless of the message transfer protocol.

Softkey descriptions The following table describes the softkeys that are displayed on the Network Administration screen.

Softkey	Description
[Exit]	Press this softkey to exit the Network Administration screen.
[Print Network Data]	Press this softkey to print local and remote site information from the network database. Note: Ensure that the printer is on-line before making this selection.
[Clear All Error Sites]	Press this softkey to clear all the error sites.

Procedure

To clear all the error sites at once, follow these steps.

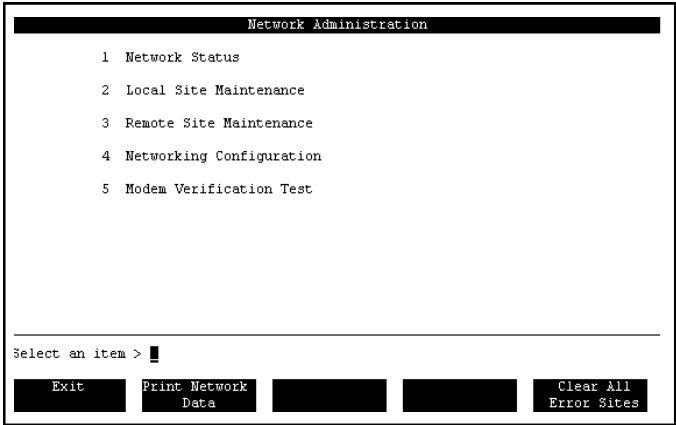
Starting Point: The Main Menu (single customer) or the Customer Administration menu (multi-customer)

Step Action

- 1 Select Network Administration.
- 2 Do one of the following:

IF you	THEN
have AMIS Networking	select Meridian Mail Networking Administration from the submenu that appears, then go to step 3.
do not have AMIS Networking	go to step 3.

Result: The Network Administration menu appears.



- 3 Press [Clear All Error Sites].

Result: The system clears all the error sites at the same time and prints an information SEER.

Section F **Modifying the networking configuration**

In this section

Overview of this section	10-88
Relationship between the batch threshold and holding times	10-90
Identifying the networking configuration changes required	10-92
Entering networking configuration changes into Meridian Mail	10-106

Overview of this section

Introduction

This section explains how to modify the Meridian Mail Networking configuration. Specific information is provided for, networking scheduling parameters and network broadcast administration fields.

Definition: scheduling parameters

Networking scheduling parameters are used to define the following:

- when economy messages are to be sent
- **Holding time** The maximum length of time that either standard or urgent messages can be queued before an attempt is made to send them
- **Stale time** When economy, standard, and urgent messages become stale
Messages become stale if they are not delivered within the stale time. When messages become stale, a non-delivery notification is returned to the sender.
- **Wake-up interval** Defines how often Meridian Networking checks for the status of messages that are waiting to be sent and initiates a connection to a remote site
- **Batch threshold** Defines the maximum number of messages that can be queued to a remote site before a session is initiated to that site

For a detailed description of these parameters, see “Relationship between the batch threshold and holding times” on page 10-90, or see “Field descriptions” on page 10-95.

Network Broadcast Administration fields

These fields determine whether a site can send or receive network broadcast messages. For a detailed description of these fields, see “Field descriptions” on page 10-95.

For a detailed explanation of how end users can send network broadcast messages, see “Network broadcast messaging” on page 1-17.

Maximum number of ports

The maximum number of ports for Meridian Networking is also defined on the Networking Configuration screen. For instructions, see “Specifying the maximum number of networking ports” on page 6-32.

Data entry form

Before you change the networking configuration, you may want to complete the NWP-028, “Meridian Mail Networking Configuration” form. See Appendix A, “Networking implementation forms”, at the back of this manual for a sample of this form for copying.

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 for one site 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 site. The system will begin attempting to send messages to a particular site 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 is 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 site as soon as any of the preceding limitations has been exceeded.

Identifying the networking configuration changes required

Introduction

This topic explains how to identify the configuration changes you need to make in your network.

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 configuration, you should complete the NWP-028, “Meridian Mail Networking Configuration” form.

Form sample:
NWP-028 (page 1 of 2)

The following is page 1 of a sample of form NWP-028.

Meridian Mail Networking Configuration

NWP-028
Page 1 of 2

Networking Scheduling parameters

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)
Batch threshold	
Wakeup interval (mins)	

Network Broadcast Administration

(These fields are not applicable to Virtual Node AMIS Networking.)

Accept broadcast messages from remote sites:
☐ Yes
☐ No

Allow broadcast messages to remote sites:
☐ Yes
☐ No

Network-Wide broadcast prefix: (This field is displayed only if "Allow broadcast messages to remote sites" is Yes.)

Form sample:
NWP-028 (page 2 of 2)

The following is page 2 of a sample of form NWP-028.

Meridian Mail Networking Configuration

NWP-028
Page 2 of 2

Meridian Networking Configuration

(Complete this section if you are using Meridian Networking.)

Maximum number of ports for Meridian Networking

Enterprise Networking Configuration

(Complete this section if you are using Enterprise Networking.)

Maximum number of ports for Enterprise Networking:

Receive the message text information:

☐ Yes

☐ No

Add/Update Remote Voice Users:

☐ Yes

☐ No

Remote Voice User Default Settings

Name dialable by external callers:

☐ Yes

☐ No

Maximum number of temporary remote voice users:

Completed by

Administrator:

Date:

Procedure

To complete the data entry form, follow these steps.

Step Action

1	Obtain a working copy of the NWP-028 "Meridian Mail Networking Configuration" 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 "Entering networking configuration changes into Meridian Mail" on page 10-106.

Field descriptions

The following table describes the fields on the Networking Configuration screen.

Network Broadcast Administration

Description	This field is a header for the network broadcasting fields.

Accept broadcast messages from remote sites

Description	This field controls whether the local site can receive broadcast messages from other sites or locations. Select Yes to accept remote broadcast messages, or No to block remote broadcast messages.

If set to No, any remote users attempting to send a broadcast message to your site will receive a non-delivery notice (NDN).

Default	No

Allow broadcast messages to remote sites

Description	This field controls whether users at the local site can send broadcast messages to remote sites or locations. Select Yes to allow the sending of broadcast messages, or No to disallow broadcast messages to be sent to remote sites or locations.

Note: If this field is set to Yes, the “Network-Wide broadcast prefix” and “The maximum length of network mailboxes is” fields are displayed.

Default	No

Network-Wide broadcast prefix

Description	This field is displayed only if the “Allow broadcast messages to remote sites” field is set to Yes. This field is mandatory if displayed.

This field defines the network-wide prefix that is prefixed to the broadcast mailbox number to send a broadcast message to every network user at every site and location in the network.

The network-wide prefix can be between 1 and 10 digits in length. The system will check that the prefix is unique across the network.

The maximum length of network mailboxes is

Description	This field is read-only and is displayed only if the “Allow broadcast messages to remote sites” field is set to Yes. This field shows what the maximum length is of any mailbox in the network. This field is displayed to help the administrator define a broadcast mailbox number that is unique across the network. To ensure that the broadcast mailbox number is unique, make it at least one digit longer than the value of “The maximum length of network mailboxes is” field. Note: The value of “The maximum length of network mailboxes” field is based on the “Max number of digits in local mailbox” field on the Add Local Site screen.

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 non-delivery notice 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 non-delivery notice 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 non-delivery notice 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

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

Wake-up interval (mins)

Description	This is the periodic interval at which the networking software • checks for messages that are waiting to be sent, against the holding times, stale times, and batch threshold • sets up the connections required to send those messages Hint: If you have low network traffic, you may consider increasing this value. If you find the system is frequently inactive when the batch threshold or holding times are reached, you should consider increasing this value. Notes: 1. For more information about the wake-up interval, see “Components and criteria used to send and receive messages” in Chapter 9, “Really understanding how Meridian Networking works”. 2. If you find that remote sites have trouble making a connection to this site (that is, no modems available) you may want to set this value to 1 (or 2) less than the total number of modems. This guarantees that at least one modem is always available for incoming messages.
Value range	1 to 99
Default	5

Network Broadcast Mailbox

Description	This read-only field appears if you have assigned a mailbox number to the broadcast mailbox in the Voice Messaging Options screen. For more information about setting up a broadcast mailbox, refer to the Voice Messaging Options chapter of your <i>System Administration Guide</i>.

Maximum number of ports for Meridian Networking

Description	You can control the maximum number of Meridian Mail ports that are used at any one time for all outgoing Meridian Networking calls. For example, if you set this field to 4, the total number of outgoing Meridian Networking sessions that can be active at one time is 4. Note: For Meridian networking, this field should usually be set to the number of modems on your system.
Default	4

Maximum number of ports for Enterprise Networking

Description	For details about this field, refer to the <i>Enterprise Networking Installation and Administration Guide</i> (NTP 555-7001-246).

Receive message text information

Description	For details about this field, refer to the <i>Enterprise Networking Installation and Administration Guide</i> (NTP 555-7001-246).

Add/Update Remote Voice Users

Description	For details about this field, refer to the <i>Enterprise Networking Installation and Administration Guide</i> (NTP 555-7001-246).

Name dialable by external callers

Description	This field applies to remote voice users (RVUs) that are added by Remote Voice User propagation or by Bulk Provisioning. Users added by the Bulk Provisioning will only be name dialable by external users if you set this field to Yes. If you set this field to No, all RVUs that are added by Bulk Provisioning cannot be name-dialed by external callers. Notes: 1: You can change this value for a particular RVU through User Administration. 2: This field also controls the default value for this field on the Add Remote Voice User screen (under User Administration).
Default	Yes

Maximum number of temporary remote voice users

Description	This field controls the maximum number of temporary RVUs that can be present on the system at any given time. It is used by the RVU nightly audit program to determine if any RVUs need to be deleted. For details about how the nightly audit program does this, see your <i>System Administration Guide</i> (NTP 55x-70x1-30x).
Valid range	0–1000 (on systems with less than three nodes) 0–10000 (on systems with more than three nodes) Hint 1: Setting this value to 0 will delete all temporary RVUs overnight. Use this if you wish to remove all temporary RVUs, or if you are removing networking from this customer group. Hint 2: If you wish to reduce the number of temporary RVUs, set this value to twice the number of temporary RVUs you wish to have. Then, during the audit, the system will reduce the total number of temporary RVUs to 50% of this value. Example: To reduce the total number of temporary RVUs to 200, set this field to 400. When there are 300 or more (75% of 400) temporary RVUs, the audit will delete the least used until only 200 (50% of 400) remain.
Default	1000

Entering networking configuration changes into Meridian Mail

Introduction

This topic explains how to enter the networking scheduling parameter changes into Meridian Mail.

Impact of changes on system administration

If you change your networking configuration, this may adversely affect the delivery of messages to other sites.

Recommendation

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

Softkey descriptions

The following table describes the softkeys that are displayed on the Networking Configuration screen.

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

Procedure

To modify the networking configuration for Meridian Networking, follow these steps.

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

Step Action

- 1 Select Network Administration.
- 2 Do one of the following:

IF you	THEN
have AMIS Networking	select Meridian Mail Networking Administration from the submenu that appears, then go to step 3.
do not have AMIS Networking	go to step 3.

Result: The Network Administration menu appears.

Network Administration	
1	Network Status
2	Local Site Maintenance
3	Remote Site Maintenance
4	Networking Configuration
5	Modem Verification Test
Select an item > █	
Exit	Print Network Data
	Clear All Error Sites

Step Action

- 3 Select Networking Configuration.

Result: The Networking Configuration screen appears.

Network Administration	
Networking Configuration	
Networking Scheduling Parameters	
Economy class initiation time	(hh:mm): 18:00
Economy class stale time	(hh:mm): 06:00
Standard class holding time	(hh:mm): 03:00
Standard class stale time	(hh:mm): 09:00
Urgent class holding time	(hh:mm): 00:30
Urgent class stale time	(hh:mm): 01:30
Batch threshold:	20
Wakeup interval (mins) :	5
Network Broadcast Mailbox: 627865555	
Meridian Networking Configuration	
MORE BELOW	
Save	Cancel

- 4 Modify the fields as required. For instructions, see the field description table on page 10-95.

When you press <Enter> to move past the last field on this screen, more fields are displayed as shown in the following screen example.

Network Administration		MORE ABOVE
Networking Configuration		
Batch threshold:	20	
Wakeup interval (mins) :	5	
Network Broadcast Mailbox: 627865555		
Meridian Networking Configuration		
Maximum number of ports for Meridian Networking:	4	
Enterprise Networking Configuration		
Maximum number of ports for Enterprise Networking:	4	
Receive the message text information:	No	Yes
Add/Update Remote Voice Users:	No	Yes
Remote Voice User Default Settings		
Name dialable by external callers:	No	Yes
Maximum number of temporary remote voice users:	1000	
Save	Cancel	

- 5 Continue modifying the fields as required.

Step Action

6 Do you want to save the new configuration?

If yes, press [Save].

Result: Any changes that you have made are saved and the Network Administration menu appears.

If no, press [Cancel].

Result: Any changes that you have made are discarded and the Network Administration menu appears.

Section G **Printing and reviewing Operational Measurement reports**

In this section

Overview of this section	10-112
Requesting the Operational Measurement reports	10-113
Interpreting the Services Summary Traffic report	10-114
Interpreting the Networking Detail traffic report	10-115
Interpreting the User Usage report	10-116

Overview of this section

Introduction

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

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

- Services Summary Traffic report
- 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 Meridian Networking. It also reports the total number of times a user dials each service (number of accesses), and the average length of each access.

Networking Detail Traffic report

The Networking Detail report displays traffic totals for each active site within the Meridian Mail network. Statistics are shown for the number of messages received at each site from other network sites and the messages delivered to network sites. Statistics are also displayed for network usage and failures.

User Usage report

The User Usage report provides statistics for local voice messaging usage on a per-user basis, including any network usage. For Meridian 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 555x-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.

ATTENTION

Use the Services Summary Traffic report to get an overview of traffic on your system.

The Services Summary Traffic report captures *all* activity on your system, including, for example, the number of physical accesses to the system, busy signals, calls dropped, and so on.

For this reason, data in the Services Summary report may not correlate directly with data in other reports. If you are trying to track information specific to a particular networking activity, use the information in the specific report rather than the Services Summary report.

Report sample and field descriptions

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

Interpreting the Networking Detail traffic report

Description

The Networking Detail report displays traffic totals for each active site within the Meridian Mail network. Statistics are shown for the number of messages received at each site from other network sites and the messages delivered to network sites. Statistics are also displayed for network usage and failures.

Report sample and field descriptions

For a sample of this 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 Meridian 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 this 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 11

Troubleshooting network errors

In this chapter

Overview of this chapter	11-2
Identifying and investigating site errors	11-4
Performing modem tests	11-9
Tracing calls on the switch	11-10
Performing a link diagnostic test	11-15

Overview of this chapter

Introduction

If you are experiencing problems with your Meridian Mail 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:

- site configuration errors in Meridian Mail
- the status of a site prevents it from receiving messages from the local site
- the networking configuration may be either incorrect, or it needs to be modified to eliminate the problem
- switch configuration errors
- hardware problems

Site configuration errors

Site configuration errors may include one or more of the following (for each site):

- incorrect initiating and responding passwords
- incorrect connection DNs
- incorrect site IDs for remote sites
- message transfer protocols that do not match between the local and remote sites
- incorrect ESN prefixes or CDP steering codes, or both

Site status errors

A site can be either intentionally disabled, or put into error status.

A remote site may be put into error status because of unsuccessful attempts by the local site to deliver messages to the remote site. Failed message delivery can happen for the following reasons:

- The remote site is experiencing hardware or software problems of their own.
- There are configuration errors (as described previously).

Networking configuration errors

Networking configuration errors may include

- scheduling parameters that need to be modified
- the number of networking sessions allowed 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
- 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

Hardware problems may include

- networking modem connections that are not working
- networking modems that are not configured correctly
- problems with the cabling
- problems with the RSM or Utility card and data ports
- there may be another problem with your system that may not even be related to networking

Identifying and investigating site errors

Introduction

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

- network status (sites may be in error)
- networking configuration (scheduling parameters may need to be modified)
- local or remote site configuration, or both
- problems with
 - voice ports
 - switch hardware
 - Meridian Mail hardware
 - networking modems
 - Meridian Mail system is powered down or disabled at 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) • 37, Analog Transfer Agent (ATA) Also, look for SEERs related to hardware or other system problems. For instructions on reviewing and interpreting SEERs and their suggested actions, see your <i>Maintenance Messages (SEERs) manual</i> (NTP 555-7001-510).

Step Action

- 2 View the network status.
For instructions, see Chapter 10, "Maintaining the network".
For troubleshooting information, see "What to look for" following this procedure.

Note: If the errors are occurring at only one site, the errors may be caused by
 - an error in the configuration of the particular remote site (in the local site's network database)
 - an error at the remote site itself
 If errors are occurring at many sites, the errors may be caused by
 - an error in the configuration of the local site
 - an error at the local site itself
 - 3 Review the Operational Measurement reports.
For instructions on printing the reports, see Chapter 10, "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 the network status:	
Are any sites in error?	1. Review the SEERs and try to identify why the sites are in error. 2. Clear the errors by using one of the following methods: • To clear sites in error one at a time, select the site and press the [Clear Error Site] softkey on the Network Status screen. • To clear multiple sites in error all at once, press the [Clear All Error Sites] softkey on the Network Administration menu.
Are any sites disabled?	Determine why the site was disabled. If it no longer needs to be disabled, display the View/Modify Remote Site screen for those sites and change the Message Transfer field to “Enabled.”
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 or a small average length (less than twominutes each), or both, 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 site is not down. Try incrementing the maximum number of ports for Meridian Networking. Also, check site configuration. The problem could be caused by the following: • Initiating and responding passwords between sites do not match. • The receiving site has been defined with the incorrect networking protocol required by the message transfer session. • Connection DNs have been defined incorrectly for one or more sites. • ESN/CDP codes (including the number of overlapping digits, if specified) are incorrect. • Networking modems are faulty or incorrectly configured. • Hardware is faulty.

Considerations	Suggested action
Are the numbers of NDNs delivered high?	The following could be possible reasons: • The remote site is configured incorrectly. • Users are entering incorrect addresses (or perhaps the mailboxes do not exist). • Recipients on the local site do not have the capability to receive composed messages (defined on the Class of Service Administration screen).
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 Meridian 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 or networking modems.)
Were there any failures?	The networking modems or voice ports could not be accessed. You may want to consider adding more modems or ports.

System distribution lists which contain remote voice users

If a system distribution list (SDL) at a remote site contains remote voice users whose mailboxes reside at other sites in the network, the message that is addressed to the SDL is sent only to the local users at the remote site. The message is not automatically sent to the remote voice users at other remote sites. A non-delivery notification and SEER *are not* generated.

Example: A user in Toronto wants to send a message to a system distribution list in Ottawa. The system distribution list contains local voice users in Ottawa and remote voice users in Montreal. The message sent from the Toronto site is sent only to users in Ottawa. It is not sent to the remote voice users in Montreal.

Solution: If this limitation is experienced at your site, manually create a copy of the system distribution list on your system (at the local site).

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

- Test the modems.
For instructions, see “Performing modem tests” on page 11-9.
- Perform the following tests on your switch:
 - call trace
For instructions, see “Tracing calls on the switch” on page 11-10.
 - link diagnostic
For instructions, see “Performing a link diagnostic test” on page 11-15.

Performing modem tests

Introduction

There are two types of tests you can do to ensure that the networking modems are still working. They are

- testing the modem connection
- performing the modem verification test

Modem connection test

You can verify that the modem connection is working by doing the following.

- Use a telephone set to dial the modem DN. The Auto Answer light on the modem should flash intermittently.
- Use a telephone set to dial the Meridian Networking VSDN. The modem should answer and you should hear modem tones. For instructions, see Chapter 7, “Testing the network”.

Note: This can be repeated in order to test each modem.

Modem verification test

The modem verification test verifies that the local site can receive messages and that two of the modems are configured correctly.

This test dials out of the switch, and then reenters it and terminates on the networking DN. The number dialed is the telephone number that other sites dial to reach the local site.

Message delivery to other sites is delayed while the test is performed, and resumes after the test is completed.

For instructions on how to run the modem verification test, see Chapter 7, “Testing the network”.

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

Procedure:
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 <Enter>.
Result: The . (period) prompt is displayed.
- 2 Enable enhanced trace.
Type one of the following commands, then press <Enter>:
 - **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 <Enter>.
Result: The . (period) prompt is displayed.
- 4 Perform the trace.
 - a. Type **TRAC xx...xx DEV** and press <Enter>.
(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).

Step Action

- 5 Repeat step 4 as many times as necessary.
- 6 Stop the trace.
Type **STPT** and press <Enter>.
Result: The . (period) prompt is displayed.
- 7 Disable enhanced trace.
Type **DALL** and press <Enter>.
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
CONF	call is conference call; this would be displayed when the modem is conferenced in
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

Output response	Description
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
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

**Example:
call trace for a
successful call**

The following is an example of a call trace for a call that was successfully processed.

```
ACTIVE TN 013 23
ORIG 1 15 CONF
CALL ID 30
TERM 008 0 01 03 1 SCN MARP 0 2803 SL1 UMS AGENT
MAIN_PM ESTD
TALKSLOT ORIG 19 TERM 17
TERM 004 0 04 04 MARP 0 3044 500
MAIN_PM ESTD
TALKSLOT ORIG 18 TERM 18
TERM 013 23 TIE RMBR 7 23
MAIN_PM ESTD
TALKSLOT ORIG 17 TERM 17
,14115104 05.07.1996
IDLE TN 013 23
```

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 requires 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 <i>X11 input/output guide</i> (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

A-2

Forms

A-3

Overview of this appendix

Introduction

This appendix contains full-size 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
Meridian 1 Network Information forms	NWP-004 through NWP-017	These forms are used to capture Meridian 1 dialing plan information.
Meridian Mail Network Information forms	NWP-024 through NWP-028	These forms are used to prepare for entering the following into Meridian Mail • local sites • remote sites • Network Message Service locations • networking configuration
Implementation Checklist	NWP-029 (2 pages)	This form is used to track your progress while implementing Meridian Networking.
Testing	NWP-030	This form can be used when testing Meridian Mail ports (ACD/UCD agents). Note: This form is not limited to networking. It can be used during system installation as well.

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
Meridian 1 Network Information forms			
NWP-004	Site Information	A-5	Chapter 2, “Gathering information for the network”
NWP-005	ESN Data Block	A-6	
NWP-006	Digit Manipulation Tables	A-7	
NWP-007	CDP Steering Codes	A-8	
NWP-008	Route List Index	A-9	
NWP-009	NCOS Groups	A-10	
NWP-010	FCAS Tables	A-11	
NWP-011	ITGE Groups	A-12	
NWP-012	Network Translation Location Codes	A-13	
NWP-013	Network Translation Numbering Plan Area Codes	A-14	
NWP-014	Network Translation Exchange Codes	A-15	
NWP-015	Network Translation Special Number Translation Codes	A-16	
NWP-016	Network Translation Home Location and Home Numbering Plan Area Codes	A-17	
NWP-017	Site Numbering Plan	A-18	

Form number	Form name	Shown on page	For instructions, see
Meridian Mail Network Information forms			
NWP-024	Local Site Maintenance (2 pages)	A-19 and A-20	Chapter 6, “Configuring Meridian Mail”
NWP-025	Remote Site Maintenance (2 pages)	A-21 and A-22	
NWP-026	Remote NMS Location Maintenance (2 pages)	A-23 and A-24	
NWP-027	CDP Steering Codes	A-25	
NWP-028	Meridian Mail Networking Configuration (2 pages)	A-26 and A-27	Chapter 10, “Maintaining the network”
Implementation and Testing forms			
NWP-029	Meridian Networking Implementation Checklist (2 pages)	A-28 and A-29	Chapter 1, “Understanding Meridian Networking”
NWP-030	Testing Meridian Mail Ports (ACD/UCD Agents)	A-28	Chapter 7, “Testing the network”
NWP-031	Enterprise Networking Implementation Checklist (2 pages)	A-31	
NWP-034	AMIS Networking Information	A-33	Chapter 2, “Gathering information for the network”

NWP-004

Meridian 1 Network Information—Site Information

NWP-004

Address and contact information

Site name:	Site number:	Customer number:	Administrator's name:
Address:			
City:	Prov/State:	Country:	Postal/Zip Code:
Telephone:		Fax:	

Site type

Answer the following questions

- 1) Is this site a message center (contains a Meridian Mail system that services one or more Meridian 1 switches located somewhere else)? ☐ Yes
☐ No
- 2) Is this switch connected to a message center (in other words, does not have its own Meridian Mail system)? ☐ Yes
☐ No
- 3) If response to question 2 is "yes," record the site name or number. Site: _____

Completed by

Administrator:	Date:

NWP-005

Meridian 1 Network Information—ESN Data Block

NWP-005

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

ESN data block (LD 86, ESN) (If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
MXLC	Maximum number of location codes		
MXSD	Maximum number of Supplemental Digit Restriction blocks		
MXIX	Maximum number of incoming trunk group exclusion tables		
MXDM	Maximum number of digit manipulation tables		
MXRL	Maximum number of route lists		
MXFC	Maximum number of free calling area screening tables		
CDP	Coordinated dialing plan is implemented for this customer		
MXSC	Maximum number of steering codes		
NCDP	Maximum number of digits in CDP DNs		
MSCC	Maximum number of Special Common Carrier entries		
AC1	NARS/BARS access code 1		
AC2	NARS/BARS access code 2		
DLTN	NARS/BARS dial tone after AC1 or AC2		
ERWT	Expensive route warning tone		
ERDT	Expensive route delay time		
TODS	Time-of-day schedules	0 ____ to ____ 1 ____ to ____ 2 ____ to ____ 3 ____ to ____ 4 ____ to ____ 5 ____ to ____ 6 ____ to ____ 7 ____ to ____	0 ____ to ____ 1 ____ to ____ 2 ____ to ____ 3 ____ to ____ 4 ____ to ____ 5 ____ to ____ 6 ____ to ____ 7 ____ to ____
RTCL	Routing controls		
NMAP	Network class of service (NCOS) map		
ETOD	Extended Time-of-day schedule		
TGAR	Check for trunk group access restrictions		

☐ printout attached

NWP-006

Meridian 1 Network Information—Digit Manipulation Tables

NWP-006

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Digit manipulation tables (LD 86, DGT)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
DMI	Digit manipulation index number		
DEL	Number of leading digits to be deleted		
INST	Insert		
SCCI	Special Common Carrier index into the SCC data table		
CTYP	Call type to be used by the manipulated digits (INTL, NPA, NXX, LOC, CDP, SPN, UKWN)		
Next DMI			
DMI	Digit manipulation index number		
DEL	Number of leading digits to be deleted		
INST	Insert		
SCCI	Special Common Carrier index into the SCC data table		
CTYP	Call type to be used by the manipulated digits (INTL, NPA, NXX, LOC, CDP, SPN, UKWN)		
Next DMI			
DMI	Digit manipulation index number		
DEL	Number of leading digits to be deleted		
INST	Insert		
SCCI	Special Common Carrier index into the SCC data table		
CTYP	Call type to be used by the manipulated digits (INTL, NPA, NXX, LOC, CDP, SPN, UKWN)		
Next DMI			
DMI	Digit manipulation index number		
DEL	Number of leading digits to be deleted		
INST	Insert		
SCCI	Special Common Carrier index into the SCC data table		
CTYP	Call type to be used by the manipulated digits (INTL, NPA, NXX, LOC, CDP, SPN, UKWN)		

☐ printout attached

NWP-007

Meridian 1 Network Information—CDP Steering Codes

NWP-007

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

CDP steering codes (LD 87, CDP)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
LSC	Local steering code		
DMI	Digit manipulation index for local steering code (LSC)		
DEL	Number of digits to be deleted for local steering code (LSC)		
DSC	Distant steering code		
DSP	Display (local steering code and DN)		
RLI	Route list index to be accessed for distant steering code (DSC)		
TSC	Trunk steering code		
FLEN	Flexible length number of digits		
ITOH	Inhibit time-out option		
RLI	Route list index to be accessed for trunk steering code (TSC)		

☐ printout attached

NWP-008

Meridian 1 Network Information—Route List Index

NWP-008

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Route list index (LD 86, RLB)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
RLI	Route list index to be accessed		
ENTR	Entry number for NARS/BARS route list		
LTER	Local termination entry		
ROUT	Route number		
TOD	Time-of-day schedule	0 ____ 1 ____ 2 ____ 3 ____ 4 ____ 5 ____ 6 ____ 7 ____	0 ____ 1 ____ 2 ____ 3 ____ 4 ____ 5 ____ 6 ____ 7 ____
CNV	Conversion to listed directory number (LDN)		
EXP	Expensive route		
FRL	Facility restriction level		
DMI	Digit manipulation index		
ISDM	ISL D-channel down digit manipulation index		
FCI	Free calling area screening index number		
OHQ	Off-hook queuing allowed		
CBQ	Call-back queuing		

☐ printout attached

NWP-009

Meridian 1 Network Information—NCOS Groups

NWP-009

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Network Class of Service Groups (LD 87, NCTL)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
NRNG	Network class of service (NCOS) range		
SOHQ	Off-hook queuing option		
OHTL	Off-hook queue time limit		
SCBQ	Call-back queuing option		
CBTL	Call-back queue time limit		
RANE	RAN route number for CBQ to ESN stations		
RANC	RAN route number for CBQ offer to conventional main		
NCOS	Network class of service group number		
FRL	Facility restriction level		
RWTA	Expensive route warning tone		
NSC	Network speed call access allowed		
LIST	List numbers to which system speed call has access		
OHQ	Off-hook queuing eligibility		
CBQ	Call-back queuing eligibility		
ROUT	Call-back queuing on initial routes		
RADT	Route advance timer		
SPRI	Starting priority in CBQ		
MPRI	Maximum priority attainable in CBQ		
PROM	Priority promotion timer		

☐ printout attached

NWP-010

Meridian 1 Network Information—FCAS Tables

NWP-010

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Free calling area screening (LD 87, FCAS)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
FCI	Free calling area screening (FCAS) index number		
NPA	Numbering plan area code to be screened		
NXX	Exchange code to be denied or allowed		
DENY	Range of exchange codes to be denied		
ALLOW	Range of exchange codes to be allowed		
Next NPA or NXX			
NPA	Numbering plan area code to be screened		
NXX	Exchange code to be denied or allowed		
DENY	Range of exchange codes to be denied		
ALLOW	Range of exchange codes to be allowed		
Next NPA or NXX			
NPA	Numbering plan area code to be screened		
NXX	Exchange code to be denied or allowed		
DENY	Range of exchange codes to be denied		
ALLOW	Range of exchange codes to be allowed		
Next NPA or NXX			
NPA	Numbering plan area code to be screened		
NXX	Exchange code to be denied or allowed		
DENY	Range of exchange codes to be denied		
ALLOW	Range of exchange codes to be allowed		
Next NPA or NXX			
NPA	Numbering plan area code to be screened		
NXX	Exchange code to be denied or allowed		
DENY	Range of exchange codes to be denied		
ALLOW	Range of exchange codes to be allowed		

☐ printout attached

NWP-011

Meridian 1 Network Information—ITGE Groups

NWP-011

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Incoming trunk exclusion (LD 86, ITGE)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		
Next index or route			
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		
Next index or route			
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		
Next index or route			
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		
Next index or route			
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		
Next index or route			
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		
Next index or route			
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		
Next index or route			
ITEI	Incoming trunk group exclusion index number		
RTNO	Route number associated with index		

☐ printout attached

NWP-012

**Meridian 1 Network Information—Network Translation
Location Codes****NWP-012****Site or NMS location information**

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Network translation—location codes (LD 90, NET)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
TRAN	Translator (AC1 or AC2)		
TYPE	Type of data block	LOC	LOC
LOC	Location code		
RLI	Route list index		
ITEI	Incoming trunk group exclusion index		
LDN	Listed directory number		
DID	Direct inward dial		
MNXX	Multiple NXX (exchange codes)		
SAVE	Number of trailing digits to save		
OFFC	Office		
RNGE	Range of DID numbers		
RNGE	Range of DID numbers		
OFFC	Office		
RNGE	Range of DID numbers		
RNGE	Range of DID numbers		

☐ printout attached

NWP-013

Meridian 1 Network Information—Network Translation

Numbering Plan Area Codes

NWP-013

Site or NMS location information

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Network translation—NPA codes (LD 90, NET)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
TRAN	Translator (AC1, AC2, or SUM)		
TYPE	Type of data block	NPA	NPA
NPA	Numbering plan area code		
RLI	Route list index		
SDRR	Supplemental digit restriction or recognition		
DENY	Number to be denied within the NPA		
DMI	Digit manipulation index		
LDID	Local DID number to be recognized		
LDDD	Local DDD number to be recognized		
DID	Remote DID number to be recognized		
DDD	Remote DDD number to be recognized		
ITED	Incoming trunk group exclusion digits		
ITEI	Incoming trunk group exclusion index		

☐ printout attached

NWP-014

Meridian 1 Network Information—Network Translation
Exchange Codes

NWP-014

Site or NMS location informationPage ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Network translation—NXX codes (LD 90, NET)
(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
TRAN	Translator (AC1, AC2, or SUM)		
TYPE	Type of data block	NXX	NXX
NXX	Numbering plan exchange code (central office)		
RLI	Route list index		
SDRR	Supplemental digit restriction or recognition		
DENY	Number to be denied within the NXX		
DMI	Digit manipulation index		
LDID	Local DID number to be recognized		
LDDD	Local DDD number to be recognized		
DID	Remote DID number to be recognized		
DDD	Remote DDD number to be recognized		
ITED	Incoming trunk group exclusion digits		
ITEI	Incoming trunk group exclusion index		

☐ printout attached

NWP-015

Meridian 1 Network Information—Network Translation NWP-015
Special Number Translation Codes

Site or NMS location information Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Network translation—SPN codes (LD 90, NET)
(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
TRAN	Translator (AC1, AC2, or SUM)		
TYPE	Type of data block	SPN	SPN
SPN	Special number translation		
FLEN	Flexible length		
ITOH	Inhibit time-out handler		
RLI	Route list index		
SDRR	Supplemental digit restriction or recognition		
DENY	Number to be denied		
DMI	Digit manipulation index		
LDID	Local DID number to be recognized		
LDDD	Local DDD number to be recognized		
DID	Remote DID number to be recognized		
DDD	Remote DDD number to be recognized		
ITED	Incoming trunk group exclusion digits		

☐ printout attached

NWP-016

**Meridian 1 Network Information—Network Translation
Home Location and Home Numbering Plan Area Codes****NWP-016****Site or NMS location information**

Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Network translation—HLOC codes (LD 90, NET)

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
TRAN	Translator (AC1, AC2, or SUM)		
TYPE	Type of data block	HLOC	HLOC
HLOC	Home location code		
DMI	Digit manipulation index		
Next HLOC			
HLOC	Home location code		
DMI	Digit manipulation index		
Next HLOC			
HLOC	Home location code		
DMI	Digit manipulation index		

☐ printout attached**Network translation—HNPA codes (LD 90, NET)**

(If necessary, complete and attach additional pages, or attach printout.)

Prompt	Description	Current	Revise to
TRAN	Translator (AC1, AC2, or SUM)		
TYPE	Type of data block	HNPA	HNPA
HNPA	Home numbering plan area code		
HNPA	HNPA with 1+ dialing	1	1
Next HNPA			
HNPA	Home numbering plan area code		
HNPA	HNPA with 1+ dialing	1	1
Next HNPA			
HNPA	Home numbering plan area code		
HNPA	HNPA with 1+ dialing	1	1

☐ printout attached

NWP-017

Meridian 1 Network Information—Site Numbering Plan NWP-017

Site or NMS location information Page ____ of ____

Site or NMS location name:	Site or NMS location number:	Customer number:	Administrator's name:

Used directory numbers (LD 20) (If necessary, complete and attach additional pages, or attach printout.)

Ranges (record all that apply) Example: 1550 to 1599					
☐ Starting with 0					
☐ Starting with 1					
☐ Starting with 2					
☐ Starting with 3					
☐ Starting with 4					
☐ Starting with 5					
☐ Starting with 6					
☐ Starting with 7					
☐ Starting with 8					
☐ Starting with 9					

☐ printout attached

NWP-024 (page 1 of 2)

Meridian Mail Network Information—Local Site Maintenance

NWP-024

Page 1 of 2

Site Information

Site number:	Site name:
Site is network message center? ☐ Yes (Complete NWP-026 for each NMS satellite location) ☐ No	Message transfer ☐ Enabled ☐ Disabled

Dialing Plan

(Check one of these boxes to choose the dialing plan.)

☐ ESN	☐ CDP	☐ Hybrid	☐ None
Maximum number of digits in local mailbox:			

Hybrid dialing plan information

(Complete this section if you have selected both the ESN and CDP dialing plans.)

ESN access codes:
Number of overlapping digits between ESN prefixes and local extension:
ESN prefixes:
Number of overlapping digits between CDP steering code and local extension:
CDP Steering Codes: (Complete and attach NWP-027, "CDP Steering codes" form.)
Mailbox numbering follows the dialing plan: ☐ Yes ☐ No (Complete the Mailbox prefixes field.)
Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan.)

ESN dialing plan information

(Complete this section if you have selected the ESN dialing plan.)

ESN access codes:
Number of overlapping digits between ESN prefixes and local extension:
ESN prefixes:
Mailbox numbering follows the dialing plan: ☐ Yes ☐ No (Complete the Mailbox prefixes field.)
Mailbox prefixes (This field appears if your mailbox does not follow the dialing plan.):

NWP-024 (page 2 of 2)

Meridian Mail Network Information—Local Site Maintenance

NWP-024
Page 2 of 2

CDP dialing plan information

(Complete this section if you have selected the CDP dialing plan.)

Number of overlapping digits between CDP steering code and local extension:
CDP Steering Codes: (complete and attach NWP-027, "CDP Steering codes" form)
Mailbox numbering follows the dialing plan: ☐ Yes ☐ No (Complete the Mailbox prefixes field.)
Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan):

None dialing plan information

(Complete this section if you have selected the None dialing plan.)

Mailbox numbering equals local extension: ☐ Yes ☐ No
Mailbox prefixes: (This field appears whether or not mailbox numbering equals the local extension.)

Completed by

Administrator:	Date:

NWP-025 (page 1 of 2)

Meridian Mail Network Information—Remote Site Maintenance

NWP-025

Page 1 of 2

Site Information

Site number:		Site name:	
Message transfer protocol: ☐ Enterprise ☐ Meridian ☐ AMIS	Message transfer: ☐ Enabled ☐ Disabled	Site is network message center? ☐ Yes ☐ No	
Password: Initiating password: _____ Responding password: _____		Networking Connection: DN 1: _____ DN 2: _____ DN 3: _____	
Maximum number of digits in local mailbox:		Do you want to record a spoken name for the site? (Applies to ESN, Hybrid, or None dialing plans.) ☐ Yes (Use the [Voice] softkey to record it.) ☐ No	

Enterprise Networking Options

(Complete this section if you have selected Enterprise as the message transfer protocol.)

Send the message text information? ☐ Yes ☐ No	Send the sender's text name and personal verification? ☐ Yes ☐ No

Dialing Plan

(Check one of these boxes to choose the dialing plan.)

☐ ESN	☐ CDP	☐ Hybrid	☐ None
Maximum number of digits in local mailbox:			

Hybrid dialing plan information

(Complete this section if you have selected both the ESN and CDP dialing plans.)

ESN access codes:
Number of overlapping digits between ESN prefixes and local extension:
ESN prefixes:
Number of overlapping digits between CDP steering code and local extension:
CDP Steering Codes: (Complete and attach NWP-027, "CDP Steering codes" form.)
Mailbox numbering follows the dialing plan: ☐ Yes ☐ No (Complete the Mailbox prefixes field.)
Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan.)

NWP-025 (page 2 of 2)

Meridian Mail Network Information—Remote Site Maintenance**NWP-025**
Page 2 of 2**ESN dialing plan information**

(Complete this section if you have selected the ESN dialing plan.)

ESN access codes:
Number of overlapping digits between ESN prefixes and local extension:
ESN prefixes:
Mailbox numbering follows the dialing plan: ☐ Yes ☐ No (Complete the Mailbox prefixes field.)
Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan.)

CDP dialing plan information

(Complete this section if you have selected the CDP dialing plan.)

Number of overlapping digits between CDP steering code and local extension:
CDP Steering Codes (Complete and attach NWP-027, "CDP Steering codes" form.)
Mailbox numbering follows the dialing plan: ☐ Yes ☐ No (Complete the Mailbox prefixes field.)
Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan.)

None dialing plan information

(Complete this section if you have selected the None dialing plan.)

Mailbox numbering equals local extension: ☐ Yes (Complete the Dial Prefix field.) ☐ No
Dial prefix: (This field appears if the mailbox numbering is the same as local extensions.)
Mailbox prefixes: (This field appears whether or not mailbox numbering equals the local extension.)

Completed by

Administrator:	Date:

NWP-026 (page 1 of 2)

Meridian Mail Network Information—Remote NMS Location Maintenance NWP-026

Page 1 of 2

Location Information

Location number:	Location name:
Do you want to record a spoken name for the location? (Applies to ESN, Hybrid, or None dialing plans.)	
☐ Yes (Use the [Voice] softkey to record it.)	
☐ No	

Dialing Plan

(Check one of these boxes to choose the dialing plan. The dialing plan must be the same as the prime location.)

☐ ESN	☐ CDP	☐ Hybrid	☐ None
Maximum number of digits in local mailbox:			

Hybrid dialing plan information

(Complete this section if you have selected both the ESN and CDP dialing plans.)

ESN access codes:
Number of overlapping digits between ESN prefixes and local extension:
ESN prefixes:
Number of overlapping digits between CDP steering code and local extension:
CDP Steering Codes: (Complete and attach NWP-027, "CDP Steering codes" form.)
Mailbox numbering follows the dialing plan:
☐ Yes
☐ No (Complete the Mailbox prefixes field.)
Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan.)

ESN dialing plan information

(Complete this section if you have selected the ESN dialing plan.)

ESN access codes:
Number of overlapping digits between ESN prefixes and local extension:
ESN prefixes:
Mailbox numbering follows the dialing plan:
☐ Yes
☐ No (Complete the Mailbox prefixes field.)
Mailbox prefixes (This field appears if your mailbox does not follow the dialing plan.)

NWP-026 (page 2 of 2)

Meridian Mail Network Information—Remote NMS Location Maintenance NWP-026

Page 2 of 2

CDP dialing plan information

(Complete this section if you have selected the CDP dialing plan.)

Number of overlapping digits between CDP steering code and local extension:
CDP Steering Codes: (Complete and attach NWP-027, "CDP Steering codes" form.)
Mailbox numbering follows the dialing plan: ☐ Yes ☐ No (Complete the Mailbox prefixes field.)
Mailbox prefixes: (This field appears if your mailbox does not follow the dialing plan.)

None dialing plan information

(Complete this section if you have selected the None dialing plan.)

Mailbox numbering equals local extension: ☐ Yes (Complete the Dial Prefix field.) ☐ No
Dial prefix: (This field appears if the mailbox numbering is the same as local extensions.)
Mailbox prefixes: (This field appears whether or not mailbox numbering equals the local extension.)

Completed by

Administrator:	Date:

NWP-027

Meridian Mail Network Information—CDP Steering codes

NWP-027

Complete and attach this form to NWP-024, NWP-025 or NWP-026.

Site/Location Information

Site/Location number:	Site/Location name:

CDP Steering codes

(You can enter up to 50 steering codes for the CDP dialing plan or the Hybrid dialing plan.)

[illegible]

Completed by

Administrator:	Date:

NWP-028 (page 1 of 2)

Meridian Mail Networking Configuration

NWP-028
Page 1 of 2

Networking Scheduling parameters

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)
Batch threshold	
Wakeup interval (mins)	

Network Broadcast Administration

(These fields are not applicable to Virtual Node AMIS Networking.)

Accept broadcast messages from remote sites: ☐ Yes ☐ No
Allow broadcast messages to remote sites: ☐ Yes ☐ No
Network-Wide broadcast prefix: (This field is displayed only if "Allow broadcast messages to remote sites" is Yes.)

NWP-028 (page 2 of 2)

Meridian Mail Networking Configuration**NWP-028**

Page 2 of 2

Meridian Networking Configuration

(Complete this section if you are using Meridian Networking.)

Maximum number of ports for Meridian Networking

Enterprise Networking Configuration

(Complete this section if you are using Enterprise Networking.)

Maximum number of ports for Enterprise Networking:

Receive the message text information:

☐ Yes☐ No

Add/Update Remote Voice Users:

☐ Yes☐ No**Remote Voice User Default Settings**

Name dialable by external callers:

☐ Yes☐ No

Maximum number of temporary remote voice users:

Completed by

Administrator:

Date:

NWP-029 (page 1 of 2)

Meridian Networking Implementation Checklist

NWP-029

Page 1 of 2

Step	Description	For instructions, see the chapter	Done
1	Gather ESN information from the switch.	Gathering information for the network	☐
2	Gather CDP information from the switch.		☐
3	Draw a diagram of the existing network.		☐
4	Analyze the information and determine if changes are required to the dialing plan configuration on the switch.		☐
5	Verify the presence of data ports on Meridian Mail. If ports are not available, install RSM or utility cards as required.	Installing the hardware for systems using AML	☐
6	Install switch hardware as required for Meridian Networking (additional trunks and line cards).	Installing the hardware for systems using SMDI	☐
7	Configure and install the networking modems.		☐
8	Define the ACD/UCD queues.	Configuring the Meridian 1 for systems using AML	☐
9	Dedicate ACD/UCD agents to networking (if required).		☐
10	Verify TGAR and NCOS on ACD/UCD agents.		☐
11	Define trunks (if additional trunks are required).		☐
12	Verify TGAR (access to trunks).		☐
13	Configure line card ports.		☐
14	Verify the presence of a conference card.		☐
15	Modify the dialing plan configuration on the switch if required.	Configuring the PBX/DMS for systems using SMDI	☐
16	Enable Meridian Networking.	Configuring Meridian Mail	☐
17	Dedicate ports to Meridian Networking if required.		☐
18	Define the networking DN in the VSDN table.		☐
19	Define modem DNs.		☐
20	Define the local site.		☐
21	Define remote sites.		☐
22	Define remote Network Message Service (NMS) sites if required.		☐
23	Convert existing sites to Meridian Networking if necessary.	Configuring Meridian Mail	☐
24	Modify the number of modems in the networking configuration.		☐

NWP-029 (page 2 of 2)

Meridian Networking Implementation Checklist

NWP-029

Page 2 of 2

Step	Description	For instructions, see the chapter	Done
25	Test call routing access.	Testing the network	☐
26	Test ACD/UCD agents.		☐
27	Test the Meridian Networking DN.		☐
28	Test the modem connections.		☐
29	Perform a modem verification test.		☐
30	Send a message from the local site to each remote site.		☐
31	Add remote voice users. This step is optional.	Configuring Meridian Mail	☐
32	Back up Meridian Mail.	Creating a backup of the system	☐
33	Print Meridian Mail network information.		☐
34	Back up the switch.		☐
35	Print switch network information.		☐

NWP-030

Testing Meridian Mail Ports (ACD/UCD Agents)

NWP-030

Complete and attach additional pages if necessary.

[illegible]

Tested by

Administrator:	Date:

NWP-031 (page 1 of 2)

Enterprise Networking Implementation Checklist

NWP-031

Page 1 of 2

Step	Description	For instructions, see the chapter	Done
1	Gather ESN information from the switch.	Gathering information for the network	☐
2	Gather CDP information from the switch.		☐
3	Draw a diagram of the existing network.		☐
4	Analyze the information and determine if changes are required to the dialing plan configuration on the switch.		☐
5	Define the ACD/UCD queues.	Configuring the Meridian 1 for systems using AML OR Configuring the PBX/DMS for systems using SMDI	☐
6	Dedicate ACD/UCD agents to networking (if required). This step is optional.		☐
7	Verify TGAR and NCOS on ACD/UCD agents.		☐
8	Define trunks (if additional trunks are required).		☐
9	Verify TGAR (access to trunks).		☐
10	Modify the dialing plan configuration on the switch if required.		☐
11	Enable Meridian Mail Networking.	Configuring Meridian Mail	☐
12	Dedicate ports to networking if required. This step is optional.		☐
13	Define the networking DN in the VSDN table.		☐
14	Define the local site.		☐
15	Define remote sites.		☐
16	Define remote Network Message Service (NMS) sites if required.		☐
17	Convert existing sites to Enterprise Networking if necessary.		☐
18	Activate sending of remote voice user information to remote sites (RVU propagation).	Maintaining the network	☐
19	Activate receiving of remote voice user information from remote sites (RVU propagation).		☐
20	Activate sending of text for ACCESS applications to remote sites.		☐
21	Activate receiving of text for ACCESS applications from remote sites.		☐

NWP-031 (page 2 of 2)

Enterprise Networking Implementation Checklist

NWP-031
Page 2 of 2

Step	Description	For instructions, see the chapter	Done
22	Test call routing access.	Testing the network	☐
23	Test ACD/UCD agents.		☐
24	Perform the Enterprise Diagnostic test.		☐
25	Compose and send a message to an empty system distribution list at a remote site.		☐
26	Send a message from the local site to each remote site.		☐
27	Add remote voice users. This step is optional.	Configuring Meridian Mail	☐
28	Back up Meridian Mail.	Creating a backup of the system	☐
29	Print Meridian Mail network information.		☐
30	Back up the switch.		☐
31	Print switch network information.		☐

NWP-034**AMIS Networking Information****NWP-034**

For systems using Virtual Node AMIS Networking (that is, both AMIS Networking and Meridian Mail Networking)

Customer-specific parameters

AMIS compose prefix:

Local system access number:

Number of messages to transmit per session:

System-wide parameters

Networking call maximum:

Completed by

Administrator:

Date:

Appendix B

Miscellaneous tasks

In this appendix

Modifying the local site ID

B-2

Modifying the local site ID

Introduction This topic explains how to modify the local site ID. The local site ID is modified in the TOOLS menu.

When to change the local site ID You may need to change the local site ID if, for example, you entered it incorrectly when you defined the site.

ATTENTION

Do not change the local site ID unless it conflicts with another site in the network.

Procedure: Before you change the local site ID, do the following.
Before you begin

Step	Action
1	Obtain a printout of the local site information before you modify the local site ID.
2	Ensure that no other site in the network has the same site number as the local site ID.
3	Create a new remote site with the site ID you want to use for the local site.
4	Enter anything you want in the rest of the fields. They are not important at this time.
5	Ensure that no networking messages are queued, and that all other sites disable networking messages to this site.
6	Perform the change by using the TOOLS menu.

Procedure:
Modifying the local site ID

To modify the local site ID, follow these steps.

Starting Point: The TOOLS menu

Step Action

-
- 1 Select Other and press <Enter>.
 - 2 Select Change local site ID and press <Enter>.
Result: The system displays the Change Local Site ID screen, and prompts you for the ID of the remote site that will become the new local site.
Choose a number that is not used by any remote site in the network. If possible, obtain a site number from the Network Administrator.
Note: Two sites cannot share the same number.
 - 3 Enter the site ID and press <Enter>.
Result: The system changes the Site ID. The dummy remote site is converted to the new local site, and the old local site is converted to a remote site.
Note: You can press [Cancel] to cancel the selection.
 - 4 Do the following:
 - a. Display the List of Remote Sites screen and delete the site with the old local site ID.
For more detailed instructions, see "Deleting remote NMS sites" on page 10-60.
 - b. Modify the local site. Replace all the fields with the correct values for the local site (as shown on the local site information printout).
-

After the change is made

After you change the local site ID, inform the administrators at the other sites of the change.

Appendix C

Reference information

In this appendix

Maximum networking capacities

C-2

Maximum networking capacities

Introduction	The network database contains the following: • networking sites (including those defined as Network Message Service prime locations) • Network Message Service satellite locations • steering codes • dialing translations tables • exchange codes The maximum size for the network database is 71 kbytes. This topic shows the maximum combinations that can be supported.
Maximum number of sites and locations	Meridian Mail Networking supports up to 151 sites (one local site and 150 remote sites). Network Message Service supports up to 60 locations (one prime location and 59 satellite locations). When both features are present on your system, each site (local or remote) in your network database can support up to 60 locations. One of these locations is the prime location, which is also the site.
Maximum combinations	The following table shows some examples of how many networking sites, NMS satellite locations, dialing translation tables, and exchange codes can be defined. The following ratios are used as a very rough guideline: 1 site = 1 location = 3 translation tables = 10 exchange codes The table assumes that 50 codes of three digits in length are used per site or location.

**Maximum combinations
(continued)****Notes:**

1. The number of sites and locations that you can define on your system may differ.
2. Statistics for more than 66 sites are currently not available.

# of networking sites defined	# of satellite locations defined	# of translation tables defined	# of exchange codes defined
Dialing Translations			
0	0	15	930
0	0	8	960
Networking and Dialing Translations (without Network Message Service)			
2	0	15	860
10	0	15	750
20	0	15	620
30	0	8	520
40	0	6	380
50	0	4	270
66	0	2	70
Network Message Service and Dialing Translations (without Networking)			
1	2	15	850
1	20	15	650
1	40	8	460
1	59	4	270
Networking, Network Message Service, and Dialing Translations			
2	2	15	830
2	40	5	460
2	84	0	0
10	2	15	730
10	35	5	410

# of networking sites defined	# of satellite locations defined	# of translation tables defined	# of exchange codes defined
Networking, Network Message Service, and Dialing Translations (continued)			
20	2	15	590
20	30	5	330
20	62	0	0
30	2	15	460
30	25	3	270
30	50	0	0
40	2	5	380
40	20	2	190
40	38	0	0
50	2	5	240
50	10	2	170
50	26	0	0
66	2	2	40
66	4	1	30
66	7	0	0

List of fields

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Reader Response Form

Meridian Mail 12
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Reader Response Form

Meridian Mail

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